



Published by
**THE COLLEGE OF BUSINESS
EDUCATION**



Conference Proceedings for the Second Business and Economic Development Conference (BEDC2021)

Held on 16th -17th November, 2021 at Kambarage Hall - Treasury Square Dodoma, Tanzania



The Second Business and Economic Development Conference (BEDC, 2021), Held on 16th - 17th November, 2021 in Dodoma, Tanzania

Conference Message

It is a great pleasure for the College of Business Education (CBE) to organize its 2nd Conference on Business and Economic Development (BEDC 2020) on 16th-17th November 2021. We are pleased to complete our conference proceedings with Seventy Three articles that aimed at resolving pressing economic problems that hinder businesses and economic development of emerging industries and markets in the world in general and Tanzania in particular.

On behalf of the College of Business Education, we thank the Honorable Dr. Stergomena Lawrence Tax; the Minister of Defence and National Security of the United Republic of Tanzania for accepting our invitation as a guest of honour. We also thank the Five keynote speakers: Prof. Alfred S. Sife, the Vice-Chancellor – Moshi Cooperative University Tanzania, Prof. Honest Ngowi, the Principle Mzumbe University, Dar es Sallam Campus, Mr. Godfrey Ngaisa- Director of BRELA, and Ms. Maida Waziri- the Presedent of Voice of Women Entrepreneurs Tanzania (VOWET) and CBE Alumin for accepting our invitation and deliver keynote lectures. We were indeed honoured and delighted to have them with us. We also thank the academicians who submitted and presented papers in our conference.

The theme of the conference was on ***Inclusive Economic Growth for the Sustainable Development*** which is very important in the context of today's world economy. The aspect of Inclusive economic growth now or later, in one way or another, will affect everything and everyone, everyday life as well as national public finances and macroeconomic stability. Such a topic warrants particular attention from the public and private investors. The idea of inclusive economic growth is discussed in varying contexts in its narrower and wider perspectives. In particular, what we have in mind is a need to create awareness of inclusive economic growth dynamics at all levels. The issues of Inclusive economic growth will become increasingly important in the future, thus addressing them becomes inevitable.

I congratulate the conference organizing team, chaired by Dr Dickson Pastory, Dr. Petro Maziku the Secretary for organizing this conference. Sincerely, we enjoyed the conference programme.

Sincerely,
Prof. Emanuel Mjema

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17th November, 2021 in Dodoma, Tanzania**

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KEYNOTE LECTURE 1

The Fourth Industrial Revolution: Is Tanzania Prepared to Harness it for Businesses Development?

Pro. Alfred S. Sife
Associate Professor Moshi Co-operative University

Abstract

The world has entered the Fourth Industrial Revolution (4IR) which is triggered by advancements in science and technology, particularly emerging technologies that blur the lines between the physical, digital, and biological systems. Technologies that make up the 4IR include the Internet of Things (IoT), Artificial Intelligence (AI), Cloud Infrastructure or cloud computing, big data analytics, nanotechnologies, advanced robotics, sensors, blockchain and 3D printing. In businesses, the 4IR has effects mainly on customer expectations, product enhancement, collaborative innovation, and organizational forms. This calls for countries and companies to realign themselves with the 4IR to achieve, among other things, their business goals. This paper presents the anatomy and historical perspective of the 4IR as well as its impact on businesses. It also presents an assessment of the Tanzania's 4IR preparedness in terms of legal and policy environment, ICT infrastructure, political will, digital literacy as well as available challenges and opportunities. Finally, the paper provides recommendations on how Tanzania can harness the 4IR for business development.

Keyword: 4th Industrial Revolution, Business Development, Tanzania

KEYNOTE LECTURE 2

Innovation and Entrepreneurship for Youth Employment in Tanzania

Hon. Jumanne Kishimba (MP)
Kahama Constituency, Shinyanga Tanzania

Abstract

There has been a mismatch between Higher Learning Institutions curricular and entrepreneurship skills in the field. This mismatch in many cases has been attributed by inadequate integration between innovation and entrepreneurship in most of higher learning institutions teaching methodologies. Mainly the teaching methodologies in higher Education has been emphasizing on the theories with a little dimension from the practitioners. This situation leads to majority of higher education students' graduate with mindset of job seekers instead of being job creator. This paper calls upon higher education management to collaborate with the practitioners from the initial stage of development of the curricula to the implementation phase.

Keywords: Innovation, Entrepreneurship, Youth, Employment, Tanzania

KEYNOTE LECTURE 3

Tanzania SME Development Policy and Modernized Cottage Industries

Ms. Maida Waziri

The President of Voice of Women Entrepreneurs Tanzania (VOWET) and CBE Alumin

Abstract

The position of this paper is that, there is an urgent need to address the lacuna in development policies, laws and regulations about cottage (home based) industries. If well adressed, the cottage industries will be able to establish business linkages, partnership and subcontracting relationship to compliment small, medium and large industries. Failure to recognize and encourage modern cottage industries is a recipe for slow economic growth and development and a break in adding value to agricultural products and other produce. The Tanzania Mainland projects objective is to have all villages connected to electricity (National grid) in the coming December 2022. That power should be used for value addition especially in the processing cottage industries which may result in faster economic development. Tanzania has also made great strides in the rural and urban areas in providing pipe water, good road networks, access to good hospitals and education which greatly favours development of cottage industries. If cottage industries are legalized and linked to markets, industrial parks, Export Processing Zones, the industrialization drive will gain momentum. Also, the upcoming micro, small and medium enterprises development policy should have a clear cut position about home-based micro and small industries including a roadmap to enactment of Micro, small and Medium Enterprises Development Act.

Keywords: SME policy, Cottage Industries, Economic Growth, Tanzania

KEYNOTE LECTURE 4

Towards Inclusive Economic Growth: Insights from Global to Local Tanzanian Contexts

Prof. Honest Prosper Ngowi¹

Associate Professor in Economics Mzumbe University, Tanzania

Abstract

Economic growth has been among the key issues of discussion in the worlds of policy, politics, academia and practice. This is the case across the globe in general and within such developing countries as Tanzania in particular. In Tanzania for example various interventions including programs and projects have aimed at attaining high economic growth. Where high growth rates have been attained and posted, there have been celebrations mainly from the government. Many ‘normal’ citizens however, have shown discontents in that the ‘impressive’ growth paths and figures have not translated into higher standards of living. This calls for measures for attaining not just high economic growth but also inclusive economic growth.

The concept of economic growth describes an increase in monetary value of goods and services produced in various sectors of an economy over a period of time. This period of time is normally a financial year. Goals of many governments have been to attain as high economic growth figures as possible. This needs to be interrogated by questioning the quality of growth. Recent critical voices are calling for not just growth but for inclusive and green growth. For economic growth to trickle down and be felt by ‘normal’ citizens, it should occur in the sectors where the majority of the people are. For Tanzanian and comparator type economies, this is in the agriculture sector in its very broad sense seen from ecosystem and value chain perspectives. Attaining inclusive growth through growth poles (sectors that drive growth) calls for ecosystem interventions including financing. There should be very close and meaningful backward and forward inter-sectoral linkages in forms of inputs-outputs relationships between the sectors with rapid growth such as mining, construction and services and the rest of the economic sectors that are not posting very large growth figures. These include agriculture, livestock and fishing in Tanzanian context. Such linkages could be backward through the factor inputs market or forward through the factor outputs market as captured in Leontief input-output model. Policy and decision makers as well as practitioners should ensure that national resources are allocated in such a way that they will stimulate sectoral growths that will ensure inclusiveness.

Inclusive economic growth on the other hand, is a type of economic growth that includes and involves the majority of a country’s sons and daughters especially those in the lower social-economic class (the poor). Inclusive economic growth ensures that people from all walks of life are meaningfully involved and involving themselves in the growth process and distribution of the national economy that has grown. Inclusivity involves men and women, young and old, urban and rural dwellers, people with disability, rich and poor and indeed all kinds of people with no regards to race, ethnicity, gender, age, political inclinations and other aspects along that line. Inclusive economic growth implies that there should be fair (not equal) distribution and redistribution of the pie of the national cake that has grown. Distribution and redistribution is normally done through various fiscal policies and their many instruments including taxation and subsidies. Policy and decision makers should ensure that appropriate fiscal policy instruments are deployed for fair distribution and redistribution of the national cake across sectors, geography and the many demographic categories if inclusivity is to happen.

Way forward

There are needs to build the capacity of policy and decision makers as well as practitioners on inclusive economic growth issues. They need to deeply know why it is good economics to ensure that national plans and budgets deliver not just growth but more importantly inclusive economic growth and most importantly how they can make this happen. Capacity building and all other interventions needed to attain inclusive economic growth should be a continuous process and not a one-time event.

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KEYNOTE LECTURE 5

APPLICATION OF ICT IN BUSINESS OPERATIONS: A CASE STUDY OF BUSINESS REGISTRATIONS AND LICENSING AGENCY (BRELA) ONLINE BUSINESS FORMALIZATION

Godfey Nyaisa

Executive Director- Business Registrations and Licensing Agency (BRELA)

Abstract

In Tanzania, like in many countries in the world, in order for a business undertaking to be formalized it is required to pass through different Government Authorities or institutions for it to be either registered or licensed. Most of these Authorities or institutions do discharge their duties by implementing various laws which they administer. Most of these laws, if not all which were inherited from the colonialists, were very old and outdated lacked the electronic service delivery aspect. These laws were enacted according to the technological developments, actual environment of those times basing on hard paper mode of service delivery.

The Business Registrations and Licensing Agency (BRELA) is one of the said Government Institutions where the process of business formalization starts. BRELA's main mandates include the registration of Companies, Business Names, Trade Marks, Service Marks, granting of Patents and issuance of Industrial and Group 'A' Business Licenses. BRELA just like many other Government institutions in Tanzania, has for a long time been discharging its duties using paper-based systems. This as it has been stated before, was because of the prevailing situation but also the laws and level of technology existing during that time.

Despite some few success stories during the paper based service delivery era, generally, the paper-based systems had been posing a lot of challenges to these institutions in their applications, because of the outdated technology used. Some of the challenges were:- Loss of records (paper documents, files and registers). Delays in decision making caused by the physical movement of files from one office to another. Unnecessary operational costs caused by purchases of too many stationery and need of having huge office space for file storage.

To offset these challenges, in 2016 BRELA also slowly started to use ICT by developing a mini and local system called 'Online Business Names Registration System' (**OBRS**) used for registration of Business Names. The success stories experienced from this locally made system are the ones which inspired BRELA to dream of delivering the rest of its remaining services online, the dream which came true in 2017 when all its services went online after development of the 'Online Registration System' (ORS). ORS has been integrated with other Government institutions such as the National Identification Authority (NIDA), Tanzania Revenue Authority (TRA) for issuance of Companies' Tax Identification Numbers (TIN). In 2018 the issuance of Group 'A' Business Licences service which was formerly being offered by the Ministry of Industry and Trade and transferred to BRELA also went online, this lead to all registrations and licensing services offered by BRELA to become online

On top of the technical services offered to the public, in 2020 BRELA also internally started to use a Government-owned pre-viewing and filing ICT system called 'e-office' for making various administrative decisions within the institution instead of using human to traditionally carry the paper files from one office to another.

I believe we are all aware of the well-known saying that "TIME IS MONEY simply meaning that time has value just like money. Time wasted without any productive activity is like wasting a property worth a lot of money. The ICT application in business operations if properly done contributes a lot in business, individual and ultimately the national economy growth as a whole, specific benefits being, but not limited to:- Time reduction in attending issues, hence saving time which can be used for other useful and productive activities;

Cost reduction as people do not need to travel from one place to another to seek for the services. The saved costs can be used to do some other investment and boost the individual and national economy; several systems Integration (eg. BRELA/NIDA/TRA) making several services to be obtained at one stop rather than

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physically moving from one place to another; Reduction or elimination of corruption solicitation possibility as the service provider and receiver do not physically meet; Transparency and efficiency in performance as all the processes, time taken and responsible persons are clearly and easily traceable; Business environment improvement; Cost reduction in stationery purchases and office space rentals; and Multiple attendance of one issue – An administrative file can be attended by several persons at a time instead of wasting time to wait for one to finish his task.

Apart from encountered normal challenges, application of ICT in all business operations is nowadays inevitable. All institutions or entities, public or private should strive to make sure that they use ICT in conducting their operations so as to reduce their operational costs, win more customers and continue to exist.

“Apply ICT to Survive, Ignore it and Perish”

Thank you for your attention.

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Contribution of Agricultural Marketing Co-operatives towards Promoting Inclusive Economic Development through Leaving No One behind Agenda

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Abstract

Promoting and accelerating sustainable inclusive economic development is necessary and sufficient condition towards achieving the 2030 Sustainable Development Goals (SDGs). Inclusiveness is the concept that encompasses equity, equality of opportunity, and protection. The global co-operative movement has been regarded as among the mechanism towards promoting and accelerating inclusive economic development as they encompass potential contributions to sustainable human development and combating social exclusion. To attain inclusiveness, the co-operative movement adopted the leave no one behind (LNOB) agenda as enshrined by International Co-operative alliance (ICA). However, since its adoption there is lack of clarity on what exactly LNOB it meant and what implication it has towards promoting and accelerating inclusive economic development through co-operative movement. Against this background, this research bridged this gap by analysing the practice of the LNOB agenda and its contribution towards promoting and accelerating inclusive economic development. Findings were collected from 102 members of highly performing co-operative society (Mamsera) in Rombo district by adopting cross-sectional survey approach. Data were collected by using questionnaire and key informant interview. Majority (96.1%) of the respondents pointed out that there is a positive contribution of co-operatives towards promoting and accelerating inclusive economic development. Nine contributions were revealed; eradicating poverty (81.4%), enhancing and promoting mutual equity and equality (76.5%), capacity of tapping technical, financial and other support from government and development stakeholders (61.8%), mutual capacity of financial deepening and inclusion agreed (92.2%), creating an enabling environment for self-employment creation (85.3%), enhancement of agricultural and non-agricultural productivity (95.1%), ability to reduce cost or enhance economies of scale (76.5%), creating an enabling environment for saving and investment culture (79.4%) and through the practice of the concern for community roles (99.0%). Despite of the contributions co-operatives experience several hurdles towards implementing their roles. The study concluded that co-operatives have very significant contributions towards ensuring attainment of LNOB as well as promoting and accelerating inclusive economic development. It is recommended that co-operatives and supporting institutions to increase their efforts towards ensuring attainment of LNOB agenda through co-operative movement. It is also recommended that the co-operatives and their supporting institutions to have a mutual view, understating, agreement and commitment towards promoting and accelerating inclusive economic development.

Key words: Co-operatives/Agricultural Marketing co-operatives leave no one behind, Inclusive economic development.

Introduction

Promoting and accelerating sustainable inclusive economic development is necessary and sufficient condition towards achieving the 2030 Sustainable Development Goals (SDGs). The Commission on Growth and Development (2008) explain that inclusiveness is the concept that encompasses equity, equality of opportunity, and protection in market and employment transitions (Raymond *et al.*, 2012). It is the situation where more and more people are participating in the high growth process, contributing towards maintaining the growth and are benefiting from the same. Many developing countries have over the past decades experienced rising inequality with high growth. Serious inequality can erode human potential, impede a society's normal functions, discourage investment and jeopardize economic development and even trigger political conflict and turmoil. There has been a rising call for a more equitable sharing of benefits to ensure long-term sustainable growth. In other words, regardless of gender, ethnicity and religion, people from all social sectors should be able to contribute to, and benefit from, economic development. As pointed out by

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Wilkinson and Pickett (2009), more inclusive societies generally have a better economic and political performance than unequal ones.

A rapid pace of growth is needed to generate the resources necessary to satisfy the essential needs of human wellbeing: food, health, energy, education and housing, and to address poverty reduction. However, growth itself cannot ensure that all people, especially the poor and the vulnerable, benefit equally from economic progress. Achieving sustainable inclusive economic development is also confronted by interconnected and multi-scaled multiple challenges. It is confronted by social, economic, political, technological, cultural, legal and environmental constraints (Anania, 2016). These constraints need sustainable interventions and strategy with a strong institutional and legal framework if at all the global movement of achieving and ensuring inclusive economic development is to be attained. Jain (2018) points out that, the co-operative movement encompasses potential contributions to sustainable human development and combating social exclusion in several countries' economy. The author also asserts that co-operatives have potentials towards promoting and accelerating fullest participation of all people and facilitate a more equitable distribution of the economic benefits.

The leaving no one behind (LNOB) has been the central overarching concern of the 2030 Sustainable Development Agenda which has been spread since 2015 (Stepharn and Marc, 2018). The global co-operative movement adopted the LNOB by using similar terminology "ensuring no one is left behind" as enshrined by International Co-operative alliance (ICA). This study regarded this philosophy as an emerged new innovative pathway towards promoting and accelerating inclusive economic development. This philosophy has been elaborated more by ICA's president statement: "At a time when inequality has been rising around the world, it is important to remember on the occasion of international day of co-operatives, that solutions for a more inclusive future exist. The co-operative model is foremost among these. Its principles and values set it apart from all other forms of businesses. Co-operatives are people-centered. They distribute wealth in a fairer way. They are community-based and they are committed to the sustainable development of their communities—environmentally, socially and economically. Globalization should be done through a set of values such as those of the co-operative movement ensuring that no-one is left behind in order to build a better world."

From the reviewed literatures and to the best knowledge of the researcher, there is lack of clarity on what exactly LNOB it meant and what implication it has towards promoting and accelerating inclusive economic development through co-operative movement in general. Also, since the inception of the agenda of ensuring no one is left behind by co-operative movement, to date there has been limited scholarly evidence on how it is framed, practiced and contributed to the enhancement of inclusive economic development particularly in Tanzania. Against this background, this research bridged this gap by analysing the practice of the LNOB agenda, examined the contribution of AMCOS towards promoting and accelerating inclusive economic development among their members and surrounding communities as well as determining challenges facing co-operatives towards promoting and accelerating inclusive economic development among their members and surrounding communities.

The international co-operative alliance (ICA) states that co-operatives are business organizations which are owned, controlled by and benefit their members (Chambo and Bwabo, 2013). The author further argued that, whether members are customers, employees or residents they have an equal voice regarding what the business does and share the profit equally. Around the world co-operatives allow people to work together so as to create sustainable enterprises that generates jobs and prosperity and provides answers to poverty challenges. Co-operatives are driven by values of equality and equity among others that can build better world. Historically co-operatives originated from Europe before they spread to other industrialized countries in 19th century (Singh, 2016). However, the development of co-operatives has been taken as the strategy and measure of eradicating the extreme poverty (Chambo, *et al.*, 2016).

In African continent, Tanzania is one of the countries with long history of co-operatives back in 1920s. Co-operatives have been featured by robust growth in Tanzania such that it has made a substantial contribution to the economic development of the nation since it attained its independence. The global statistics indicate that the livelihoods of nearly half of the world's population particularly the poor are secured by co-operative

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enterprises (ILO, 2015). With such wide coverage of people served by co-operatives, it was necessary to examine the practice of LNOB agenda through co-operative movement and how AMCOS contribute towards promoting and accelerating inclusive economic development particularly in Tanzania.

Methodology

This Study Was Conducted In Rombo District Using Cross-Sectional Survey Approach Whereas Data Were Collected At a single point in time from the co-operative members of the selected Agricultural Marketing Co-operative Society (AMCOS). Mamsera AMCOS was selected purposively due to its good trend in terms of large number of members and its good performance in terms of surplus generation (Profit), high turnovers, its investments and effort of revamping coffee crop among its members and surrounding community. Having such characteristics, it was considered good for this study as it enabled collection of relevant information towards achieving specified objectives. Mamsera AMCOS has a total number of 1 770 members whereas males are 1 371 equivalent to 77.5% while females are 391 which is equivalent to 22.5%. A total of 102 respondents were selected randomly from the selected AMCOS.

Data were collected by using questionnaire, key informant interview with the manager and the board chairperson. Quantitative data were analysed descriptively while qualitative data were analysed in accordance with the general themes identified by quoting the accurate words discussed during the interview session.

Results and Discussions

Respondents' profiles

The study surveyed 102 co-operative members from Mamsera AMCOS. Their demographic profile in terms of sex, age, marital status, education level and family size is as shown in table 1. Such description enabled the researcher to understand the background of the respondents from which data were drawn. The study findings indicate that 81.4% of the interviewed respondents were males while 18.6% were females. This statistics is similar with the findings by Rwekaza (2019) who also revealed that most of the co-operative members especially in AMCOS are males (89.4%) dominated compared to females (10.6%) counterparts. It was revealed that majority (43.1% and 35.3%) had an age of 50-59 years and above 60 years respectively.

The marital status the study findings revealed that majority of the respondents were married (86.3%) while 2.9% and 10.8% were single and widowed respectively. The study findings revealed that majority (67.6% and 27.5%) of the respondents in the AMCOS had primary and secondary education level respectively while 2.9% had certificate level. Respondents with education above certificate level were 1% diploma and 1% bachelor degree respectively. None (0%) of the interviewed respondents had a postgraduate level of education. The study findings on the family size of the interviewed respondents revealed that majority (33.3% and 39.2%) had a family size of between 1-3 and 4-6 people respectively while the rest had family members' between 7-10 and above 10 members which is equivalent to 23.5% and 3.9% respectively.

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Table 1: Respondents' Profiles

Demographic category		Frequency	Percent (%)
Sex Category	Male	83	81.4
	Female	19	18.6
	Total	102	100.0
Age Category			
	20-29	3	2.9
	30-39	7	6.9
	40-49	12	11.8
	50-59	44	43.1
	Above 60	36	35.3
	Total	102	100.0
Marital Condition			
	married	88	86.3
	single	3	2.9
	Widow	11	10.8
	Total	102	100.0
Education level			
	Primary	69	67.6
	Secondary	28	27.5
	Certificate	3	2.9
	Diploma	1	1.0
	Bachelor	1	1.0
	Masters	0	0.0
	Total	102	100.0
Family size			
	1-3	34	33.3
	4-6	40	39.2
	7-10	24	23.5
	above 10	4	3.9
	Total	102	100.0

Source, (Field data, 2021)

Description of the Study Organization

Masera AMCOS was established in 1932 with registration number 147 with the name Keni Masera Co-operative Society. With regard to the changes of co-operative law in 1983 the Keni Mamsera Co-operative society was re-registered and being given registration number 2 952 with new name Mamsera Rural Co-operative Society Ltd. The purpose of the establishment of this co-operative society was to collect and sell coffee produced by its members. Currently the Mamsera AMCOS has a total number of 7 board members whereas 4 are males and 3 are females. With respect to this proportion of leadership between men and women Mamsera can be applauded by trying to balance gender equality in their leadership proportion; this is one of the great achievements of Mamsera in trying to practice the LNOB agenda.

Currently Mamsera AMCOS has about five income generating investment apart from the core business of collecting and selling coffee from their members. These investments include selling of building materials (hardware), selling of agriculture inputs, production and selling of building bricks, social hall and CRDB agency banking.

Mamsera has its own capital used in all of the mentioned investments as well as funds for collecting and buying coffee from its members. Table 2 indicates the amount (in Kilogram) of coffee collected and sold for the past ten years. During the interviews with manager and board chairperson the trends is not stable due to climate change, unstable prices, high cost of production which demoralise members from continuing planting and farming coffee.

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Table 2. Amount of coffee collected and sold for the past ten years

Years	2020/21	2019/20	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12
Amount in Kilograms	100,965	137,021	211,088	259,665	229,467	367,735	208,976	424,877	317,289	308,030

Source, (Field data, 2021)

Amidst of the challenges prevailing in coffee production in the study area, Mamsera AMCOS has been devoting much effort to revamp coffee farming by buying 10 000 new coffee seedlings from Tanzania coffee research Institute and 1 600 from Rombo District commissioner. These seedlings are resilient to climate change and they all been distributed to members. Members were given seminar on how to plant and take care of these new seedlings whereas the AMCOS expect to get more coffee collection in next three years from the new planted coffee trees.

Other efforts of ensuring members are motivated to continue farming and producing coffee the Mamsera AMCOS rewards best members every year. For example in 2013/2014 about 79 best coffee producers (members) were given a bonus amounting Tsh. 1 015 000/= and farming equipments amounting Tsh. 540 000. In 2014/2015 about 45 members were rewarded a bonus amounting Tsh. 675 000 and farming equipment amounting Tsh. 540 000/=. In the season of 2015/2016 about 45 best farmers were rewarded a study tour to Arusha to learn more about best coffee farming practices.

The Mamsera AMCOS also devote its efforts by lending to its members farming inputs as the means of revamping coffee farming and production. For the past five years it has lent almost Tsh. 124 137 000/= as shown in table 3.

Table 3. Amount of farming inputs Lent to members

Season	2019/2020	2018/2019	2017/2018	2016/2017	2015/2016	Total
Amount of inputs Lent (Tshs)	10 975 000	21 863 000	30 543 000	25 128 000	35 628 000	124 137 000

Source, (Field data, 2021)

Contributions of Co-operatives towards Promoting and Accelerating Inclusive Economic Development through the practice of LNOB Agenda

This objective focused on analysing members' insights on the areas which co-operatives contribute towards promoting and accelerating inclusive economic development through the practice of LNOB agenda. Majority (96.1%) of them pointed out that there is a positive contribution of AMCOS towards promoting and accelerating inclusive economic development. The findings from the members revealed nine areas which co-operatives contribute towards promoting and accelerating inclusive economic development as presented in table 4.

The findings in Table 4 shows that AMCOS play roles in promoting and accelerating inclusive economic development through eradicating mutual poverty as agreed by 81.4%. During the data collection process one member said that*"From my experience as a member co-operatives helps a lot to promote and accelerate inclusive economic development through poverty eradication to members and their households, that why I can say co-operative ensures inclusive in a sense that it practices no one is left behind agenda"*. The

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respondents mentioned that through the co-operatives capacity in providing and ensuring food security, reliable finances, addressing social need as well as addressing housing needs as among the ways which co-operatives address poverty. Addressing such concerns it has direct influence in promoting and accelerating inclusive economic development.

Table 4 also shows that majority (76.5%) of the respondents agreed that co-operatives contribute towards promoting and accelerating inclusive economic development through enhancing and promoting mutual equity and equality. During the interview with board chairperson he justified that co-operatives ensures no one is left behind through application of the co-operative value of equity and equality. He said that all members are treated equally and fairly without any kind of discrimination of which it attract more members especially women to join their co-operative society. This finding implies that ensuring equality and equity through co-operatives contribute towards promoting and accelerating inclusive economic development because the economic benefits accrued from co-operative business can reach all people without discrimination.

Findings in Table 4 shows that, co-operatives contribute towards promoting and accelerating inclusive economic development through their capacity of tapping technical, financial and other support from government and development stakeholders as it was agreed by 61.8% of the interviewed respondents. The AMCOS managers argued that thorough the capacity and the opportunities for co-operatives to tap financial assistance for example, it becomes easier for the co-operative to reach many people, manage those funds, train the beneficiaries on how to invest and increase more incomes. Through such opportunity it is where we say co-operatives have potentials to promote and accelerate inclusive economic development.

The study finding in Table 4 also indicate that about 92.2% of the respondents agree that co-operative contribute towards promoting and accelerating inclusive economic development through mutual capacity of financial deepening and inclusion. The board chairperson argued that deepening and enhancing financial inclusion is one of the major means need towards promoting and accelerating inclusive economic development. He said that co-operatives create money to members which then are used for various economic activities such as petty business, farming, poultry projects etc. Therefore, through this role more economic benefits flow in to the members and their households as well as other community members. This finding is linked with co-operative contribution in creating environment for self-employment among their members and their household members as shown in table 4 whereby 85.3% of the interviewed respondents agreed that cooperative promote and accelerate inclusive economic development through creating an enabling environment for self-employment creation among their members and household members. Through such multiplier effects of co-operatives in deepening and increasing financial inclusion it is where we can say co-operative play roles towards promoting and accelerating inclusive economic development.

The study findings in Table 4 also shows that co-operatives contribute in promoting and accelerating inclusive economic development through mutual enhancement of agricultural and non-agricultural productivity as it was agreed by 95.1% of the interviewed respondents. During the interview with the manager and board chairperson, the manager said that agriculture sector it employs more than 85% of the population whereas co-operatives have been used as the only organized institutions which can help farmers in various ways. The board chairperson argued that the contribution of co-operatives to farmers especially members has significantly enabled farmers and members to increase their earning and productivity. With respect to such contribution, it can be said that co-operative plays a major roles towards promoting and accelerating inclusive economic development. In line with contribution of co-operatives on productivity, economies of scale which can be linked with productivity were also mentioned. The study findings in table 4 indicate that 76.5% of the respondents agreed that through the role of cost reduction or economies of scale through co-operatives inclusive economic development can be promoted and accelerated.

The study findings in Table 4 also revealed that co-operative contribute towards promoting and accelerating inclusive economic development through their capacity of creating an enabling environment for saving and investment culture as it was agreed by 79.4% of the interviewed respondents. One respondent argued that to have mutual saving as well as having a saving capacity and culture among members it enables co-operatives, members and their households to create more inclusive investment opportunities, meet future uncertainties

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that can affect inclusive economic opportunities. It has argued by the manager that members savings to co-operatives enables co-operative like Mamsera to use the mobilized funds to make more investments which ultimately the returns goes to members in form of dividends which then promote and accelerate inclusive economic development.

The study findings as presented in Table 4 also revealed that through the concern for community roles was agreed by 99.0% as the means which co-operatives contribute towards promoting and accelerating inclusive economic development. During the interview with the manager, she said all what co-operative give back to community makes sense of ensuring that co-operative practice the LNOB. It also plays significant roles towards ensuring or promoting and accelerating enabling environment for inclusive economic development. Findings from the study organization indicate that it plays a major role towards implementing the principle of concern for community by helping and supporting community groups which are in need such as orphans, hospitals and school requirements. The study organization since 2010 it has supported about 4 students in different level of education from primary to university. It has also contributed to healthy centers, school hostels and toilets. All these contributions by AMCOS were termed by the managers and board chair as the main inputs from co-operatives towards creating an environment for promoting and accelerating inclusive economic development.

Table 4. Areas of Co-operative contributions towards promoting and accelerating inclusive economic development through LNOB agenda

Areas of Co-operative contribution	Agree (%)	Uncertain (%)	Disagree (%)
Capacity to reduce mutual poverty	81.4	2.9	13.7
Promotion of mutual equity and equality	76.5	6.9	16.7
Capacity of tapping technical, financial and other support from government and development stakeholders	61.8	3.9	34.3
Mutual capacity of financial deepening and inclusion	92.2	2.9	4.9
Environment for self-employment creation	85.3	2.9	11.8
Enhancement of agricultural and non-agricultural productivity	95.1	1.0	3.9
Enhance economies of scale	76.5	4.9	18.6
Creation of enabling environment for saving and investment culture	79.4	5.9	14.7
Concern for Community	99.0	0.0	1.0

Source, (Field Data,2021)

Co-operative barriers towards ensuring LNOB, promoting and accelerating inclusive economic development

During the interview with the manager and the chairperson, several issues were mentioned as the barriers facing co-operatives towards promoting and accelerating inclusive economic development in Tanzania as well as ensuring attainment of LNOB. The barriers include, low participation of woman and youth in co-operative affairs, low level of education among co-operative members and leaders, weak support and bureaucracy from the national co-operative supporting institutions, uninformed members and leaders on LNOB, leadership credibility, low membership participation, dormant membership, and inclusive economic development agenda and inadequate internal funds among AMCOS

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Conclusion and Recommendations

The study examined the practice of LNOB agenda through co-operative movement and what a contribution it has towards promoting and accelerating inclusive economic development particularly in Tanzania. The study concluded that co-operatives have very significant roles to play towards ensuring attainment of LNOB. Based on the nine identified contributions of co-operatives, it is concluded that almost all members positively agreed that through co-operatives those areas can be used to promote and accelerate inclusive economic development. Despite of the contributions of co-operative it is concluded that co-operatives operate under a very difficult environment due to the identified barriers.

It is recommended that co-operatives and supporting institutions to increase their efforts towards ensuring attainment of LNOB agenda through co-operative movement. It is also recommended that the co-operatives and their supporting institutions to have a mutual view, understating, agreement and commitment towards promoting and accelerating inclusive economic development. Each supporting institutions should play their roles efficiently and effectively without affecting co-operatives functions. It is also recommended that the co-operative members and leaders as well as the supporting institutions to be more creative and innovative to come up with measures needed towards addressing barriers of promoting and accelerating inclusive economic development.

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Getting Right into Digital Transformation Process: What Components should be reflected? Literature Review

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Abstract

Despite of the wide application of digital transformation worldwide across industries there is a scarcity of information regarding components which can sufficiently turn it into successful story. The assessment of the current research indicated that organizational context have a wide range for transforming the firm digitally. The analysis of this result was derived by reviewing 32 academic papers on digital transformation. The study comes with frameworks which employs components which can be adopted in digital transformation processes. Through synthesizing the study propose several promising avenues for the future research. Overall, our literature review confirms that this research stream is still a new phenomenon, hence, need more research efforts to be done.

Key Words: Digital Transformation, Digital Components, Digitalization, Tanzania

Introduction

Fast-changing environment has made significant changes of many sectors. A number of sectors are making a momentous investment to enhance productivity, increase their efficiencies, expand market reach, and reduce operational costs. This is facilitated by application of information of Technology (IT) which asset to spread the broadband connectivity in businesses through internet. The wide spread usage of technology has changed old fashion of practicing businesses by introducing new forms of digital technologies. Improved communication and management of information systems have significantly improved complex activities over long distances, and enabled new and more efficient business operations. Given this circumstance, digital transformation process has become most important aspect in all business processes to ensure that firms meet their objectives. Through digital transformation, businesses introduces new business model by implementing a new channel which can capture customers requirement (Pagani & Pardo, 2017; Zott & Amit, 2008). Digital transformation has become essential for many firms in as it has enabled them to achieve their business objectives which have improved service quality, reduce costs and gain a competitive advantage (Casadesus-Masanell & Ricart, 2010). There are increasing on dependence on digital technology in many industries Worldwide. Production processes have increasingly take place as part of global value chains in which various stages of production are spread across multiple different countries have become more integrated, and affiliated with suppliers. It is not surprisingly for exportation and importation of products and services to be done digitally which has made transactions faster than ever since. The processes cover goods and services which are sold and bought online by allowing both seller and buyer sharing platforms of the transactions. Digitized, networked, and intelligent information enable modern economic activities to be more flexible, reliable, and easily availability (Nylén and Holmström, 2015). It reduces transaction costs as well as improvements of the services efficiency (IMF, 2018). Digitization changes the ways governments control the flow of information to the society which they govern (Goldfarb & Tucker, 2019).

In addition, it led to an increase in the prevalence of platform businesses, even beyond the closely platforms existed before. It facilitates transactions such as ordering goods and services by enabling them to reach markets that would have been possible to reach without its existence. As a result, the number of firms carrying out business transactions digitally increases dramatically from time to time. OECD (2013), presents on many advantages such as improvement of quality and efficiency services, enhancement of companies flexibility in services provision, expanding selling products or services provision through reach the global markets (Hanelt et al.,2021). Similarly, through online advertisement customers are able to orders their products or services which from the data base of the sellers with zero transport costs. Even governments of many countries are increasing on restructuring on their processes of services provision from offline to online. This has made many people spend more time on digital media searching for online products/ services provision from both public and private services. The full potential of these new technologies is massive,

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especially considering the millions of people using everywhere mobile devices, which are not only growing in private sectors only but also in permanent connection government services provision. This has caused a tremendous change for many sectors and industries where, through digital transformation, they have promoted the development of business sustainability. Through digitalization machines are able to store and transmit data through microprocessors and wireless communication technologies hence enable people to get the demanded services. In this new economy, a convergence between computer technologies and communications technologies accelerates the creation, manipulation and dissemination of information, brings about changes in the structure and functioning of markets, transforms traditional production processes, improves productivity, and underpins new digital services (Ayres and Williams, 2004; Malecki and Moriset, 2007). Kretschmer, (2012) argued that the productivity of digital transformation is increases overtime if well managed. Further evidences suggest that where digital technologies are actualized, progressed, benefits and growth of the organization is achieved (Atkinson and McKay, 2007; Diewert et al., 2018).

Although the digital transformation has been adopted broadly over the past decade (Sony & Naik, (2020); Vial (2019); Warner & Wäger (2019), for long it has been a hot-button issue for boosting companies' efficiencies. Digital services now face several challenges which make its sustainability to become questionable Vasilescu et al. (2020). Most organizations lack the understanding of what a digital technology strategies entails and its components Mapingire et al. (2021). Consequently 70% of digital transformations fail (Vasser, 2021). Additionally, Axora (2021) reports on many companies suffering from digital fatigue. The report presents the success of many organizations from Digital transformation as 30% while the rest fail to anticipate their objectives. The reason behind these skeptical results of digital transformation is unsatisfactory preparedness in the whole process of change (UNCTAD, 2021). This makes these companies to sufficiently define and understand well digital transformation components that can offer offering integrative results from its implementation (Imran et al, 2021; Mapingire et al. 2021). Axora (2021) argue that new technology requires new mindsets and new ways of working, however, defining appropriate means of through which digital transformation can transform peoples' mind is an extreme challenge (Imran et al. 2021). This makes gains associated with the digital transformation to be not experienced equally everywhere (Thomas & Carsten, 2020). Henfridson et al., (2014); Yoo et al., (2012) highlighted how uniqueness properties of digital transformation technologies which needs distinctive components towards its application. Failure defining them causes firms to suffer a number of consequences (Lucas & Goh, 2009). Therefore, the question arises: What components should be addressed by firms for to get right into digital transformation?

Although some studies have contributed on digital transformation processes, most of them have focused on the technological aspects (Henriette et al., 2015; Porter & Heppelmann, 2015; Sony & Naik, 2020) and paying less attention on the need for organizational changes (Duerr et al., 2017; Gehrke et al., 2015; Matt et al., 2015). This has initiated a need of calls of solving challenges posed by digital transformation through organizational perspectives (Vaska et al., 2021; Reis et al., 2018; Henningsson & Hedman, 2014). This has been due to the reason argue that prior literature remains insufficient for explaining the required components of digital transformation from organizational context (Sony & Naik, 2020; Verhoef et al., 2019; Ivančić et al., 2019). Organizations are considered complex systems that consist of interdependent components that work with multidisciplinary activities Davis et al., (2014); designing of digital technologies without considering its effects affects its effectiveness.

For more than one decade, impediments to digital transformation have been as potential areas that need exploration (Nagy, 2020 & UNCTAD, 2020). Helbig *et al.* (2009) note that digital transformation depends on multiple dimensions; it is not only a question of having access or not. Thus, organizations need to alter the value creation paths on which they have relied in the past to remain competitive by introducing a variety of digital technologies (Vial, 2019; Hesse, 2018). Mechanisms of increasing digital transformation success are embedded to the organizational context (Imran et al., 2021). This is also well supported by URT (2021), which reports on the important for stakeholders to come up with digital transformation blueprint strategies which can create space for ease of doing business. With this matter, framework enables firms to continuously adjust their operations in order to optimize digital innovation efforts are highly required. This basically motivates this study through literature review to find the right components that that can facilitates best practices of the digital transformation processes.

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Research Method

To bring together a sample of papers needed for our analysis, in August 2021, the study searched published information by commonly using computers and electronic databases. Computer databases offer access to vast quantities of information, which can be retrieved more easily and quickly than using a manual search (Younger, 2004). A Systematic literature review was used to identify, evaluating and interpreting work produced by researchers, scholars and practitioners (Marshall, 2010). Numerous electronic databases were used as a base of getting appropriate information. Cronin et al, (2008) argued on the important of database in identifying relevant information related to the topic. Similarly, Abdullah et al., (2014) reports on the potentiality of studying existing literature reviews and systematic reviews in determining right source of data. They offer a good overview of the research that has been undertaken, so that the relevance to the present work can be determined (Cronin *et al.*, 2008).

Further, Cronin *et al.* (2008) stated that when reviewing a literature an important aspect to consider is the reliability of source of data to be used. To comprehend with this scenario, the following criteria were used to analyze the literature: First research questions were formulated. Second, focus on defining essential terminologies in searching the most relevant articles was determined. One of the following phrases was used: “Digital transformation processes” “digital skills”, “digital divide”, “digital development”, “electronic government”, “Digital transformation”, “Components of digital transformation”, “Communications and Information Technology”, or “Internet” must appear in the title, in the abstract, or in the keywords. Third, the reviewed literature must be a full paper written in English and published in an academic journal or in a conference proceeding of an international academic conference. Fourth, establishment of databases need to be targeted along with the focused time frame ranges from 2010-2021. The selected time has been important given that Digital transformation has mostly practiced 2010-2019 (Ekaterina et al., 2021). Parahoo (2006) advocates on the important of the detailed time frame within which the literature was selected, as well as the methods used to evaluate and synthesize findings of the studies in question. Finally, analysis, synthesize and disseminate the findings was exercised.

Upon extraction criteria that were followed strictly, only 32 papers/articles in a number out of 74 papers/articles identified during search (Table I) were finalized to be included to proceed with this research. The detail is given in Table II.

Table 1: Total research papers/articles found/downloaded/collected after rigorous search

Science Direct	Emerald	IEEE	Sage	Wiley	Springer	Taylor and Francis	Google Scholar
13	8	6	5	3	15	5	19

Table II. Papers/articles selected for review

Science Direct	Emerald	IEEE	Sage	Wiley	Springer	Taylor and Francis	Google Scholar
5	3	2	2	1	5	1	13

Results

The researcher adopted specifically analytical research framework by Roztocky and Weistroffer (2015), which allows to group papers in the sample by research purpose, method, sample, findings, and area for

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further research. Similarly, theoretical foundation has been analyzed to understand models and theories which have been employed digital transformation. Sally (2013), argued on limitless ways of structuring a matrix, Table 111, identified various context through which digital transformation has been analyzed. Common themes of most studies are about how organizations can manage digital transformation processes. However, it has been noted that digital transformation is new phenomenon and still developing Reis et al. (2018), attention on the analyzed factor is paramount. Table 11I entails studies that are closely related to the focus of this study which have been used as the foundation of the framework of the digital transformation components.

Table 11: Table shows 32 reviewed literatures from various scholars from 2010-2021

S/N	Author & Date	Purpose	Method	Sample	Finding	Further Researches
1	Wolfgang and Schmid (2020)	Digital strategy for your business:	Qualitative–empirical research design	29	63% OF SMEs have no strategies of digitization; LS has fixed strategies	Companies must recognize and overcome the opportunities and challenges facing digitalization
2	Litvinenko (2019)	Factors on digital economy in mining	Literature-review	Russia federation	A need of creating digital platforms for the mineral sector	Assessing impact of digitalization in the long term in Mineral Sector .
3	Goldfarb & Turker (2019)	Digital Economy	Literature-review		Digitization reduced operating costs	The analysed costs of digitalization each can be analyzed independently
4	Rosotto (et al., 2018)	Digital platforms on inform policy choices in developing countries	Literature-review		Multisided platforms; technology and behavioral enablers; the emerging business models; platform dynamics.	Policy implications for development building digitalization
5	Towse (2020)	Dealing with digital: the economic organisation of streamed music	Qualitative method	Norwegian music industry	Digital processes needs to protect the copyright Law of music streaming	Demand side of streamed music can be involved
6	Garcia & Velez (2017)	Can ICT move people from informa to	Multiple indicators and multiple causes	A panel data set of 170 countries	Governments should consider broadband as an additional tool to help individuals	The results are to be interpreted with caution

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		formal	statistical model	in five years	make the transition from the informal to the formal sector	based on the specific country specification
7	Huarng, and Rey-Martí, (2019)	Do individual issues that may affect company innovation and performance?	Exploratory study	Data collected from 620 industry experts representing 102 companies	Power struggle provides new insights into how an emerging technology is realized	Current study is insufficient to fully explain the influence of individual on the performance of the digitization
8	Ekaterina et al.,(2020)	Role of digitalization of the system of economic relations as a factor in the development of small innovative enterprise		Local Municipalities of Russia	Innovation system requires the support of innovative initiatives of small business in the early stages of its existence	Awareness of employees are crucial in digitalization processes
9	Thomas, & Carsten, (2020).	Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future	Empirical review		Individuals: kinds of employees and assigned roles; processes: data generation, transition and storage; Structure of the firm	Digitalization requires future research by developing the scale that empirically captures its capability.
10	Srinuan et al. (2011)	Understanding the digital divide: A literature survey and ways forward	Quantitative Method		Digital divide is not just access to technology, but more on socio-economic and organizational components	More discussion on the same topic in developing countries is important.
11	Henfridsson et al, (2014)	Managing technological change in the digital age: The role of architectural frames			The unique properties of digital technology enable new types of innovation processes that are particularly rapid and difficult to control and predict	Therefore, firms need dynamic tools to support them in managing their digital innovation efforts.

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12	Yoo et al., (2012)	Organizing for innovation in the digitized world	convergence and generatively		reasons why digital innovation processes are particularly difficult	The fundamental properties of digital technology are reprogram ability and data homogenization
13	Nyle Holmstro, & (2015).	Digital innovation strategy	Likert Scale Questionnaires	Indian Firms	A framework for diagnosing and improving digital product and service innovation	call for more research into how digital process and product innovation are related and can be integrated in firms.
14	Badran (2014)	Determinants of the digital divide in Egypt	ordered probit model	15,029 individuals	There is a positive correlation between urbanization and digital divide	Formation of digital divide index designed to measure the urban and rural digital divide among youth in Egypt
15	Bhanu (2021)	Digital economy in a global perspective: is there a digital divide?	Descriptive Statistics consisting of tables and pie-charts and bar-charts.		The existence of strong network economies between the broadband and the mobile technologies in developed world; economic growth variables and growth in mobile services are integrally linked; digital divide because digital economy at the global is dominated by developed economies	There is strong evidence of extreme inequalities between Developed and Developing economies, in terms of various indicators of digitation. This points out towards 'Digital Divide'.

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16	Vaska et al., (2021)	Analyze the development of the digital transformation field, and to understand the impact of digital technologies on business model innovation	structured literature review		Digital transformation is still developing, with growing interest from researchers since 2014; digital transformation is a new phenomenon; results show that this field of research has no dominating authors, implying that few authors remain focused on exploring further aspects of BMI driven by digital transformation	Results show a need for research in developing countries and for more collaboration between researchers and practitioners
17	Henningsson & Hedman, 2014).	how to position the firm relative to the cooperative relations that characterize business ecosystems	Case study approach & Experimental	Micro-, meso-, and macro-level firms.	How to position the firm relative to the cooperative relations that characterize business ecosystems	New entrants seek to make their entries with technological solutions that are incompatible with existing technology systems, which creates rival competitive systems.
18	Gopal et al. (2019)	Digital transformation in healthcare – architectures of present and future information technologies		32500 Mobile APPs	Information technologies that enable integration must be extensible, safe, reliable and affordable, and tailored to the digitalization maturity-level of the individual organization	Eliminating data silos and automating data wrangling and integration, as well as recognizing unseen patterns, and providing new intelligence to service patients and care-givers, will offer value across the care continuum.

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19	Wang et al., (2017)	A Survey on Energy Internet Communications for Sustainability			An essential part in energy internet system, a scalable and interoperable communication infrastructure is critical in system construction and operation	Open challenges in system complexity, efficiency, reliability are explored and recent achievements in these research topics
20	García-Peñalvo (2016)	Technological Ecosystems	Literature-review		The challenges and issues of the knowledge society require complex technological systems that may evolve and interoperate with each other	The users should be considered an important component of these so-called technological ecosystems
21	Solomon, & Klyton (2020)	The impact of digital technology usage on economic growth in Africa	Quantative analysis	39 African Countries	Individual usage if digitalization has a positive impact on economic growth	As such, individual users would become drivers of digitalization on the continent.
22	Vasilescu et al. (2020)	Digital divide, skills and perceptions on digitalization in the European Union-Towards a smart labour market	Statistical and econometric methods	European Union	It is highly needed to increase the people's confidence in their skills level and to make the most of digitalization of the societies	Positive attitude towards digitalization is essential for its transformation
23	Nadkarni, Prüg, (2021).	Digital transformation: a review, synthesis and opportunities for future research	Systematic review		Pace of transformation, the culture and work environment, or the middle management perspective are significantly underdeveloped	

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24	Hanelt et al (2021)	A Systematic Review of the Literature on Digital Transformation : Insights and Implications for Strategy and Organizational Change	Systematic review		Managers need to develop specific mindfulness, i.e., a perception about what to keep and what to change in the course of digital Technology, which depends on the general opportunities and risks but is also contextualized to the specific industry	Established theoretical lenses can be utilized to better understand the phenomenon and how others need to be advanced to account for the specific characteristics of digital technologies
25	Farias et al.,2021	Transformation and digital literacy: Systematic literature mapping	The systematic mapping method	Analyze 298 articles published	This research provides a perspective on digital transformation studies in higher education institutions and their internalization approaches.	Digital transformation occurs at the level of processes and systems. It affects the people in the institutions, requiring them to continuously update their skills, which is why digital literacy is a prominent topic in empirical studies.
26	Verhoef et al., 2021	Digital transformation: A multidisciplinary reflection and research agenda	A systematic multistep concept-centric literature search		Digital transformation needs manager's guidance and understanding of how firms can gain a sustainable competitive advantage by building on specific re-sources, which strategies they should adopt to win, and how the firm's internal organization structure must change to support these strategies	Digital transformation will be a very relevant, multidisciplinary area for future research given the recent developments of digital technologies

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27	Pelletier, & Cloutier (2019)	Conceptualizing digital transformation in SMEs: an ecosystemic includes three subgroup profiles: entrepreneurs, IT professionals and socioeconomic support professionals.	Group concept mapping, a bottom-up and participatory mixed methods-based approach	IT applications in SMEs in Turkey	The results stress the need to develop a shared understanding of IT challenges. Second, they suggest policymakers could use these conceptual representations to further develop and strengthen the IT-related support agenda for SMEs, especially the smaller ones (e.g. training programs, business support and coaching initiatives, etc.).	The digital transformation is accelerating and has implications for all actors concerned, and especially for entrepreneurs who perceive and understand the situation and its challenges in multiple ways
28	Mapingire et al. (2021)	Components of a Digital Transformation Strategy	A qualitative research approach and collected research data using an internet-mediated questionnaire.	South African Perspective	Digital Technologies must incorporate the following components, digitalization of customer experience, products and services, employee ways of working and of business processes	Most organizations lack the understanding of what a digital technology strategies entails and its components;
29	Matt et al., (2015)	Digital transformation strategies			Our most important dimensions of digital transformation strategy, i.e. the use of technologies, changes in value creation, structural changes and financial aspects.	Alignment of these four dimensions lead organizations toward a holistic framework that can result in the formulation of a digital transformation strategy
30	Gehrke et al.,(2016)	Towards a management framework for the digital transformation of logistics and manufacturing.			These challenges of digital transformation include a lack of tools, methods and concepts for process digitization; unclear migration scenarios; a lack of structure and direction for the management of	They argued that digital transformation involves overcoming these challenges

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					transformation; organizational structure; a lack of collaboration and cooperation; time and budget constraints; low awareness; an unsupportive culture and a lack of competencies	
31	Imran, (2021)	Digital Transformation of Industrial Organizations: Toward an Integrated Framework	Research data was collected from four leading industrial organizations that engaged in digital transformation programmes.		Results indicate that leadership, structures, and culture are the key enablers of digital transformation that help industrial organizations to achieve performance outcomes (i.e. collaboration, customer-centricity, and agility).	Organizational transformation in digital technologies is important
32	Reis et al.,(2018)	Digital Transformation : A Literature Review and Guidelines for Future Research	Systematic literature review of 206 peer-reviewed articles,		Managers should adapt their business strategy to a new digital reality.	Opportunities and challenges of Digital Transformation need attention.

From Table 11 components for digital transformation process has been synthesized as manager’s guidance, flexibility of the organizational structure, availability of tools and methods for digital transformation, time and budget constraints, digital technology platforms, clear processes of transforming digitalization, identification of business activities, good leadership and innovation, flexibility structure, employee awareness, restructuring firms’ structure, availability of internet system, leadership, peoples’ confidence skills and communication infrastructure. These components were found as a critical in system construction of digital operation, pace of transformation the culture and work environment. With these components it can be understood that digital transformation require clear understanding of how firms can implement strategies that assists firm’s internal organization structure to change to support transformation processes. Generally, no common themes were found to be dominant among the reviewed literature based on the new field of the topic (Vaska et al., 2021).

Although the papers in our sample focus on many countries, it appears that the research is disseminated worldwide. However, limited cases have been experienced in Africa which has been presented in by 6.3% of the reviewed literature. The gap is considerably wider in many African countries with exceptional to Tanzania capabilities of using digital data and frontier technologies (UNCTAD, 2019). With this few presentation, there were no studies from East African Countries specifically to Tanzania. It seems that scholars from these countries focused on other technological innovation rather than digital transformation. Attempting to isolate the digital transformation as independent component would inevitably require arbitrary

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lines to be drawn between what is digital and its expectations. Nagy (2020) & UNCTAD (2019) argue that limited availability of comparable data for benchmarking put significant constraints on analyzing key issues derived from digital transformation processes, understanding the topic in this context is essential for the analysis of possible attributes that creates value from its implementation (UNCTAD, 2021).

Additional, the study has reviewed theories and models to expand the knowledge on components used in digital transformation processes. Since, studying this topic requires multiple domains for building of a scientific knowledge base and sustainable development of the processes (Verhoef et al., 2021). Consequently, Table iv provides a reviewed components from theories and models of various scholars. Wolfgang and Schmid (2020) argued on 63% of small organizations to have no firms' components which can sufficiently accommodate digital technology. The analyzed information from the reviewed literature become vital in adding more information on these kinds firms that lack sufficient information of digital transformation processes.

Table iv: Reviewed Theories and Model used for digital transformation Processes

	Paper	Applied Theories/ Models	Applications of theories/ Models
1	Hanelt et al (2020)	Conventional frameworks on organizational change.	Provide managerial implications for strategy and organizational change.
2	Singh et al., 2020	Organizational designs and digital business ecosystems	The model that inform organizational change and strategy practices
3	Mary & Marina, (2010)	Perspectives into a comprehensive multi-dimensional framework of organizational innovation	Linking leadership, innovation as a process, and innovation as an outcome
3	Patrick, B., & Frantz, R.(2012)	Organizational theory and IS literature: identify four structuring themes: organizational inertia, process, agency and performance	Information system-enabled organizational Technology is still a new frontier for strategic information systems research
5	Remane et al. (2017)	Fundamental alterations in existing and the creation of new business models in response to the diffusion of digital technologies such as cloud computing, mobile Internet, social media, and big data.	Composition of digital technologies
6	Galliers et al. 2012	Theories of ethics	Help us engage well a broader objectives of strategic information research to “stay abreast as well as anticipate the emerging organizational and societal problems around the world”
7	Demirkan et al. (2016)	Developing the models that can fully leverage the changes and opportunities brought by digital technologies and their impact across society in a	Digital transformation is the profound and accelerating transformation of business activities, processes, competencies.

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		strategic and prioritized way.	
8	Westerman (2016)	Understanding of digital technology	Provisional of highly relevant factors for practitioners of Digital Technology
9	Verhoef et al., 2021	Flow Model: External drivers; phases of digital transformation; Strategic Imperatives of digital transformation	Discussion on digital transformation
10	Parida et al., 2019	Reviewing literature on digitalization, business model innovation, and sustainable industry: Past achievements and future promises	Technological application on its own is not enough; profiting from digitalization requires business model innovation such as making the transition to advanced service business models.
11	Leonardi (2013)	Theoretical foundations for the study of socio materiality	Technology and organizational transformation
12	Imran et al, (2021)	The socio technical system theory (STS)	The necessity of cultural transformation in industrial organizations for impactful digital transformation.

From Table iv among 12 reviewed theory articles the dominant issue is an organizational aspect. This implies that organizational context is important in the leverage digital transformation processes. Despite of the claim that digital transformation processes may be facilitated by other factors in absence of organizational context due to its characteristic which differentiate it from past informational technologies Wessel et al., (2020); Markus and Rowe (2018); the reviewed theories indicates the importance of organizational changes in facilitating broader view of this innovation. The identified theories and models can assist organization to designs digital technologies components which can rapidly adapt to environmental opportunities and threats. However, they are unclear if they are able to explain digital technology in what categories of industries, like small or large sector, or private or public sector organizations. Its implications bring us to make conclusion that they need to be assessed in the speculated fields so get sure of their application.

It also becomes progressively harder to differentiate whether these theories and model can be accommodated by within or across large or small firms' boundaries (Hanelt et al., 2020). Both small and large enterprises must therefore be clear about how they can apply these theories and models to create added value of the digital use. This will rescue the incurred risks in companies which often incurred due to less experience in these new areas of digital processes (Mapingire et al. 2021).

Future Research

Many firms are increasing dependence on digital technology transformation. This makes importance of defining the digital transformation of components that can facilities firms' requirements. Processes that allow transforming the main activities of companies and their value propositions through the effective use of digital technologies are paramount. But positive effects come far from automatic. Digital transformation has the potential to support development, any value realized is unlikely to be equitably distributed, more researches on this new phenomenon becomes inevitable. As depicted in Table 3, in 29 papers which

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provided opportunities for further research, many of them call for future research on finding components or strategies which practically supports transformation of digitals. Srinuan et al., (2011) pointed that digital transformation is not just access to technology, but more on socio-economic and organizational components. Hence, recommended on understanding the digital transformation processes and ways toward its application. Some researchers like Hanelt et al, (2021) and Matt at al., (2015) propose specifically opportunities for future research to established theoretical models to enable utilization of digitalization. Bhanu, (2021); Vask et al., (2021) and Badran (2014) proposed on the importance of expanding research of digital technology based on geographical perspective. These arguments motivate the researcher to propose on more efforts to be employed on the limited researches on the topic in hand in developing countries as proposed also by other researchers like Vask et al., (2021) and Solomon, & Klyton, (2020).

Additionally, the reviewed information has given relevant components for digital transformation from organizational perspectives; however, the digital transformation process often requires fundamental shifts in mindset, culture, and processes. Therefore, further researches can assess the influence customer's experiences facilitating this transformation.

Due to the limited period of time, the researcher was not able to test the framework which has been derived from the study. Therefore, it is fruitful for further studies to test its applicability in explaining digital transformation.

Contributions

Given the dignity of digital transformation which still as a novel topic and only few articles have focused on it Vaska et al., (2021), components reviewed will enable firms to come up productive digital technologies that results firms' competitive advantages. This has deliberately answered a call of many authors on how to account digital transformation process successfully. This acknowledge the important of this study in accelerating knowledge of solving challenges which facing many firms in understanding the clear situation of digital transformation process in multiple ways.

Most of reviewed studies are conceptual or remained to the literature reviews, which raises the need of empirical study that what actually can combine likewise theoretical review of digital transformation journey. This methodological contribution has built a scientific knowledge base and development of multiple domain which will used in the as the base of digitalization process. Verhoef et al., (2021) proposed the importance of having wide perspective of a research agenda to stimulate the cumulateness sufficient knowledge of the particular topic as agued by Gehrke et al., (2016).

Systematic review of existing literature which has been used is vital to the progress in a particular field to stimulate academic discussion and inspires other scholars in their own research activities (Webster and Watson 2002). This has assisted the researcher to build on the ideas and recommendations provided in the review paper from reputable journals which hopefully, with no doubt this study constitutes a substantial contribution concerning our question on the right components of digital transformation as displayed in figure 1.

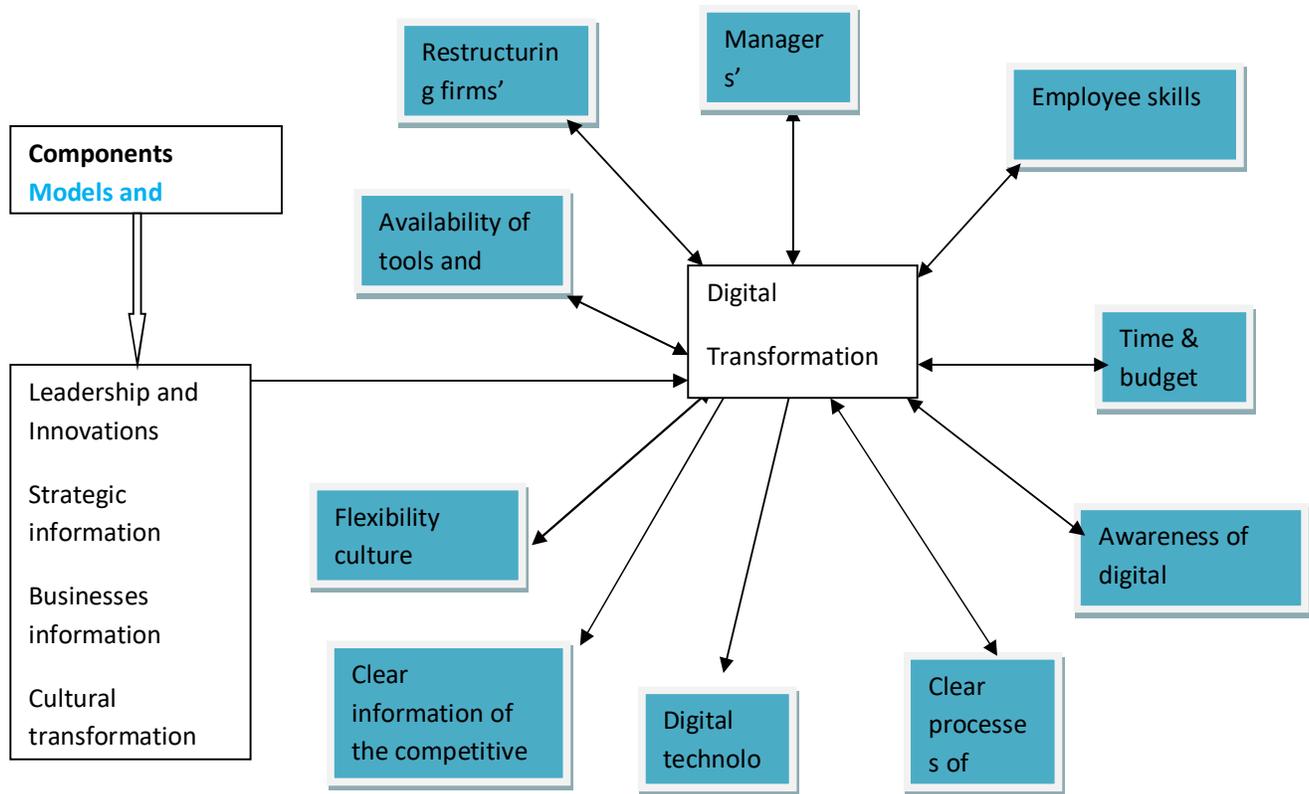


Figure1. Framework shows right components which can be used in digital transformation processes.

Conclusion

Systematic review literature approach is used to find right components of digital transformation, which were investigated by different researchers in past studies. The SLR carried out includes papers/articles published from 2010 to 2021. A total number of key components identified are 32 in number. As the mechanisms of increasing digital transformation it is evident that its success is strongly connected to the firm's environment. The integration of new technology and the changing value creation requires a suitable organizational guidance in the company to successfully implement the challenges of the digital transformation and the associated functions. This can be seen in the outcome of ecosystem domain obtained from the study. The obtained components of right digital transformation are Managers' Guidance, flexibility of culture, awareness of the digital transformation, clear information on the competitive advantage from digital transformation, digital technology platform, time and budget constraints. Similarly, among 12 reviewed theories and models, 75% of them indicated the importance of the organizational context component in facilitates digital transformation processes. This has answered calls of solving challenges posed by digital transformation through organizational perspectives (Sony & Naik, 2020; Verhoef et al., 2019; Ivančić et al., 2019).

Research Implications

Most of the organizations have or on the processes of implemented/ implementing digital technologies to manage their business operations. Yet, they lack the understanding of right digital technology strategies to be addressed. The detailed literature review conducted may provide awareness and understanding of right components which can be used the process of digital transformation. The organizations, which are planning to practices digital technologies, can be benefited with the usage of the establishment framework to support the management of digital innovation efforts.

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ICT for Learning in Tanzania: A Study on the Accessibility of Television Learning Programmes by Secondary School Students during the COVID -19 Crisis

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Abstract

The outbreak of the Coronavirus Disease 2019 (COVID-19) forced the government of Tanzania to close all learning institutions including secondary schools. On the other side, in an attempt to assist students to learn while at home, the Ministry of Education, Science, Technology and Vocational Training in Tanzania in collaboration with other institutions organized television learning programmes (TVLPs) for secondary and primary school students. However, there is inadequate information about the success of those programmes in Tanzania during the COVID-19 crisis. This being the case, the current study aimed to investigate the extent to which TVLPs were accessed by secondary school students during the whole period of the COVID-19 crisis when all schools were closed in Tanzania, and students were encouraged to learn while at home through TVLPs. The study was conducted at Ilala Municipal Council and Kondo District Council focusing on students of form three and form four from public schools. Simple random sampling techniques were applied to obtain a total sample size of 450 respondents selected from the population of 30,000 students. The sample size was determined by using the formula developed by Yamane (1967). The Likert Scale questionnaires with five alternatives ranging from strongly agree to strongly disagree were used in the collection of primary data. On the other side, secondary data were collected by reviewing various related documents concerning TVLPs. Descriptive statistics analysis techniques were applied in analysing data by using the SPSS version 26 whereby statistical tables and charts showing frequencies and percentages of respondents were used. The findings indicated that to some extent students were aware of TVLPs conducted during the COVID 19 crisis in Tanzania. However, the degree of awareness was higher for urban students than for rural students. It was also found that though some students succeeded to access TVLPs during the COVID 19 crisis in Tanzania, yet a large portion of students especially in the rural areas could not access TVLPs due to the different challenges. Some of the key challenges faced by students in accessing TVLPs were the inability of some families to buy televisions and decoders, lack of electricity, home responsibilities assigned to students while at home, lack of awareness and electricity cost. Based on the findings, the study has the following recommendations; Firstly, the government should speed up the project of supplying rural areas with electricity power which is very important to stimulate ICT for learning in all schools. Secondly, teachers should first be equipped with ICT knowledge in order to assist students to apply ICT equipment for learning wherever needed to do so. Thirdly, for effective learning through TVLPs, the programmes should be well designed to meet the needs of different groups of students such as those with special needs. Fourthly, education should be provided to parents and guardians about the importance of TVLPs so as to provide relevant support to their families learning while at home.

Key Words: Television Learning Programmes, Covid-19 Crisis, Students' Learning, ICT

Background to the Problem

With the development of science and technology in modern society, the use of television as one of the ICT equipment is an essential tool to facilitate students' learning in schools (Bjorvatn et al, 2015; Musiba, 2016). The most important contribution of TVLPs to students' learning is the use of multiple sense organs in the learning process (Anderson, Lavigne, & Hanson, 2012), and it allows a student to make a follow-up of the lesson taught by the teacher even if they are not in the same place (Xinhua, 2020). This, means that the use of ICT equipment including TVLPs were very important to fix learning challenges created by the COVID 19 crisis (Dawadi, Giri, & Simkhada, 2020).

It should be noted that the outbreak of the COVID-19 has numerous effects on human development and has resulted in an ongoing pandemic in the world community (WHO, 2020a). According to Uddin et al. (2020), COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). In the history of the world, the first case of COVID 19 was reported in Wuhan, Huber Province, China on 31st December 2019 (WHO, 2020 b). Thereafter, the disease spread all over the world and it has already killed millions of people in the world (Julie, 2021; Uddin, et al., 2020; WHO, 2020 b; Wikipedia, 2020).

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According to Dawadi, Giri, & Simkhada (2020), the education sector is one among the severely affected sectors as most learning institutions were forced to be closed. It is approximated that more than 1.5 billion children and youth across the globe were forced to stay at home due to the COVID-19 outbreak. As the result, many countries in the world, Tanzania in particular, adapted to TVLPs to facilitate students' learning while at home to avoid the spread of the COVID -19 (The World Bank, 2020; Xinhua, 2020). However, in the context of Tanzania, there is a lack of information about the success of TVLPs during the COVID 19 crisis specifically for secondary school students.

In Tanzania, the first case of COVID-19 was reported in Arusha on 16th March 2020, and up to June 2020 which was the last official day of reporting on COVID-19 in Tanzania, there were 509 total reported cases of which 21 were deaths (WHO, 2020c). Among many affected sectors in the country, the education sector was also affected as on 17th March 2020, the government of Tanzania strictly closed all schools, colleges, and universities as a strategy of preventing the spread of COVID-19. During the whole period of the COVID-19 crisis, all students were required to stay at home for their safety (AAICC, 2020). It was again until 01st June 2020 for higher learning institutions, and on 29th June 2020 for other levels of education when the government reopened them (AAICC, 2020). In fact, the decision to close all learning institutions owned by the government and private sector eventually affected face to face learning in schools (Sankar & Sankar, 2010).

However, in an attempt to respond to challenges of COVID-19 that affected students' learning, the Ministry of Education, Science, Technology and Vocational Training in Tanzania in collaboration with the Tanzania Institute for Education (TIE), organized TVLPs for primary and secondary school students, and aired through some selected television and radio stations including TBC Radio, Azam TV, Channel Ten, and ZBC Radio (UNESCO,2020). The whole arrangements for TVLPs aimed to enable students to study during the period of COVID- 19 crisis when students were at home so as to cope with their school syllabuses (Xinhua, 2020). Therefore, all students were required to make a serious follow-up on all subjects taught per each level depending on the timetable structured for TVLPs.

Statement of the Problem

The government of Tanzania like other governments in the world decided to close all learning institutions including secondary schools in an attempt to avoid the spread of the COVID-19 (AAICC, 2020). During the whole period when students were at home, there was no physical interaction between teachers and students. This means that the Government's decision had affected face-to-face learning which is normally conducted in the classroom context under specific conditions (Sankar & Sankar, 2010). On the other side, the Ministry of Education, Science, Technology and Vocational Training in Tanzania in collaboration with other institutions including the Tanzania Institute for Education (TIE), organized the TVLPs for primary and secondary school students and aired through some selected television and radio stations including TBC Radio, Azam TV, Channel Ten, and ZBC Radio (UNESCO,2020). One of the key objectives of TVLPs was to enable students to cope with their school syllabuses while at home due to the COVID- 19 crisis (Xinhua, 2020).

However, there is a lack of information about the extent to which secondary school students accessed to TVLPs during the whole period of the COVID-19 crisis when students stayed at home. This is based on the truth that there have been limited studies conducted in Tanzania in relation to the contribution of TVLPs during the period of the COVID-19 crisis. Thus, the current study was embarked to investigate the extent to which TVLPs were accessed by secondary school students during the period of the COVID-19 crisis when all schools were closed in Tanzania. The study specifically intended to answer three research question as follows;

- i.To what extent secondary school students were aware of TVLPs during the period of COVID-19 crisis?
- ii.To what extent secondary school students were able to access to TVLPs during the period of COVID-19 crisis?
- iii.What were the challenges encountered students in accessing TVLPs for effective learning?

Rationale of the Study

This study is contributing to all educational practitioners in Tanzania about preparedness, and the best ways of improving TVLPs for effective' learning of students especially when different crisis like the COVID-19

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arise in the society and affect face to face students' learning. In addition, the study will help in improving the existing TVLPs by suggesting appropriate strategies of increasing the number of students who can easily access TVLPs from their localities.

Literature Review

Meaning and Importance of TVLPs to Students' Learning

The use of TVLPs in classroom instruction delivery is very common in the modern era whereby in Information and Communications Technology (ICT) plays a great role to facilitate the teaching and learning process (Saglik & Ozturk, 2001). TVLPs refers to the use of television as a media to present ideas and experiences in any subject area, and at any level of some portion of an organized educational programmed (Mohammed & Haroun, 2017). In the education sector, television as an audio-visual media is of great importance to students' learning as it stimulates more than one sense organ in learning (Munene, 2019), and obtains face to face education, mutual interaction and creating a state of belonging (Saglik& Ozturk, 2001). In order to cope with a large number of learners in the class, television supports a widespread coverage of the audience, supplying equality of opportunity, transmitting the human resources to a big audience and attracting learners' attention through displayed pictures (Saglik& Ozturk, 2001). According to Hizal (1983), besides many functions of television in the teaching and learning process, it also helps in presenting unreachable facts and events, reinforcement, and motivating learners. Other benefits of TVLPs are socialization of students on their cultural values, sharing of academic and religious information and stimulating brain functions (Olumorin et al, 2018).

Invention of Television as an Audio-visual Learning Media

The invention of television which was done in the late 19th century and early 20th century was connected to the desire in the development of communication technologies to make a profit through integrating audio and visual broadcasted programmes (Stephens,2015). As a result, several versions aimed at making improvements in television use have been made since the 19th century up to date. According to Munene (2019), the following television inventors are to be recognized in the history of the development of television as an audio-visual tool. The first invention was made by Alexander Baird who invented the facsimile machine between 1843 and 1846. Indeed, Alexander Baird provided a foundation for all later versions such as Fredrick Bakewell in 1851, Giovanni Caseli in 1856, Willoughby Smith in 1873, George Rignoux &Fournier in 1909, Boris Rosing & Vladimir Zworykin in 1911, Logie John in 1920 and 1928, and Anton Codelli in 1954 and 1965. Through a number of improved versions, between 2010 and 2015, there has been a shift from analog television to digital television, smart television, and three-dimension televisions (Munene, 2019). Based on those improved versions, recently, the use of TVLPs has been very common for educators in delivering instructions (Munene, 2019; Saglik& Ozturk, 2001).

Policy Perspectives on ICT Usage in Tanzanian Secondary Schools

In Tanzania, the integration of TVLPs to students' learning is rooted to the National ICT Policy of 2003 in Tanzania which offers new opportunities to enhance education and improve the quality of education delivery in all areas (URT, 2007). The policy later led to the formulation of the National ICT Policy for Basic Education in 2007 which recognizes the potential of ICT as significant tool for improving education practices in basic education by addressing issues related to curriculum and content, training and capacity building, management and support, and monitoring and evaluation. The main mission of the National ICT Policy for Basic Education in Tanzania is to integrate ICT in education sector by enhancing access, equity, quality and relevance of basic education while stimulating and improving teaching and lifelong learning (Swarts & Wachira, 2010). Among many objectives of integrating ICT in education system, one of them is to facilitate the development and use of ICT as pedagogical tool for teaching and learning, and for the development of the professional development of teachers, administrators and managers (URT, 2007). Therefore, a variety of ICT equipment such as mobile technology, computers, radio, internet, television and others are contended to be used in education sector to enhance students' learning (Swarts & Wachira, 2010).

Empirical Studies on Contributions of TVLPs to Students' Learning

Based on various reviewed empirical studies, research in education has revealed the truth that the use of TVLPs is of paramount importance to students' learning. Akhter (2011) used a survey method to study the effectiveness of educational television programmes in the distance learning system in Pakistan. In the study, data were collected through questionnaires from secondary school students. The findings of the study

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revealed that education television was very useful for students learning and most students benefited from the use of television in learning. Though the study by Akhter is very important in explaining the contribution of TVLPs, yet the study was done before the COVID- 19 crisis. Thus, it doesn't give a real picture of what happened during the COVID- 19 crisis. Another practical piece of evidence can be drawn from Gowon (2009) who studied the effects of television and radio on speaking and writing skills of senior secondary school students in Jos Metropolis, Nigeria. In the study, a survey and experimental designs were used to investigate 400 senior secondary school students who were assigned to fill in questionnaires. The findings indicated that both television and radio have a positive influence on speaking skills although there was no effect on writing skills. Likewise, the study by Gowon did not intend to investigate the effectiveness of TVLPs in the context of crises like the COVID-19.

In Kenya, Munene (2019) investigated forms of television used in the teaching and learning process, and how they promoted education in Kenya. The study found that TVLPs contribute to students' learning as they help in training students about environmental awareness, citizenship, foster a sense of understanding, and social and cultural values. However, the study further found that effective TVLPs depend on the teacher's creativity in creating programmes. Thus, it was recommended that encouragement is needed for children to watch television as an audio-visual device that can boost students' learning. Although the study articulates various forms of television used in the teaching and learning process, the same questions concerning what challenges might encounter students while using TVLPs especially during the crisis is still unanswered.

In Tanzania, Bjorvatn et al, (2015) conducted a study to investigate the extent to which television can be used to teach and foster entrepreneurship among youth in developing countries. It was an experimental study whereby more than two thousand secondary school students in Tanzania were incentivized to watch the edutainment show characterized by entrepreneurship education. The findings indicated that there were both short- and long-term evidence of students who were inspired to engage in entrepreneurship and business especially for female viewers. However, the study also found that the encouragement of entrepreneurship spirit among students, on the other side lead to the discouragement of schooling as some students wanted to withdraw from the school system after being educated through entrepreneurship education. Indeed, the study by Bjorvatn in Tanzania is similar to other previously discussed studies because it was done before the COVID-19 crisis, therefore cannot answer the question about the accessibility of the TVLPs during the COVID-19 crisis in Tanzania.

Another study connected to the effect of television on students' learning in secondary schools, was done by (Musiba, 2016). The study was set purposely to investigate the impact of watching violent television programmes on secondary school students in Tanzania. It was a mixed approach study that collected data from secondary school students. The findings indicated that most students in secondary schools watch violent TV programmes at home which in turn affect their academic performance and discipline. It was evident that students spend an average of three hours per day on weekend days watching violent TV programmes. Despite the fact that the study was connected to the challenges associated with watching television among secondary school students, yet the study did not focus on TVLPs as an audiovisual media to facilitate the teaching and learning process especially during the COVID-19 crisis.

Based on the above-reviewed literature from outside and inside Tanzania about the contributions or impact of TVLPs to students' learning, it is more obvious to argue that the use of television is of great importance to enhance the teaching and learning process. However, in Tanzania, there are limited studies done to address the contribution of TVLPs to students' learning in secondary schools, especially during the COVID-19 crisis. Therefore, the current study was intended in filling the gap in the literature by investigating the effectiveness of TVLPs to secondary school students during the period of the COVID-19 crisis when all schools were closed in Tanzania.

Theoretical Framework and Its Implication in the Current Study

The Current study is grounded by the Sensory Stimulation Theory of Learning (SSTL) which insists on the use of teaching-learning media that simulates students using more than one sense organ in learning. The SSTL has been used by several researchers who are interested in investing the contribution of multi-sensory media (audio-visual media) to students' learning (Aja et al, 2017; Munene, 2019). The theory is based on the premise states that effective learning occurs when the senses are stimulated (Munene, 2019). It is further

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argued that although a large portion of people learns through eyes (learning by seeing) compared to other sense organs, yet the combination of several sense organs makes learning more effective (Utomo, 2014). By stimulating various sense organs, makes learning more effective rather than depending on only one sense organ for learning (Aja et al, 2017; Utomo, 2014).

As for this study, therefore, the use of television as an audio-visual media does not only allow students to learn by seeing but also by hearing since more than one sense organ is used. Research has shown that we remember 20% of what we read, 30% of what we hear, 40% of what we see, 50% of what we say, 60% what we do and 90 % of what we see, say and do (Aja, et al., 2017). According to Munene (2019) when learning involves stimulating senses, it provides the sensory data in the system that begins the process of acquisition of knowledge, skills, and attitudes by the viewers. However, despite the fact that SSTL indicates the importance of using TVLPs in simulating students' learning through multiple sense organs, yet there is a gap in literature specifically in Tanzania about how those established TVLPs were effective during the COVID-19 crisis. In addition, so far, there have been limited studies done in Tanzania in an attempt to investigate the contribution of TVLPs to students' learning during the COVID-19 crisis. Indeed, SSTL is relevant to the current study as it was used in investigating the extent to which TVLPs conducted during the whole period of the COVID-19 crisis were accessed by secondary school students. By so doing, the study was embarked to answer several questions related to TVLPs with special attention to awareness, accessibility and challenges encountered by secondary school students in accessing the programmes in Tanzania.

Conceptual framework

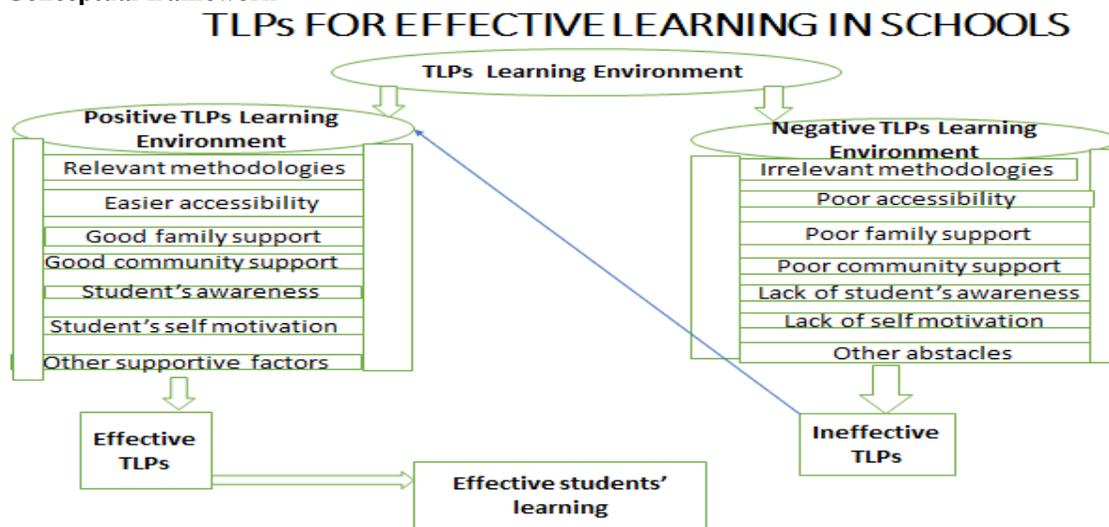


Figure 1: A conceptual framework on the accessibility of television learning programmes for effective students' learning in secondary schools during the COVID -19 Crisis in Tanzania

Source: Authors' construction based on the reviewed literature (2021).

Research Methodology

Study Area and Population

The current study was done at Ilala Municipal Council and Kondo District Council focusing on public secondary school students who were forced to stay at home due to the COVID-19 crisis. The selection of both Councils was based on their differences in geographical locations and availability of opportunities to support TVLPs. While the former Council is located in Dar es Salaam City with adequate resources and a conducive environment for TVLPs, the latter council has limited resources because most of the students are located in villages where most of the poor people live, and some villages are not liked to electrical power services. This disparity in learning resources between urban and rural areas aimed to bring insight into the situation of TVLPs among areas of different learning opportunities and challenges.

Research Design and Approach

This is a descriptive research design conducted to investigate the accessibility of the TVLPs to secondary school students during the period of the COVID-19 crisis when all schools were closed in Tanzania. The use

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of the selected design was intended to describe the existing research phenomenon by addressing more questions related to who, what and when (Grimes & Schulz, 2002). Therefore, by answering those research questions, the description of the existing research phenomenon becomes easier for the reader to understand the research report.

Sampling and Sample Size

Both purposive and simple random sampling techniques were used in the study. A total sample size of 450 respondents from the population of 30,000 form three and form four students were selected from 30 public secondary schools of which, 15 secondary schools from each council. The sample size was determined by using the formula developed by Yamane (1967). The formula for sample determination was $n = N / (1 + N(e)^2)$, whereby: n=sample size, N=Targeted population, e=Level of precision. The selection of form three and form four students were presumed by researchers that during the COVID -19 crisis when all schools were closed, this group of students had adequate experience concerning secondary education due to their long period of school life compared to form one and form two students. In the study, the purposive sampling technique helped the researchers to focus on form three and form four students from their respective schools. On the other side, the simple random sampling technique was applied in the selection of any respondent among form three and form four students in their schools taking into consideration the issue of gender participation in the study.

Data Collection and Analysis

The Likert Scale questionnaires with five alternatives ranging from strongly agree to strongly disagree were used in the collection of primary data. Besides having the questionnaires with fixed statements for the respondent to tick those provided alternatives, there were also open-ended questionnaires which aimed to give the respondent freedom of expressing their views and give detailed information about the extent to which TVLPs were accessed by secondary school students during the whole period of COVID-19 crisis when all schools were closed in Tanzania. To make the language of questionnaires more understood to the respondents, all questionnaires were translated to the Swahili language which is commonly spoken by Tanzanians, and the translation was checked carefully by linguistic experts to ensure translation equivalence. On the other side, secondary data were collected by reviewing various related documents concerning TVLPs. Descriptive statistics analysis techniques were applied in analysing data by using the SPSS version 26 whereby statistical tables and charts showing frequencies and percentages of respondents were used.

Findings and Discussion

Demographic Characteristics of Respondents

Table 1: Demographic Characteristics of Respondents

Category	Characteristics	Rural		Urban		Rural & urban	
		Frequency	percent	Frequency	Percent	Frequency	Percent
I.Gender	i.Male	96	38.2	122	61.3	218	48.4
	i.Female	155	61.8	77	38.7	232	51.6
I.Age	i.Below 20	250	99.6	197	99	447	99.3
	i.20+	1	0.4	2	1	3	0.7
I.Class	i.Form three	104	41.4	133	66.8	237	52.7
	i.Form four	147	58.6	66	33.2	213	47.3

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7.Students' combinations	subject	i.Arts	160	63.7	21	10.6	181	40.2
		i.Science	58	23.1	165	82.9	223	49.6
		i.Business	32	12.7	12	6	44	9.8
		i.Others	1	0.4	1	0.5	2	0.4
7.School ownership		i.Government	251	100	199	100	450	100
8.Parents or guardians TV ownership		i.Yes	117	46.6	187	94	304	67.6
		i.No	134	53.4	12	6	146	32.4

Source: Field Data, 2021

Table 1 above indicates the demographic characteristics of the 450 respondents who were included in the study of which 218 (48.4%) were male and 232 (51.6%) were female. All respondents were selected based on the established criteria of geographical location in which the school is located. All respondents who were selected from secondary schools located in Ilala Council were classified as urban respondents because they are located in Dar es Salaam City. However, rural schools were all schools selected in Kondoa District Council because most of the schools are found in the rural catchments. Based on the criteria of rural and urban schools, the study succeeded to collect data from 251 (55.8%) rural respondents and 199 (44.2%) urban respondents. Since some respondents in the urban schools could not complete and submit their questionnaires, the situation led to a small difference in the number of respondents between rural and urban schools. To a large extent, the selected respondents 223 (49.6%) opted for science in their subject combinations. However, the rest of the respondents opted for arts, business and other combinations with 181 (40.2%), 44 (9%) and 2 (0.4%) respectively. The majority of respondents aged below 20 years old 447 (99.3%) and the minority 3 (0.7%) had above twenty years old. In fact, this is based on the reality that most of the ordinary secondary students in Tanzania graduate their studies below 20 years old due to the policy directives of the basic education in Tanzania. Among the selected respondents, 237 (52.7%) were in form three-class while the rest 213 (47.3%) were in form four class. Collectively, it was noted that a large portion of respondents 304 (67.6%), their families or guardians owned television especially in the urban areas 187(94%) but a few of them 117 (46.6%) in the rural areas. This means that, recently, televisions are more useful to urban people than rural people.

Students' Awareness and Acceptance of TVLPs during the COVID-19 Crisis

In an attempt to examine the extent to which secondary school students were aware of and accepted TVLPs during the COVID 19 crisis, the Rickert Scale questionnaire with five components ranging from strongly agree to strongly disagree was set and administered to all respondents. The questionnaire had ten established statements of which statements 1, 2, 3 and 4 intended to measure the awareness of respondents on the existence of TVLPs during the COVID 19 crisis in Tanzania. On the other side, statements 5, 6, 7, 8, 9 and 10, were set to measure how students accepted and valued TVLPs during the COVID-19 Crisis. Table 2 summarizes the findings related to the percentages of students' awareness and acceptance of TVLPs during the COVID 19 crisis in Tanzania.

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Table 2: Percentages of Students' Awareness and Acceptance of TVLPs

SN	Statements	RURAL AND URBAN RESPONDENTS (N=450)				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i.	I had sufficient information about the presence of TVLPs during the COVID-19 in Tanzania.	11.3	35.8	23.1	21.3	8.4
i.	I was aware of all local channels aired through TVLPs	8.9	23.3	24.0	35.8	8.0
i.	I was aware of all subjects of my combinations taught through TVLPs	11.1	23.1	21.3	35.8	8.7
i.	I was aware of the timetable set for TVLPs	6.4	18.2	24.9	37.8	12.7
i.	TVLPs were of great importance for me during the COVID-19 crisis	21.1	32	17.3	20.9	8.7
i.	Learning through TVLPs were more attractive to during the COVID-19 crisis	14.7	26.2	22	26.7	10.2
i.	Subjects taught through TVLPs were well understood	8.9	25.3	24	29.6	12.2
i.	In comparison with the face-to-face teaching, subjects taught through TVLPs were more attractive	8.2	24.7	21.1	32.0	14
i.	I'm sure that I could do much better in my subjects taught through TVLPs even if the subject could not be taught by teachers after opening the school.	11.6	25.8	20.7	29.3	12.7
i.	I prefer studying through TVLPs if I will face the same or similar challenges that will force school closure in the future	25.8	20.2	14	18.7	11.3

Source: Field Data 2021

Table 2 presents the percentages of students' awareness and acceptance of TVLPs during the COVID-19 crisis in Tanzania. The findings revealed that respondents in the rural and urban areas had information about the existence of TVLPs. This was vividly evident due to the presence of respondents who had strongly agreed and agreed with (11.3%) and (35.8%) respectively. However, the main challenges to some of the respondents were to know the specific local channels and timetable specialized for TVLPs in accordance with subjects to be taught. The study found that a large portion of the respondents was not aware of channels and the specific timetable for TVLPs as they opted to neutral, disagree and strongly disagree with (24%), (35.8%) and (8%), and (24.9%), (37.8%) and (12.7%) respectively. In the case of accepting and valuing TVLPs, the majority of respondents indicated that they were interested in TVLPs during the COVID-19 crisis in Tanzania. Generally there was a sense of agreement that TVLPs were important and attractive. However, in comparison to face-to-face learning whereby a teacher interacts with students directly in the class, the existed TVLPs seem to be less attractive to students. This was evident as some of the respondents opted neutral, disagree and strongly disagree with (21.1%), (32%) and (14%) respectively. In addition, some of the respondents (34.2%) claimed that the existed TVLPs were not well understood during the presentation of the lesson. The programmes were further evaluated that they could not manage the majority of students to perform much well in the topics or subjects learned through TVLPs if students could not be taught by

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teachers after opening their schools. However, interestingly, the respondents showed their interest in learning through TVLPs if the same or similar crisis like the COVID-19 would occur in Tanzania another time as the respondents opted to strongly agree and strongly with (25.8%) and (20.2%) respectively.

Students' Accessibility of TVLPs during the COVID-19 Crisis

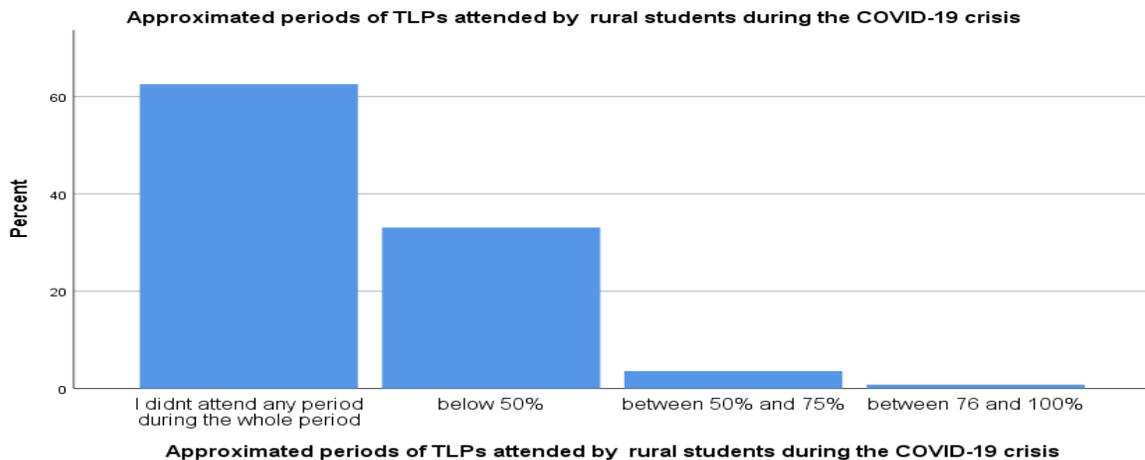
The second research objective aimed to investigate the extent to which secondary school students were able to access to TVLPs during the period of the COVID-19 crisis in Tanzania. In order to study the stated objective, a questionnaire was formulated with the guiding question asked as:- "*How many periods did you attend during the whole period of COVID 19 crisis by approximation?*". Table 3 summarizes the findings of rural and urban respondents.

Table 3: Students' Accessibility of TVLPs During the Period Covid 19 Crisis in Tanzania

SN	Statements	Rural (N =251)		Urban (N=199)		Rural & Urban (N=450)	
		F	%	F	%	F	%
i.	I didn't attend any period	157	62.5	61	30.7	218	48.4
i.	I attended below 50% of all periods	83	33.1	40	20.1	123	27.3
i.	I attended between 50%-75% of all periods	9	3.6	13	6.5	22	4.9
i.	I attended between 75%-100% of all periods	2	0.8	85	42.7	87	19.3
		251	100	199	100	450	100

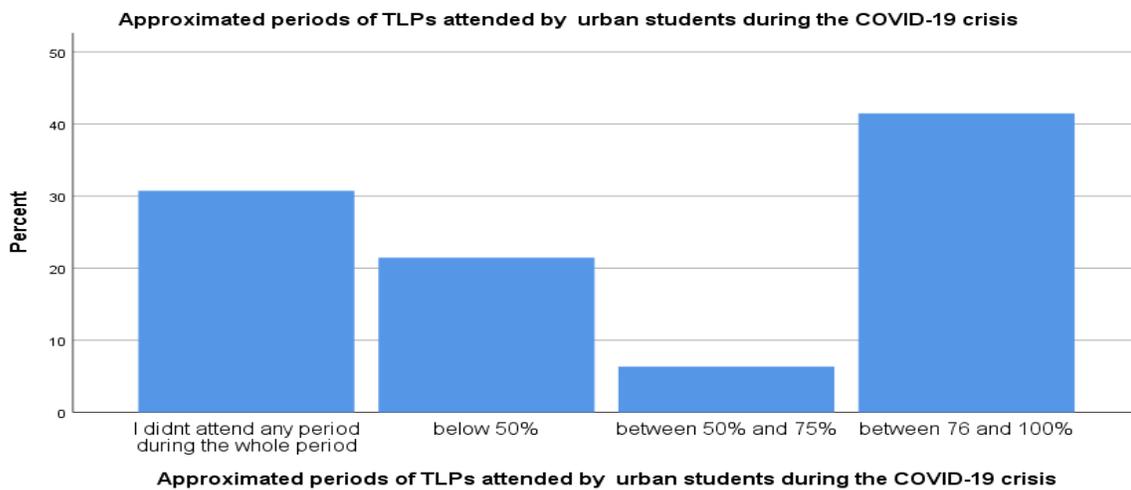
Source: Field Data, 2021

Table 4: Students' Accessibility of TVLPs in Rural Schools (N=251)



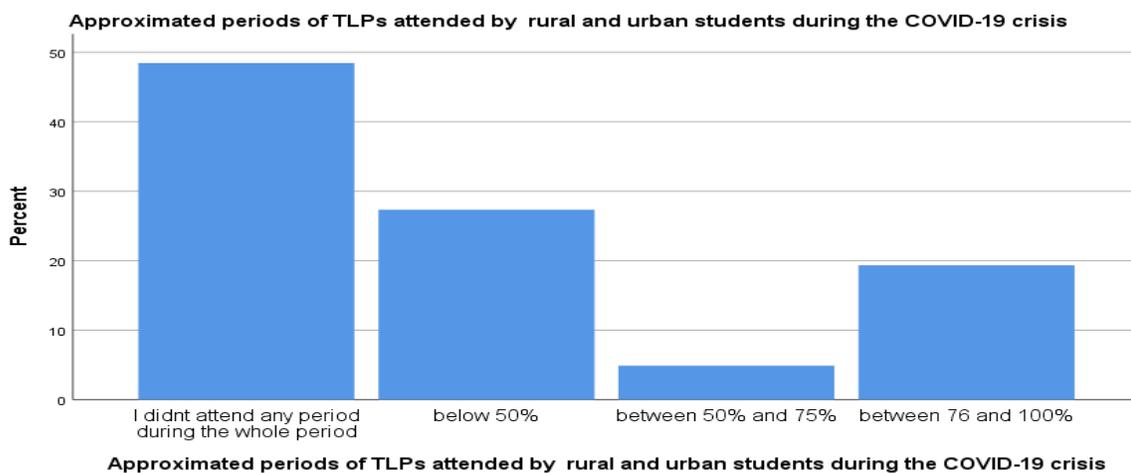
Source: Field Data, 2021

Table 5: Students' Accessibility of TVLPs in Urban Schools (N=199)



Source: Field Data ,2021

Table 6: Students' Accessibility of TVLPs in the Rural and Urban Schools (N=450)



Source: Field Data, 2021

Tables 3, 4, 5 and 6, present the findings of the study regarding the extent to which secondary school students accessed periods offered through TVLPs during the whole period of the COVID-19 crisis in Tanzania. The study found that the majority of rural respondents 157 (62.5%) could not access to TVLPs as compared to 61 (30.7%) of the urban respondents. Furthermore, in the urban, the majority of those who accessed to TVLPs 85 (42.7%) ranged between 75% and 100% of the total periods. On the other side, in the rural, the majority who accessed to TVLPs 83 (33.1%) their access was below 50% of all periods. Generally, the findings indicated that the majority of rural and urban respondents 218 (48.4%) could not completely access TVLPs. However, for those who had succeeded to access to TVLPs their periods ranged below 50%, between 75% and 100%, and between 50%-75% with 123 (27.3%), 87 (19.3%), and 22 (4.9%) respectively.

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Challenges Faced by Students in Accessing TVLPs during the COVID-19 Crisis

Students' Challenges as Per Likert Scale Questionnaires

As it was for objective one in this study, the Likert Scale questionnaire with five components ranging from strongly agree to strongly disagree was set to assess the challenges encountered by secondary school students in accessing TVLPs during the COVID-19 crisis in Tanzania. The questionnaire had eight established statements reflecting various challenges. Table 7 summarizes the findings as shown below.

Table 7: Challenges Faced by Students in Accessing TVLPs

SN	Statements	RURAL (N=251)				URBAN (N=199)					
		Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
i.	I could not learn effectively through TVLPs because my family had no TV	21	31	7	30	12	8	7	8	45	32
i.	I could not learn effectively through TVLPs because my family's TV was not functioning	4	26	17	38	15	3	8	7	43	38
i.	I could not learn effectively through TVLPs because those programmes were not attractive	2	10	31	39	18	8	17	15	43	17
i.	I could not learn effectively through TVLPs because there were challenges related to the electricity power	13	31	16	26	14	10	20	10	41	19
i.	I could not learn effectively through TVLPs because my surrounding community had a negative perception about TVLPs	10	15	22	33	21	1	12	11	38	38
i.	I could not learn effectively through TVLPs because my family members had poor support.	6	20	22	35	17	17	31	18	26	8
i.	I could not learn effectively through TVLPs because I was attracted by other TV programmes	6	25	19	32	17	20	24	12	29	15
i.	I could not learn effectively through TVLPs due to poor peer supports	8	14	21	38	19	8	15	14	37	26

Source: Field Data, 2021

Table 7 presents the findings relating to the challenges faced by secondary school students in accessing TVLPs during the COVID-19 crisis in Tanzania. The study found that there were common challenges for both rural and urban respondents while other challenges were critical depending on the geographical locations of students. For example, while the majority of families (52%) in the rural had no televisions, and (44%) had no the electricity power, in the urban, (49%) of the respondents reported the challenge of lacking supports from their families. On the other side, both rural and urban respondents were highly attracted to watch other TV programmes rather than TVLPs. The study also found some challenges with moderate effects on students' learning such as negative community perceptions on TVLPs and poor peer supports.

Other Students' Challenges as Per Open Ended Questionnaires

The open-ended questionnaires were set to collect data from the respondents regarding other challenges faced by students in accessing TVLPs during the COVID -19 crisis in Tanzania. The question formulated was in the form of a statement stated that “Please add if there are other challenges you were encountering in accessing TVLPs during the COVID -19 crisis in Tanzania”. The analysis of data was based on the frequencies of the keywords mentioned by respondents as shown below in Table 8.

Table 8: Other Challenges Faced by Students in accessing TVLPs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Statements	391	86.9	86.9	86.9
	i.No chances of asking direct oral questions to teachers and responding to the questions	11	2.4	2.4	97.1
	i.Boredom due to poor creativity of TVLPs	10	2.2	2.2	90
	i.Limited time for learning due to home responsibilities	8	1.8	1.8	94.7
	/.Presentation of content without considering students' individual	8	1.8	1.8	99.8
	/.Inadequate advertisement	4	0.9	0.9	92
	i.Fluently use of English as a medium of instruction	3	0.7	0.7	90.7
	i.Poor feasibility of notes on the board	3	0.7	0.7	98
	i.Absence/ high running cost of decoders	2	0.4	0.4	87.3
	/.high costs of electricity power electricity power	4	0.9	0.9	91.1
	/.Interference of timetable with other programmes	2	0.4	0.4	92.4
	i.Lack of personal commitment	1	0.2	0.2	92.7
	i.Lack of practical learning especially for science subjects	1	0.2	0.2	92.9
	i.No room of making direct collections	1	0.2	0.2	97.3
	/.The timetable favored examination classes	1	0.2	0.2	100
	Total	450	100	100	

Source: Field Data, 2021

Besides those challenges presented in Table 7, the study also found other challenges as presented in Table 8. The most the mentioned challenges with higher frequencies were those related to lack of chances of asking direct oral questions to teachers and responding to students 11 (2.4%), boredom due to poor creativity of TVLPs 10 (2.2%), limited time for learning due to increased home responsibilities 8 (1.8%) and presentation of content without considering students' individual 8 (1.8%). Again, the study found other challenges but with lower frequencies including inadequate advertisement 4 (0.9%), high costs of electricity power 4 (0.9%), poor feasibility of notes on the board 3 (0.7%) and interference of timetable with other programmes 2 (0.4%).

Discussion of the Findings

ICT usage as far as television is concerned, is of great importance in the education sector. As for the case of the COVID-19 crisis in the world, the use of TVLPs as one of the ICT equipment played a pivotal role to facilitate learning while learning institutions were closed. In Tanzania, the use of TVLPs was emphasized as a strategy to assist students to learn while at home through some selected local channels (Xinhua, 2020). However, based on the findings of this study, it is obvious to argue that TVLPs to a large extent were not achieved by the majority of students especially in the rural areas. The evidence gathered from the empirical findings proved the truth that a large portion of students in rural families could not access to TVLPs due to different obstacles. One of the key challenges faced by students to effectively access to TVLPs was connected to poverty as most of the families had no televisions due to poor family income to afford the price of televisions and decoders. In most third world countries, extreme poverty in the rural communities is one of the serious challenges to the provision of quality education to students as far as ICT usage for learning. These findings are in line with other studies such as Dawadi, Giri, & Simkhada (2020), Belay (2020) and (Mseleku, 2020). Collectively, there is a sense of agreement among these researchers that poor family background connected to the nature of occupation and level of education increases the gap in education accessibility between advantaged and disadvantaged families.

In addition, unequal distribution of the national resources between the rural and urban communities intensifies the gap in ICT usage for learning. For instance, this study found that most of the villages are not linked to the national electricity services as it is for urban areas. The absence of reliable electricity in most rural areas had a direct impact on the accessibility of TVLPs even for some few families owned televisions. These findings concur with the study done by Belay (2020) in Ethiopia who found that among other main reasons for inequality in education accessibility between rural and urban communities during the COVID-19 crisis, it was the absence of electricity.

For the effective utilization of ICT equipment for learning like those related to TVLPs, the targeted students should be well informed and motivated. This means that, if TVLPs were targeted to students from both rural and urban communities during the COVID-19 crisis, there was a need of preparing students to effectively access TVLPs. Mseleku (2020) argues that many students failed to adjust to ICT for learning during the COVID-19 because they were not prepared before. Likewise, the decision of students to value TVLPs was depended on the extent to which those programmes were attractive to students. In comparison to face to face learning, TVLPs were less effective to students' learning because some students failed to understand the content presented by teachers because of not allowing students to have direct interaction with teachers. Thus, students had no chance to correct their mistakes especially when there were learning barriers or ask questions to in order get more clarification. These findings also are in line with other studies done to access the effectiveness of ICT for learning during the COVID-19 crisis (see Almanthari, Maulina, & Bruce, 2020; Ferri, Grifoni & Guzzo, 2020; Radha et al., 2020; Salman, Alkathiri, & Bwawaneh, 2020 and Wahid et al., 2020). According to these studies, some students cannot easily understand the content taught through online learning due to different weaknesses associated with online learning. For example, Wahid et al (2020) argue that online learning is not suitable for science subjects like biology, chemistry and physics which need practical. Salman et al (2020) in an attempt to show the importance of face to face learning, the authors argue that the majority of students prefer more face to face learning than distance learning because it is effective to students' learning. Likewise, Radha et al. (2020) maintain that the classroom learning method is more real, and students have an opportunity to debate, deliberate, and discuss with their class teachers and friends than online learning.

In this study, it was vividly noted that the degree of awareness and accessibility of TVLPs seem to be lower in rural than in urban communities. This means that in the urban people have adequate opportunities to access up to date information than those in the rural areas where some resources for information accessibility are very limited. Based on these findings, we argue that the existed TVLPs in Tanzania were more beneficial to urban than rural students as the degree of awareness was higher to urban than rural students. Students in the rural communities need more supports to meet their academic dreams due to the nature of activities carried out by the majority of rural community members such as agricultural activities. A student in the typical rural community is required to balance between studies and other activities carried out at home including those related to agricultural activities. As for the case of the current study, rural and urban students faced similar challenges of lacking sufficient time to access TVLPs while at home due to the engagement of

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home responsibilities. The problem of not giving students enough time to learn while at home during the COVID-19 was also reported by Baley 2020 & Mseleku 2020.

In some cases, the study found other factors that affected students' learning through TVLPs. The factors such as low students' cognitive ability to understand the instruction and poor mastery of the English language as the medium of instruction, were observed as obstacles to effective learning through TVLPs. A similar challenge was also reported by Assefa (2017) when investigated the success and challenges of instructional plasma TV in Ethiopian high schools. According to Assefa, many students could not understand the instruction because it was fast delivered and used advanced command of English which was not popular to the majority of students. As the result, despite the fact that some families whether in the urban or rural areas had all facilities to support TVLPs during the COVID-19 crisis, yet the students couldn't access the programmes effectively. As the result, students developed their interest in watching other TV programmes rather than TVLPs. In order to impart to students with the spirit of using ICT equipment for learning, schools should be equipped with ICT facilities. On the other side, teachers should have knowledge of using ICT equipment and teach students how to use the equipment. However, the majority of teachers have either no or inadequate ICT skills as observed by other previous studies done by (Assefa, 2017; Mathevula & Uwizeyimana, 2014).

Conclusions and Recommendations

Based on the research findings, the study concludes that the awareness of the existed TVLPs during the COVID -19 crisis in Tanzania was lower to rural than urban secondary school students. This is perhaps due to the presence of increased and advanced opportunities to access information in the urban areas than in the rural areas. It is also concluded that though some secondary school students were able to access TVLPs during the COVID -19 Crisis in Tanzania when all schools were closed, the majority of them could not access the programmes especially students in the rural secondary schools due to different challenges. This means that TVLPs that existed during the COVID -19 Crisis in Tanzania were more beneficial to few secondary school students and most of them were from urban schools. Regarding the challenges faced by students in accessing TVLPs, the study concludes that there were common challenges for both rural and urban respondents while other challenges were critical depending on the geographical locations of students. In the rural, the most critical challenges were neither the majority of families owning televisions nor being linked to the electricity as it is for the urban areas. The challenges which are common to all students were increased home responsibilities assigned to students by parents and guardians and students attracted by other TV programmes rather than TVLPs.

From the study findings, apparently, it is the need for the government of Tanzania to speed up the project of supplying rural areas with electricity power which is very important to stimulate ICT for learning in all schools. It is also important to equip secondary school teachers with ICT knowledge in order to assist students to apply ICT equipment for learning wherever needed to do so. In addition, for effective learning through TVLPs, those who are responsible for designing TVLPs should design the programmes which are attractive to meet the needs of different groups of students including slow and faster learners, and disabled and non disabled learners. In fact, this will assist all students regardless their differences to capture the lesson effectively. For a better understanding of TVLPs existed during the COVID-19 crisis in Tanzania, the study recommends future research on the effectiveness of TVLPs on students' academic performance in secondary schools.

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Examining Social Media as a Gateway to Accelerate Inclusive Growth: A Focus of Youth Citizens in Dodoma City, Tanzania

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Abstract

The current perspective of understanding development focuses on including all members of the society to participate in the growth process especially through the context of digital technology. This paper reflects the examination of social media for promoting inclusive growth in Tanzania. More specifically, the study aims to investigate the social media site which is widely used by youth citizens to discuss government economic issues for promoting inclusive growth; how do youth citizens use the perceived widely used social media to participate in discussing government issues for inclusive growth; and how does the government promote citizens' use of social media to discuss government issues for inclusive growth. The study employed mixed research methods using survey and interviews methods of data collection. Findings show that youth citizens mainly prefer to use WhatsApp social media site to engage in discussions regarding economic issues for promoting inclusive economic growth in the study area. Furthermore, it found out that youth citizens use WhatsApp social media to spot government actions and voice their opinions for inclusive growth. In addition, the government provides a legal framework to guide the use of digital communication in an effort to promote citizens' digital inclusiveness in the development process. The study concludes that WhatsApp social media is a gateway to accelerate inclusive growth in the study area. It suggests a networked digital policymaking framework to promote citizens to discuss and publish government issues on social media openly without fear to accelerate inclusive growth in the country. Also, it suggests an established framework for collecting citizens' opinions on social media for government decision-making practices to imply that citizens' views are considered for inclusive growth in Tanzania.

Key words: Social Media; WhatsApp Social Media; Inclusive Economy; Inclusive Economic Growth; Youth Citizens.

Introduction

Over the past few years, there emerged a need for inclusive growth as a current model of development worldwide. In Africa, liberalisation of Information and Communication Technology (ICT) is closely linked to positive development processes including inclusive growth. The concept of inclusive growth stresses on involving all members of society in the development process. The OECD considers Inclusive Growth as "economic growth that creates an opportunity for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society" (OECD, 2016:10). **This concept** has become central to understand development due to rising inequality and its effects, on human well-being and prosperity, which undermines the development process. It also focuses on how assets are distributed in the society and stresses on people's participation in social, economic, and political institutions. For example, Rammelt and Gupta (2021) focus that inclusive growth suggests more participation of citizens' decision-making in the development process rather than being decision implementors. Generally, it is key to understand that inclusive growth is meant to prevent social exclusion in the development process which can be viewed as a development transformation in the 21st Century.

As technology is significantly advancing across the world, it is important to optimise its benefits for the betterment of the economic, political, and social development processes in the digital era. For example, developed countries such as the US, Europe and China have considered the development of the new technology as one of the most driving force of the new economy which is more inclusive. Scholars such as David and Grobler (2020) note that digital technology provides an avenue for underserved sections of the population to participate in the development process due to its participatory element. It is against this

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background that this study assesses how social media, as a part of digital technology, helps to promote inclusive growth in Tanzania with a focus on youth citizens in Dodoma City.

Social media and transformation of economic growth in the digital era

The pace of digital transformation is growing worldwide, however, it varies across countries. Digital inequality still exists among nations especially between developed and developing nations ranging from internet use to social media usage. In a report for UNCTAD (2019), leading countries in digital transformations are the US, and China while the digital platforms including social media are increasingly important in the world economy.

Social media refers to the internet based application that enables people to interact through online space (Solomon and van Klyton, 2020). It facilitates the dissemination of information, opinions, and content as well as promotes social interactions among individuals, and between individuals and organisations (Churk, 2020). Statistical data shows that social media use is high in developed countries than in developing countries. For example, while the average social media usage stands at 53% globally (Poushter, Bishop and Chwe, 2018), the US, Australia and South Korea lead in internet use for 69% (Poushter, Bishop and Chwe, 2018) however, Tanzania had a social media use of 20% in 2018 (Poushter, Bishop and Chwe, 2018). Despite that this number is low, nevertheless, it is significant to explore its uses in terms of accelerating inclusive growth in the country. Facebook, Twitter and YouTube are considered as the most popular social media worldwide (Mandari and Koloseni, 2016). This statistic is relevant to African countries and Tanzania in particular.

It's important to note that different social media offers different functions. For example, Mandari & Koloseni (2016) argue that social media categories are such as *Web blogs*, *Content Communities*, *social networking sites* and *collaborative projects*. A *Web blog* is specifically for updating and posting information which can be owned either by an individual or an institution and allows the user to read and write comments. *Content communities* are used for sharing information of different formats (Mandari and Koloseni, 2016) while *social networking sites* are crucial for two-way sharing of information both in private and public (Verdegem, 2011). A good example, of such, is Facebook which is the most used social media in Tanzania whereas WhatsApp, Twitter, Instagram are another example. The last category includes *collaborative projects* which function for the collaborative web content among users (Mandari and Koloseni, 2016). Having these different categories implies that social media have emerged as great platforms for the fast exchange of information in various ways. This study will specifically explore the category of social networking sites which is an immediate feedback-oriented kind of social media for understanding inclusive growth in Tanzania.

Studies show that social media interaction is growing fast across the world while allowing two-way interaction among users which can be regarded as a factor of development process. As social media is argued to have four potential strengths such as collaboration, participation, empowerment, and time bound (Magro, 2012:pp149), these features trigger this study as can be linked to speedup inclusive growth which is also character by participatory, two way, interactive, and feedback oriented. These strengths demonstrate the capacity of social media to accelerate an inclusive economy since it empowers citizens' to interact through social media platforms to become part of economic decisions. Magro (2012) notes that social media gives users the power to speak and share information in order to achieve a common developmental goal.

Recently, Tanzania like other African countries has shown increased internet users up to 29.1 million, approximately 49% which is almost half of the Tanzanians, with mobile penetrations of 89% by March 2021 (TCRA, 2021). This increase reflects the growing influx of social media users through smart devices such as smartphones which can be easily connected to the internet using a hotspot connection. On top of that, statistical data shows a "positive correlation between broadband penetration and GDP growth as well documented, with a 10 percent in mobile broadband penetration generating an estimated 0.8-1.5 percentage points of additional GDP growth" (WB, 2021:79). However, the GDP growth rate in Tanzania is argued to fall in the year 2020. For example, WB (2021) reported the fell down of the GDP rate from 5.8% in 2017 to an estimated rate of 2.0% in 2020, which can be accelerated by the global pandemic. Yet there is minimal understanding of the extent to which youth citizens can be a part of the development process using digital technology such as social media. On top of that, there are minimal studies for understanding how social networking sites help citizens to engage in inclusive growth for economic growth and sustainable development in Tanzania. In this study, social media is considered as key and understood in terms of social

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networking sites since, as argued, can be personalised and offer privacy among users (Mbura, 2020). It is against this background that this study explores how social media promote inclusive growth with a focus on youth citizens. Specifically, it will respond to three questions; which social media site is widely used by youth citizens to discuss government economic issues for promoting inclusive growth? How do youth citizens use the perceived widely used social media to participate in discussing government issues for inclusive growth? And how does the government promote citizens use of social media to discuss government issues for inclusive growth?

Methodology

The study was carried out in Dodoma city which is the capital city of the country where government policy decisions are made. The study area was considered due to having significant number of youths as a result from the concentration of higher learning institutions which offers reasonable number of youth students. Due to time and resources limits the study focuses on youth citizens at the College of Business Education, Dodoma campus which is located at the heart of the city and is among higher learning institutions in Dodoma City with a significant number of youth students who are interacting through smartphone devices thus are familiar in using social media to engage in various discussions regarding social, political, and economic aspects of development. Thus, it provides an important site to understand the role of social media for inclusive growth among youth citizens in Tanzania. This study is designed as mixed research whereas both qualitative and quantitative research are involved. The quantitative research which involves a survey method was used to inform the qualitative part of the study conducted by using structured interviews. Quantitative data was collected from 100 sampled youths who are the finalist undergraduate students of CBE Dodoma Campus which constitute the sample frame using a simple random sampling techniques where every student was given an equal chance to participate in the study. Denscombe (2010) considers that, sample should not involve fewer than 30, however, a researcher might consider increasing the sample size to allow statistical analysis. The use of 100 youth sample size was employed due to limited time and resources. The information obtained from survey helped to identify the social media site which is perceived as widely used by youth citizens to discuss government economic issues for promoting inclusive growth.

In a qualitative part of the study, a total of 15 interview participants were selected using purposive sampling technique based on the criteria of studying Master degree, aged between 18-35, and use smartphone to engage in social media interactions. An interview time ranged between 45 minutes to an hour for each participant. Master students were regarded as key informants for this study due to the reason that are more educated than undergraduate youth students thus are mature enough to understand current economic development issues thus are able to argue critically in various discussion using social media platforms for inclusive national development. The information obtained from interviews helped to understand how youth citizens use the perceived widely used social media to participate in discussing government issues for inclusive growth; and how does the government promote citizens use of social media to discuss government issues for inclusive growth. Content analysis was used to analyse qualitative data obtained from interviews whereas data were transcribed into paper sheets, translated from Swahili to English language, and categorised into nodes and themes related to the focus of the study. Quantitative data were analysed using descriptive statistics by employing simple statistics such as percentages, frequencies and presented through figures and tables.

Findings and Discussions

Social Networking Site which is Widely Used by Citizens to Discuss Government Economic Issues

The findings from survey show that majority of youth citizens in the study area which occupy 95 % own smartphone devices while left behind only 5% to engage in social media sites as shown in table 1 below:

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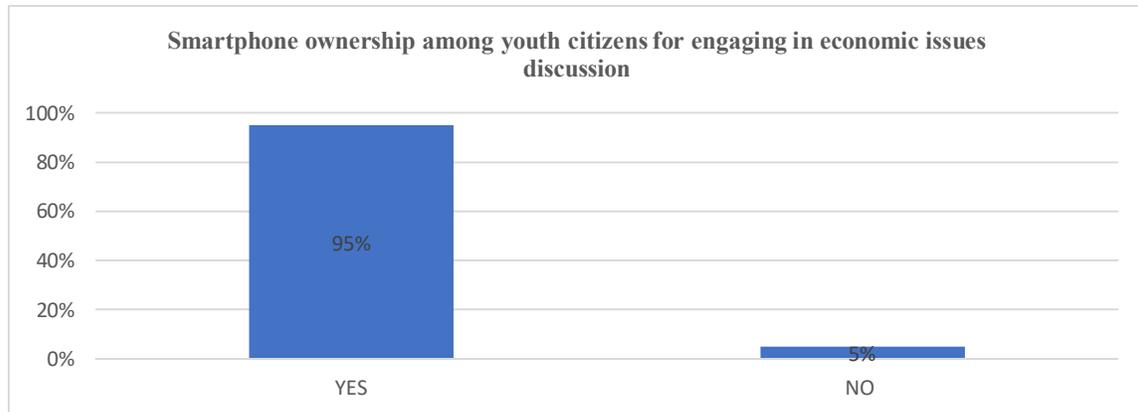


Table 1 showing percentages of smartphone ownership among youth students.

Having majority of youth citizens in the study area who owns smartphone device implies that they easily connect to internet and highly engage in social media sites in the extent which is higher than the average smartphone ownership of 64% in emerging and developed countries (Poushter, Bishop and Chwe, 2018). This practice can be translated as an opportunity to engage youth citizens in discussing government issues for achieving inclusive growth and sustainable development goals in Tanzania. In addition to that, studies have shown that globally, young people are the first group to adopt the use of digital technology than older generations (Poushter, Bishop and Chwe, 2018) which calls an attention to the government to utilise this group of citizens to accelerate inclusive development through the emerging digital technology in the 21st Century.

As shown in the figure 1 below, findings from the survey indicate that, most youths 41% prefer to use WhatsApp social media than other social networking sites to discuss government economic issues:

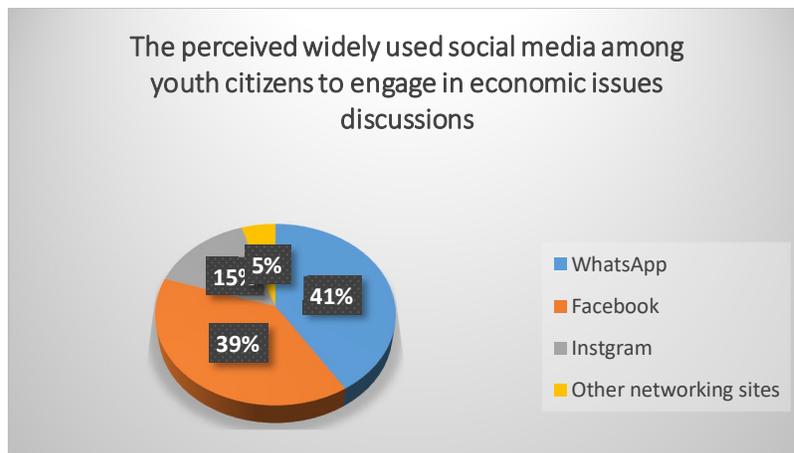


Figure 1 showing the perceived widely used social media among youth citizens

The use of WhatsApp social media among youth citizens to discuss government economic issues imply that the site is more personalised as it involves creation of a group with members who are familiar to each other compared with other social media sites such as Facebook thus users feels comfortable to discuss issues openly. This finding is in line with Jailobaev *et al.*, (2021) who suggest that WhatsApp groups have become a platform for connecting people at any point of time, bringing together people across time zones, creating communities of similar minded/tasked people, and giving a sense of belonging to group members. This implies that there is no need of citizens to sit physically and have a conversation regarding government economic issues for inclusive growth, instead WhatsApp online platform can easily save the purpose.

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Ways in Which Youth Citizen's Use Of Whatsapp Social Media to Participate in Inclusive Growth

Findings from interviews show that youth citizens use WhatsApp social media platform to discuss political economic news and events as shown in the quotation below:

“For me WhatsApp social media is a convenient platform to engage with my friends in a discussion regarding economic and political issues since the platform offers a space to pause economic news and events happen daily in our country and allow the discussion thread to continue among group participants who have specific interests to discuss economic news for our countries’ economic and political development...” (Interview: Participant No. 4).

The statement that ‘...the platform offers a space to pause economic news and events which currently happen in our country and allow the discussion thread to continue among group participants...’ implies that WhatsApp social media accelerate the chance for citizens to be part of the economic growth process by voice their opinions through digital technology. This is due to its characteristics of immediacy and privacy discussion platform to foster engagement and collect citizens opinions (Gil de Zúñiga and Casero-Ripollés, 2021). Thus, WhatsApp social media has a positive influence on inclusive growth among youths in the study area.

Findings also shows that youth citizens use WhatsApp social media as a safe environment for government issues activism as illustrated by an interviewee below:

I feel comfortable to use WhatsApp social media to be part of the news discussion to raise my voice on governments’ economic, political and social decisions when I feel to disagree with. WhatsApp social media offers privacy space since members knows each other so the chance to disclose the discussion is minimal (Interview: Participant No. 11).

The finding that WhatsApp social media is a comfortable digital space implies that citizens are free to mobilise group members to interact in government issues activism to solicit political economy decisions making which is a more democratised way of engaging in the growth process. As Gil de Zúñiga and Casero-Ripollés (2021:213) argue “WhatsApp constitute a major, privileged platform for activism-related information, which would explain its stronger influence on other forms of participation”. Therefore, is important to note that, citizens being part of government decision-making practices relates to inclusive growth which reflects the current understanding of the development process worldwide. This finding is similar with Samans et al., (2017:7) who note that “inclusive growth is a strategy to increase the extent to which the economy’s top-line performance is translated into the bottom-line result society is seeking, i.e., broad-based expansion of economic opportunity and prosperity”. This perception implies moving towards the current development paradigm in which development should emanate from citizens themselves and not from top leaders.

In addition, findings reveals that youths use WhatsApp social media to attach government economic and political issues link as illustrated in the quotation below:

Unlike other social networking sites, WhatsApp social media is easy to use. You can attach any link and even those related to economic of political issues of our country or other countries and the user may easily make the follow up the link and offer the comment below. These links attract discussions thread and audience engagement in these issues (Participant No. 14).

This finding implies that youths use WhatsApp social media to spot government actions and distribute news. This practice promotes awareness of economic and political actions within and outside the country thus acts as a stimulus of discussions among group members. This finding relates with Jailobaev *et al.*, (2021) who noted that WhatsApp groups enable users to improve their interactions, foster dialogue, increase sharing, create an enjoyable atmosphere, and promote profound collaboration with peers. The two-way participation feature of WhatsApp social media relates to the practice of inclusive economy as it promotes citizens engagement to discuss government news and actions for economic growth in Tanzania.

Ways in Which the Government Promote Citizens Use of Social Media for Inclusive Growth

The study findings show that, the government provides legal framework that guide digital media use to discuss various issues that promote inclusive growth as indicated by an interviewee below:

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I am aware that there are government regulations which guide social media use in Tanzania. You can chat or discuss or reply to a thread on any message, video, or link on social media although you must respect every member. However, I understand that some users may even screenshot comments and share externally which is not safe to participants as the governments' online media regulations limits these kinds of discussions since are translated as incitement statements (Interview: Participant No. 3)

The participant perception that there is a presence of government legal framework to guide the use of digital communication relates to an effort to promote citizens digital inclusiveness in the development process. This finding relates to Wahid (2018:15911-15916) who argue that “in recognition of the need to reduce the possibility of Tanzania being further excluded from the global knowledge based society, as well as the need to harmonize independent ICT-related initiatives, the Government promulgated legal framework such as the National ICT Policy in 2016 aim to transform Tanzania into an information rich knowledge-based society and economy, so that to ensure Tanzania and its people fully contribute in the information age and enjoy the social, cultural and economic benefits of the emerging information revolution”. On the other hand, the statement that “...I understand that some group members may even screenshot comments and share externally which is not safe to participants as the governments' online media regulations limits these kinds of discussions since are translated as incitement statements” implies that despite of having online media regulation at place, youths have minimal trust on their safety while communicating online. Such situation may create fear to argue or criticise government issues shared on social media thus hinders the inclusive growth process. Similarly, LHRC (2017) argue that online media regulations limits the freedom of expression. This practice challenges the current development model for promoting inclusive growth which requires all society members to engage in the development process.

Study findings show that youth citizens understand the government did efforts to encourage internet service providers to offer internet access to citizens thus increases social media use as illustrated below:

“...If you look around, you will see most youths who are using smartphone to engage in social media are connected to the internet either from Vodacom, Tigo, Hallotel or Airtel. This is because the government has done better in terms of soliciting giant mobile phone companies to invest in the internet and data services so that citizens get connected to the digital world. However, in my opinion data prices and even digital transactions tax are increasingly getting higher especially for youth students to afford because are not working...” (Participant No. 5).

Having a government effort to ensure internet access among citizens stimulate social media use and attracts increased youth citizens digital engagement. This implies that there is comfortable digital infrastructure and a great opportunity for youth to engage in various discussions of government issues through social media hence promotes inclusive economic growth. This finding is in line with Churk and Volkmer (2021:74) who argue that “political engagement via social media relates to civic engagement and brings citizens closer to the government for inclusive development”. However, the statement that “...data prices and even digital transactions tax are increasingly getting high ...” imply the need for government to revisit and lower internet cost and digital transaction taxes to allow wider opportunity for majority youths to engage in the development process.

Furthermore, findings show that youths understand the government's role play to raise awareness on using social media for citizens participation as ways to promote inclusive development as illustrated below:

“Since social media is no longer a new thing in our country, the government now days use radio and television to provide awareness on social media opportunities that are currently arising to boost economic growth. For example, we learn everywhere that you can use WhatsApp or Facebook not only for chatting or time pass but also to advertise business, learn market, or share business knowledge to improve economy...” (Interview: Participant No. 3).

The perception that governments' use of traditional media to promote awareness on social media use implies its readiness to build public trust and have majority citizens included in the new economy through social media opportunity. This understanding relates to promoting inclusive economic growth in Tanzania since citizens learn how to individually participate digitally in the development process. Furthermore, OECD (2016:89) supports that “...some social groups are unlikely to engage effectively when given the opportunity

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to do so, because of a combination of lack of awareness, low participation literacy and information overload". And that "governments must strive to increase the appeal of participation for people who are able but unwilling to participate due to subjective barriers..." (OECD, 2016:89). However, there is a need of government leaders to use digital media to extend awareness in promoting citizens use of social media to discuss government issues by spreading videos, messages, and voice notes that encourage citizens participation. This practice will join the pace of the current move which understands development as more inclusive in the 21st Century.

Conclusion and Recommendation

The study conclude that WhatsApp social media is a gateway to engage youth citizens in discussions regarding government economic issues to accelerate inclusive growth in the study area. Furthermore, WhatsApp social media accelerate the chance for citizens to be part of the economic growth process by spotting government actions and voice their opinions through digital technology. In addition, the presence of conducive government legal framework to guide the use of digital communication promote citizens digital inclusiveness in the development process.

Towards achieving the inclusive growth in the country, the study suggests a networked digital policymaking framework with lessons learned from developed countries to allow the government to provide a conducive new media regulation which promote citizens to discuss and publish government issues on social media openly without fear. Also, it suggests an establishment of the framework for collecting citizens' opinions on social media for government decision-making practices to imply that citizens view is considered for inclusive growth process in Tanzania.

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Digital Marketing and Performance of Tour Operators in Tanzania

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Abstract

The usage of digital marketing has revolutionized the promotion of tourism products and services in the 21st century. However, the number of international visitors in Tanzania remains constant to about one million since 2012. This study aimed at investigating the effects of digital marketing on the performance of tour operators in the tourism industry in Tanzania. The study was guided by Schumpeter's theory of innovation, and profit maximization theory. Convergent parallel mixed-method design was employed. The sampling frame composed of 543 tour operators, and a sample size of 230 firms. Using a stratified sampling technique, the sample was divided into three strata, proportionately distributed in three locations Arusha, Dar es Salaam, and Zanzibar. The sample was selected using a simple random sampling technique from each stratum. A structured questionnaire was used to collect quantitative data, and interview guide was used to collect qualitative data. Data were analysed using descriptive statistics and summarised using percentage, mean and inferential statistics. Structural Equation Modelling (SEM) was used to test the hypotheses. The study findings support Schumpeter's theory of innovation, and profit maximization theory by revealing that digital marketing has a positive significant relationship with tour operators' performance. The results of the study suggest that tour operators have to use advanced ICTs such as an electronic database to influence visitors' decisions, virtual reality to sell the experience, update websites and social media, and protect database against malicious attacks and promote customer knowledge. The results are useful to stakeholders in enhancing the promotion of the tourism products and services as they provide new insight on how electronic marketing influence performance in the tourism industry in Tanzania.

Keywords: Digital marketing, tour operators, performance, tourism, ICT, electronic marketing

Introduction

The tourism economy globally is driven by the use of information and communication technologies (ICTs), and cause most of the firms in the tourism industry experience the effects of ICT as the visitors depend on information collected through different channels (Januszewsk *et al.*, 2015). Globalization has brought changes in the way marketers conduct marketing activities, and the use of information technologies being the driver for the change thus creating an opportunity for digital marketing (Strauss and Frost, 2014). ICT allows firms to build relationships with customers by knowing customers' needs, and behaviour, deliver added value and satisfaction which results in repeat of sales, an increase of market shares, and profits (Hair *et al.*, 2003).

Digital marketing or sometimes referred to as electronic marketing, or online marketing is the use of ICT for the marketing activity, the processes of creating, communicating, delivery, and exchange of offerings that have value for customers (Strauss and Frost, 2014). Digital marketing is crucial in the tourism industry in facilitating the delivery of promotional market information to travellers using online marketing tools including website, email marketing, social network marketing, mobile advertising, and search engine marketing (Pura, 2013). The usage of website and social media platforms such as Facebook, Instagram, and other online communication enhances communication such as feedback on products and services between buyer and buyer, buyer and business firms regardless of the location, and at any time (Bethapudi, 2013; Lalicic, 2015).

Scholars (e.g. Prasad *et al.*, 2014; Varkaris and Neuhofer, 2017) pointed out that social media plays an essential role in influencing visitor's decision making process in buying from the needs recognition, information search, alternative evaluation, final buying decision, and post - buying behaviour. Similarly, scholars (e.g. Ming & Yazdanifard, 2014) established that social media has positive effects on the performance of firms by updating followers of the firm's profile about new activities, special travel offers, and promotion at the destination and link to valuable information that visitors may enjoy.

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Several previous studies have found the usage of websites and Facebook as influential in the purchasing intentions of visitors. For instance, Dahiya and Gayatri (2017) pointed out that the website offers new ways of interacting with customers and stakeholders, followed by social media. Also, Dehghani and Tumer (2015) observe that Facebook advertising affected the brand image, brand equity, and influence significantly the purchasing intention of consumers. Similarly, (Duffett, 2015) confirmed that social media advertising using Facebook has a positive influence on the behavioural attitude which increased customers' intention to purchase.

Similarly, Strauss and Frost (2014) stated that the use of multimedia marketing such as 360-degree videos, pictures, videos, virtual reality and tour operators websites engage the customer, and enable him/her to see the products and services offered by the firm. In another study, (Rodríguez-Molina *et al.* 2015) observe that emotional messages on the tour operators' website provide visual destination experience for the travellers. According to (Argyropoulou *et al.*, 2011), the use of virtual reality by showing the local tourist attractions allows customers to have an experience similar to that offered by a firm that influences the purchase decision. Elsewhere, (Dahiya and Gayatri, 2017) found that the use of search engine marketing increased visibility in search engine results pages (SERPs) through search engine optimization by ranking the tour operator's website higher than others and facilitate visitor in making an informed decision.

Furthermore, Fotis, Buhalis, and Rossides (2008) noted that online travellers' reviews allow instant feedback from travellers by sharing their experience after using the products or services. Pabel and Prideaux, (2016) added that online reviews in virtual communities provide consumer and travel partners a global platform with rich consumer generated-content, price comparison tools, online reservation, and related services for destinations, and experience based on the scores of those who previously visited a particular destination. Tichaawa *et al.* (2017) emphasize that tour operators have to utilize ICT systems strategically in the area of improving their company's image. (Blattberg *et al.*, 2008; Pawar, 2014) stated that an electronic database for travellers is the source of marketing information about the history of visitors online transactions for tour operators to make decisions on the types of products to offer, choice of the market segment to serve better, and build a relationship with visitors.

Tanzania has many unique natural resources. The country ranks 8th out of 136 countries globally in natural resource endowments. However, the tourism sector is not performing well as Tanzania ranks 91 position of 136 countries in the travel and tourism competitiveness index (WEF, 2017).

As Mwita (2014) reveals, ICT usage among tour operators is still minimal in the areas of marketing and operations. Studies (e.g. Anderson, 2011; Felix, 2015; Zaidan, 2017) have shown that the performance of tour operators can be affected by destination marketing to attract customers, market competition, strategy selection, and a change of customer preference and taste. According to international visitors exit survey report, 44.1 percent of the visitors heard about Tanzania attractions through friends and relatives, 31.2 percent from travel agents, and tour operators, 5 percent through the website, 4 percent, through trade fair, 3.5 percent through Tanzania missions and media, and 9.6 percent through other sources. (United Republic of Tanzania URT, 2018). Furthermore, the number of international visitors has constantly remained one million; for instance, between the years 2014 – 2016, the proportion of international tourist arrivals grew only by 12.6 percent compared to the average rate of 16 percent for Kenya (URT, 2014, 2015, 2016, 2017; WEF, 2017; WTTC, 2019). Literature shows that the performance of the tourism sector is mainly characterised by ineffective destination marketing in attracting customers, market competition, strategy selection, and change of customer preference and taste (Anderson, 2011; Felix, 2015; Zaidan, 2017).

Several studies have focused on the effect of relationship enhancement and performance of tour operators (Berné *et al.*, 2015); the influence of marketing strategies on the performance of tourism business (Abiero, 2017), and factors influencing ICT adoption and usage among SMEs in the tourism business (Kilangi, 2012). However, little is known on the effects of digital marketing on the performance of tour operators in developing countries specifically Tanzania. Thus, the present study investigated how tour operators use digital marketing to enhance their performance. The study is a significant guide to stakeholders in the Tanzania tourism industry on digital marketing usage and hence contributes to the realization of an increase in the firm's profitability.

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Null Hypothesis: There is no significant relationship between digital marketing and performance of tour operators.

Theoretical Review of Literature

The current study used Schumpeter's Theory of innovation, and profit maximization theory. Schumpeter (1934) identifies five types of innovations as follows, the introduction of new or significantly improved products or service, the introduction of new methods of processing, the opening of new markets, the development of new sources of supply, and the creation of a new competitive organization. The usage of digital marketing increases efficiency and effectiveness in marketing, allows firms to make the products and services known to visitors, expands markets, resulting to an increase in performance. The current study is consistent with the previous studies (Korres, 2008; Lalicic, 2015) in understanding the effect of innovation on the performance of tour operators from a Schumpeterian perspective. According to Korres (2008), innovation improves products and reduces the process costs by increasing efficiency and effectiveness in operations which increases profitability (Buhalis and Law 2008).

As Ansari *et al.* (2017) states, the usage of digital marketing has an impact on price competitions, changes in consumer behaviour, demand on customization of products and services, reduction of barriers of entry to the market, and an increase of bargaining power of buyers. Similar observation is made by (Vinerean *et al.*, 2013) that Social media and websites are essential in cost reduction, and in allowing firms to know customers' needs through communication.

The theory of profit maximization establishes that the main objective of any business is to maximize its long term profits and minimize costs (Marshall, 1920). According to (Porter, 1985), an increase in profitability allows firms to determine their business market attractiveness as not all firms offer similar opportunities for an increase in profitability. Digital marketing increases efficiency in operations by reducing such transaction costs as searching for information, distribution, and promotion costs and in turn increase the sales of products at lower prices (Khan, 2017) ending up with an increase in profitability (Buhalis and Laws, 2001). However, profit maximization theory has some weakness as it ignores the risk associated with the profits such as inflation and loss of markets (Khan, 2017).

Empirical Literature Review

Digital marketing plays a vital role in the tourism industry by facilitating the delivery of promotional market information to visitors using various online marketing tools including social media marketing, mobile advertising, email marketing, and search engine marketing (Batinić, 2015; Bhandari and Bansal, 2018). Social media has positive effects on the performance of online companies by providing valuable information to followers (Ming and Yazdanifard, 2014). Varkaris and Neuhofer (2017) established that social media plays a critical role in influencing the visitor's decision-making process. As (Duffett, 2015) points out, social media advertising using Facebook has a positive influence on the behavioral attitude which increases the customers' intention to purchase. Similarly, Rodríguez-Molina *et al.* (2015) observe further that the destination image is more positive when tour operators' websites include visual experience to visitors. According to (Argyropoulou *et al.*, 2011), the use of virtual reality with local tourist attractions provides visitors with an experience similar to that a firm offers and influence their purchase decision over the competitors.

Dahiya and Gayatri (2017) point out that the usage of search engine marketing increases visibility in search engine result pages (SERPs) through search engine optimization by ranking the tour operator's website higher than it does to others and facilitate visitors in making an informed decision. Furthermore, Fotis, Buhalis, and Rossides (2008) note that online travellers' reviews are perceived as containing more reliable and trustworthy information than the content offered by tour operators, and facilitate instant feedback from the visitors by sharing their experience. Similarly, Pabel and Prideaux (2016) added that traveller's reference and online reviews in virtual communities such as TripAdvisor provide visitors and visitors partners with a global platform with rich consumer generated-content, price comparison tools, online reservation, and related services, and obtain reviews on local tourism attractions. As Tichaawa *et al.* (2017) observe, tour operators have to utilize ICT systems strategically in the area of improving their company's image.

Scholars (e.g. Blattberg *et al.*, 2008; Pawar, 2014) have noted that an electronic database for travellers is the source of marketing information for tour operators to make decisions on the types of products to offer, what

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market segment to serve better, and how the firm is rated by visitors. Elsewhere, Mwita (2014) found that ICT usage among tour operators in Tanzania is still minimal in the areas of marketing and operations. According to international visitors exit survey report, most (44.1%) of the visitors heard about Tanzania attractions through friends and relatives, 31.2 percent from travel agents, and tour operators, 5 percent through the website, 4percentthrough trade fair,3.5percent Tanzania missions and media, and 9.6 percent through other sources (URT, 2018).

Previous studies (Khan, 2016; Renu and Sharma, 2016) have shown that vulnerability to fraudulent activities as among the biggest challenges in digital marketing as hackers can steal visitors' money and confidential data. As stated by (Mweneogoha, 2016), the existing consumer protection law are inadequate and insufficient to protect consumers and it have not foreseen the problems brought about by advance in technology such as social media usage.

According to Neely *et al.*(2005), performance measurement is the process of measuring efficiency and effectiveness of tour operators. It provides important information for monitoring progress in terms of profit and market shares by comparing firms in the same industry. As (Moses,2015) states, the scale used to measure the perceived firm performance correlates positively and have a strong association with the objective performance measures such as financial indicators. Performance perceptual measurement was used in the current study to assess the performance of tour operators in terms of profitability.

Conceptual Framework

This study used the theoretical and empirical literature review to develop a conceptual framework. The independent variable digital marketing was measured using indicators online advertisement through the website, online advertisement using social media, online communication using email, online sales of products and services and the usage of online databases. The dependent variable performance was measured by profitability, an increase in sales, and ROA.

Measurement: variables were captured by a 5-point Likert scale where: 1=not used at all, 2=least used, 3=sometimes used, 4=Used, 5=Most used. Adopted from (Moses, 2015).

Performance of tour operators was measured by profitability, an increase in sales revenue and ROA using 5 - point Likert scale of 1 = very poor, 2 = poor, 3 = neutral, 4 = good, 5 = very good.

Indicators for the identified constructs in the conceptual framework were adopted from literature (Mirkó Gáti, 2015; Pervan *et al.*, 2017) with modifications that fit the current study.

Methodology

In this study, convergent parallel mixed method design was employed, both quantitative and qualitative data were collected concurrently, but analysed separately and the overall results were obtained by integrating qualitative and quantitative results to provide a comprehensive analysis of the research problem (Creswell, 2014). Incorporating the survey design allows generalization from the sample and greater flexibility in terms of time and the economy in conducting the study (Hair *et al.*, 2003).

Study Location

Most of the areas in Tanzania have different tourist attractions and activities; thus, the study was conducted in Arusha, Dar es Salaam, and Zanzibar. According to the National Bureau of Statistics Tanzania Mainland has more wildlife activities as compared to Zanzibar which has more beach activities (NBS, 2017). Also, both Arusha and Dar es Salaam has the largest number of tour operators (Tanzania Tourist Board [TTB], 2017).

The Population of the Study

The population was 649 registered tour operators in Tanzania with the experience of at least one year. According to Tanzania Tourist Board, there are about 602 registered tour operators in Tanzania Mainland and 47 in Zanzibar (TTB, 2017; Zanzibar Association of Tour Operators [ZATO], 2018). The sampling frame was composed of 543 tour operator firms in Arusha, Dar es Salaam, and Zanzibar. Arusha has 401 tour operator enterprises, Dar es Salaam 95, and Zanzibar 47.

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Sampling Procedure

Stratified sampling was used where the sampling frame was divided into three strata namely, Arusha, Dar es Salaam, and Zanzibar. Proportionate stratified random sampling was calculated. Finally, the sample was selected using simple random sampling in each stratum.

The working sample size of 230 respondents was obtained using the formula provided by Yamane, (1967). The proportional allocation was calculated as shown in Table AI in Appendix 2. Simple random sampling method was used in the selection of tour operator firms to participate in this study. (Hair *et al.*, 2010) suggest a sample size in the range of 100 and 400 as sufficient to provide sufficient statistical power for data analysis in SEM approach.

Data Collection Methods

The survey method was used to capture quantitative data from the respondents, using the 5-point Likert scale; structured questionnaire with both closed and open-ended questions was used to the selected respondents in the sample size. Semi-structured interview method was used to collect qualitative data through an interview guide comprised of 15 open-ended questions.

Pilot Test

To test for face validity managers or owners - manager of 10 tour operators firms were requested to complete the questionnaire and evaluate the clarity, length, level of difficulty, wording, and any other problem. A minimum sample of 10 respondents is considered adequate to identify any weakness of the questionnaire (Fink, 2003). The questionnaire was corrected to make it simpler and clear.

Quantitative Data Analysis

Quantitative data were analysed using descriptive and inferential statistics. Statistical Package for Social Sciences was used to process the numerical data from the questionnaire items ready for interpretations.

SEM is a statistical approach that simultaneously estimates the multiple regression equations in a single framework (Hair *et al.*, 2010). Previous studies (Cunningham *et al.*, 2017; Pervan *et al.*, 2017) have used SEM as it allows precise estimation of direct and indirect effects of the exogenous variables (independent variables) on all endogenous variables (dependent variables). SEM SPSS-AMOS (Statistical Package for Social Sciences with Analysis of Moment Structure) was used to determine the factor relationships and correlations.

Qualitative Data Analysis

The analysis began with transforming recorded interviews into interview transcripts, which were imported into NVivo 10 as sources. Coding was done by creating nodes to help gather the materials about particular themes. The data analysis and coding continued until the saturation point was reached, that is no new themes emerged. The findings were summarized into two major themes describing the findings of qualitative data analysis in narratives. The main themes include digital marketing usage and performance.

Results and Discussion

Response Rate

Out of 230 questionnaires distributed to respondents, 213 were correctly filled and returned, making the response rate of 92.6 percent as indicated in Table 4.1.

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Table 5.1: Response Rate

Region	Targeted Respondents	Successful Respondents	Response Rate (%)
Arusha	170	159	93.5
Dar es Salaam	40	37	92.5
Zanzibar	20	17	85.0
	230	213	92.6

As Rubin and Babbie (2008) stated, a response rate of at least 50 percent is considered adequate for analysis and reporting, the response rate of at least 60 percent is considered good, and a response rate of 70 percent is very good. This implies that a high response rate was achieved enough to allow the analysis and reporting.

Descriptive Statistics

Table 5.2 Demographic Characteristics of Respondents

Item	Frequency (N = 213)	Percent (%)
Managerial Position		
Owners	82	38.5
Managers	131	61.5
Gender		
Male	166	77.9
Female	47	22.1
Age of Owner/Manager		
20 – 30	24	11.3
31 – 40	92	43.2
41 – 60	95	44.6
61 – above	2	0.9
Education Level		
Secondary/high school	42	19.7
Certificate	42	19.7
Diploma	58	27.4
Undergraduate	56	26.2
Postgraduate	15	7.0

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Years of Experience in Business		
1 – 5	49	23.0
6 – 10	74	34.7
11 – 15	49	23.0
16 – 20	18	8.5
21 and above	23	10.8

Table 5.2 indicate that there were 82 (38.5 %) owners and 131 (61.5 %) managers. This indicates that the respondents were personnel involved directly in decision making in their respective firms, and were familiar with ICT issues in tourism. Moreover, the data indicate that 166 (77.9 %) of the respondents were males and 47 (22.1 %) were females. The results show that males were dominant in the tour operators' business; thus, there is a need of encouraging women to participate in the tour operator business.

In terms of age, the majority of respondents were aged between 31 to 60 (87.8%) years. On the other hand, tour operators' owners or managers of age above 60 years constitute only 2 (0.9%) which was the smallest group of owners. The findings have shown that the majority of surveyed tour operators were owned and managed by middle-age adults, implying that they can cope with ICT advancement.

The results as presented in Table AII in Appendix 2 indicate further that about quarter 58 (27.2 %) of the respondents were holders of Diploma. The rest 56 (26.3 %) were undergraduate holders, 42 (19.7 %) certificate holders, 41 (19.0 %) were secondary and high school, and 15 (7.4 %) had completed postgraduate studies. These results demonstrate that majority of the respondents had reasonable education to enable them use ICTs and marketing strategies in their business. Scholars (e.g. Kusumaningtyas and Suwanto, 2015) found that there was a difference in ICT usage based on demographic factors, age, and education level. According to (Neves, 2011), age and education levels are the main predictors of ICT usage. Similarly, (Mokaya, 2012) noted that the level of education and knowledge significantly affect ICT adoption in small enterprises in Kenya.

The results also indicated that one-third of the respondents 74 (34.7 %) had 6 to 10 years of experience in tourism business. 49 (23 %) had the experience of 1 to 5 years, 49 (23 %) had 11 to 15 years of experience, 23 (10.8 %) had the experience of more than 21 years. However, only 18 (8.5 %) had the experience of 16 to 20 years. These findings demonstrate that the majority of tour operator owners/managers had a long experience in the tourism business.

Tour Operators Firms Characteristics

Table 5.3: Tour Operators Firms Characteristics

Tour Operator firm Characteristics	Count (N=213)	Percent (%)
Firm age (in years)	Less than 5	29.6
	5 – 10	32.9
	11 – 15	21.6
	16 – 20	8.5
	More than 20	7.4
Form of business ownership	Sole proprietor	2.3

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	Partnership	12	5.6
	Private limited company	196	92.1
Number of full-time employees	1 – 4	94	44.1
	5 – 49	115	54.0
	50 – 99	4	1.9

The findings in Table 5.3 show that about 70 (32.9 %) of the surveyed firms aged between 5 to 10 years. Likewise, the findings show that 63 (29.6 %) have been in the tour operator business for less than 5 years. Conversely, 46 (21.6 %) firms had experience ranging from 11 to 15 years. The remaining, 16 (8.5 %) had experience of between 16 and 20 years. However, only 16 (7.4 %) had the experience of more than 20 years in the tour operator business. The results show that majority of the firms were established for many years that gave owners/managers the opportunity of realizing the importance of using ICT. This implies that tour-operating business is an attractive business as most of the firms continue in business. However, (Khong Sin *et al.*, 2010) revealed that firms adopt internet-based ICT regardless of the year of business start-up and internet experience. Besides, (Margaretha and Supartika, 2016) findings showed that the age of the firm does not significantly influence profitability.

In addition, findings have shown that private limited companies were the leading legal form of business ownership among the firms comprising of 196 (92.1 %), followed by partnership 12 (5.6%) of the firms, and sole proprietorship constituted only 5 (2.3%). These results demonstrate that private limited companies constitute the majority of the firms surveyed. Concerning the number of employees, the findings indicate that about half [115 (54%)] of the surveyed tour operators had 5-49 employees, 94 (44.1%) had 1-4 employees, and 4 (2%) had 50-99 employees. This suggests that the majority of tour operator firms fall into micro, small and medium companies (MIT, 2003).

Services Offered by Tour Operators

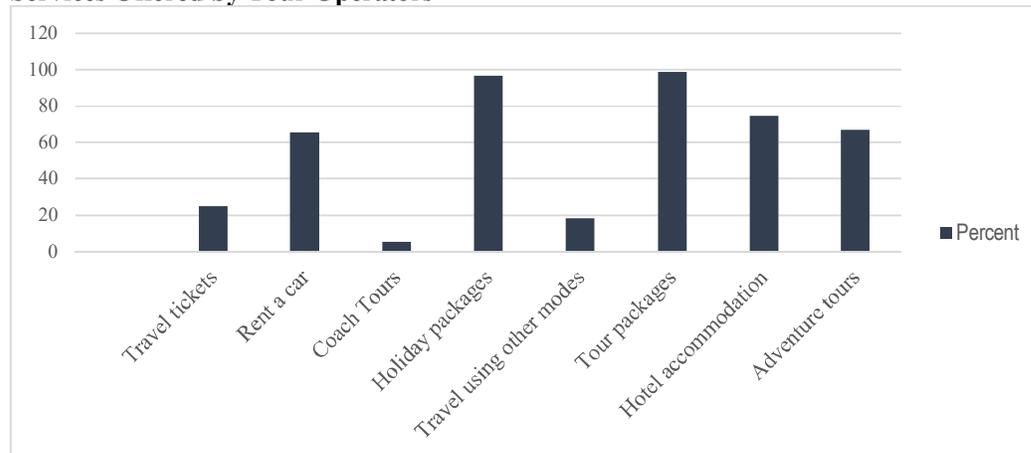


Figure 5.1: Services Offered by Tour Operators

Figure 5.1 shows that tour packages 211 (99.1%), and holiday package 206 (96.7%) were the most commonly services offered by the majority of tour operators in the study area. Other services include, hotel accommodation 159 (74.6%), adventure tours 143 (67.1 %), car renting 139 (65.3%), and travel tickets 53 (24.9%). However, coach tours 11 (5.2%) and travel using other modes 39 (18.3%) were the least provided services. This shows that majority of tour operators provide homogeneous products to their clients.

Preliminary Analysis
Digital Marketing related Activities

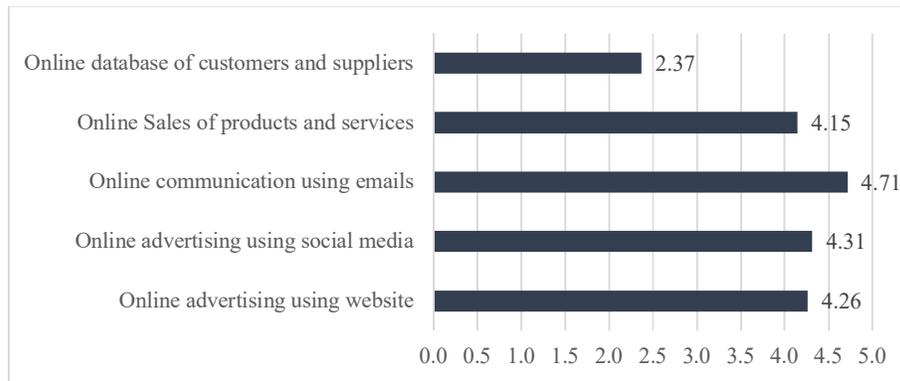


Figure 5.2: The Extent of Digital Marketing Usage

The mean of all activity items was computed as indicated in Figure 5.2. Findings show that online communication using emails was mostly used by the surveyed firms ($\bar{x} = 4.71$). This was followed by online advertising using social media ($\bar{x} = 4.31$), online advertising using the website ($\bar{x} = 4.26$), online sale of products and services ($\bar{x} = 4.15$), and online databases of customers and suppliers ($\bar{x} = 2.37$), which was the least used online communication. The findings indicate very low usage of electronic databases. According to scholar (Blattberg *et al.*, 2008), low usage of electronic database leads to failure in understanding which market efforts are wasted, how to build customer relationships through for example customization of products and services, and how to serve customers better than do the competitors.

Types of Social Media Used

The respondents were asked whether they use the outlined types of social media and rate the extent of usage in their organizations. The findings were as shown in Figure 5.3.

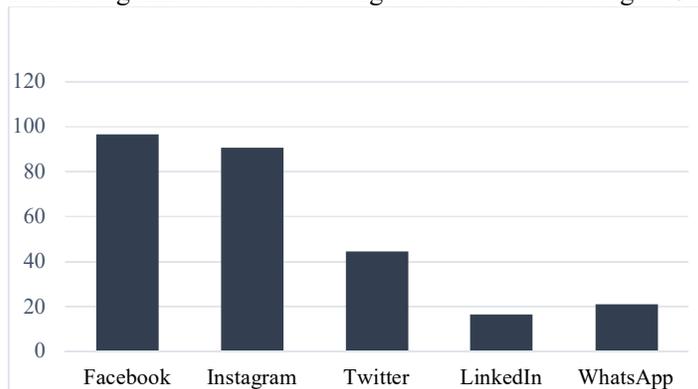


Figure 5.3: Types of social media used by tour operators

Figure 5.3 illustrates Facebook 206 (96.7%) and Instagram 193 (90.6%) as the most commonly used social media by tour operators. Others are twitter 95 (44.6%), and WhatsApp 45 (21.1%). However, LinkedIn 35 (16.4%) was the least preferred social media. The reasons for most tour operators to use Facebook and Instagram can be due to ease of use, very low cost, availability of applications, and ease of access by visitors. The results of (Dehghani and Tumer, 2015) showed that the usage of Facebook for advertising significantly affected the brand image and brand equity which contributed to a significant change in purchasing intentions of consumers by offering interactivity to users. In another study (Ana and Istudor, 2019) found that the young generation prefers looking at pictures and videos which make Instagram become popular among the youth. Finally, (Masele and Magova, 2017) found that perceived usefulness, ease of use, and trustworthiness were the predictors of social media usage. Thus, effective utilization of social media can

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result in an increase in the sales of products and services, and consequently increase in the profitability of tour operators.

Applications of Website, and Social Media

The tour operators were asked to state whether social media and websites were practiced in any of the outlined activities and the extent of use.

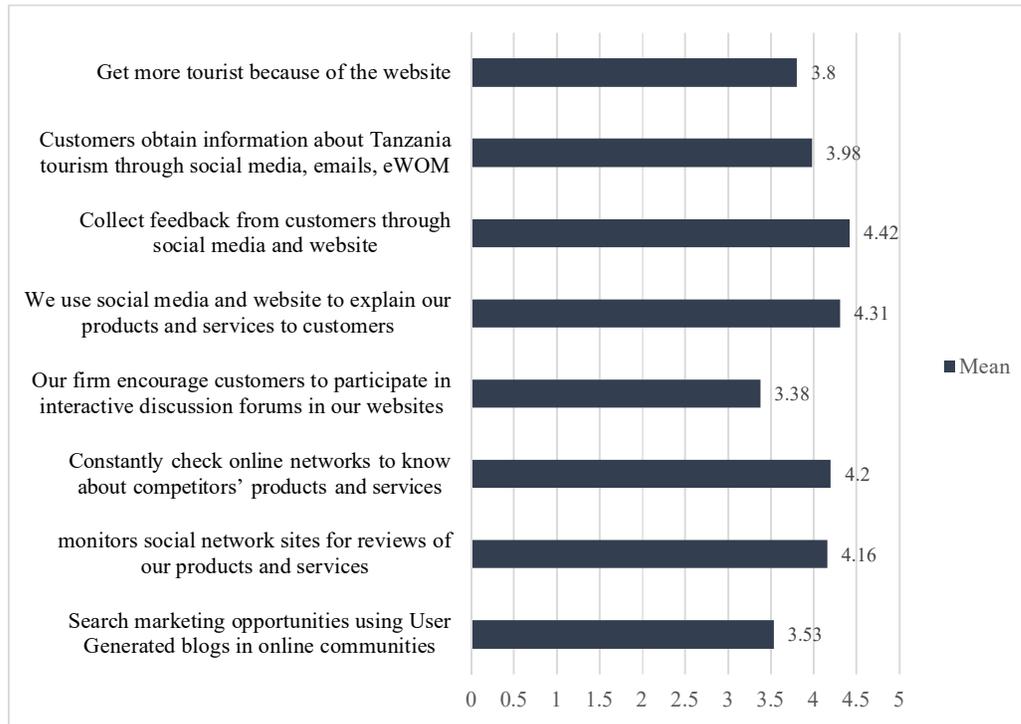


Figure 5.4 Applications of Social Media and Website by Tour Operators

The findings were as illustrated in Figure 5.4 which shows that majority of tour operators obtain feedback from customers through recommendations (online reviews) about their products and services ($\bar{x} = 4.42$). They use social media and website to explain their products and services to customers ($\bar{x} = 4.31$), constantly check online networks to know competitor products and services (4.20), monitor social network sites for review of their products and services ($\bar{x} = 4.16$).

Besides, ($\bar{x}=3.53$) tour operators search for marketing opportunities using user-generated blogs in online communities. However, only ($\bar{x} = 3.38$) of tour operators allowed visitors to interact through discussion forums in the organization websites. The findings imply that the usage of social media is essential for two-way communication between tour operators and travelers for feedback about the services and products offered to travelers. As (Lalicic, 2015) notes, the usage of social media can provide opportunities for tour operators of receiving valuable information about consumers and their experiences about the products and services offered. This is vital for product development and marketing.

The findings in Figure 5.4 also revealed that some of the tour operators ($\bar{x} = 3.98$) agreed that visitors obtain information about Tanzania attractions using the website and social media. According to (URT, 2018), the main source of information to visitors about Tanzania’s destination were friends and relatives (44.1%), followed by travel agents and relatives (31.2%), and through the web was (5%). This has an implication on the increase in the number of visitors, as ($\bar{x} = 3.80$) of tour operators confirmed to have received visitors because of the use of the website.

Scholars (Dahiya and Gayatri, 2017; Pawar, 2014) noted that the use of search engine marketing increased visibility in search engine results pages (SERPs) through search engine optimization by ranking the tour

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operator's website higher than is the case with others, and enable visitor to obtain the necessary information for decision making. In another study (Bhandari and Bansal, 2018) revealed that SEO is essential in increasing market share, enhance the brand equity of the product, product awareness, purchase persuasion, and consumer insight. Thus, according to the findings and literature reviews, tour operator websites and social media, have to be customer-oriented, updated, with security features, easy and fast found by visitors, and transparent to build trust to visitors.

Results of the Inferential Analysis

SEM is a confirmatory method providing a comprehensive means for validating the measurement model of latent constructs. The measurement model was used to assess the items' internal consistency, and reliability (Byrne, 2010; Hair *et al.*, 2010). In this study, CFA was run using IBM SPSS Amos version 20.0 as indicated in figure.

Table 5.4: CFA Results on Composite Reliability (CR), (AVE)

Constructs	Factor loadings	AVE
Performance	0.924	0.809
	0.956	
	0.813	
Digital marketing	0.722	0.563
	0.731	
	0.78	

The computed pooled measurement model fit indices indicate the chi-square=5.289, GFI=0.95892, and CFI = 0.972, which met the required threshold of 0.9 (Hair *et al.*, 2010). As the tests of goodness of fit indices (GOF) were above the recommended values, the current measurement model fit the sample data reasonably well.

Assessing the Validity and Reliability of a Measurement Model

The result as shown in Table 5.4 indicates that all AVE were greater than 0.5, which indicates good convergent validity. The Cronbach's alpha was used to compute the internal reliability of each item of the performance and digital marketing constructs.

According to Hair *et al.* (2010), the alpha of 0.7 to 1.0 suggests a high level of internal reliability. The reliability test was performed using SPSS version 20.0. The Cronbach's alpha values for the digital marketing and performance variables were 0.785 and 0.925 respectively, which were above 0.7 an acceptable level of internal reliability. The findings suggest that all the measures were internally consistent which means they measure the concepts well.

Testing the Structural Model

The statistical significance of the path coefficient was assessed using a bootstrap procedure with 1000 as suggested by (Moses, 2015; Silva, 2013). Therefore, multiple samples of the same size as the parent sample were drawn randomly, with replacement, from the population, and provided data for empirical investigations (Byrne, 2010). As shown in Figure 5.5 the model explained 20 percent of the variance in the performance of tour operators and was above the threshold of 10 percent for being meaningful as suggested by (Falk and Miller, 1992).

Hypothesis Testing (H₀): There is no significant relationship between digital marketing and performance of tour operators.

Table: 5.5: Path Coefficients and Hypothesis Testing

Hypothesis	β	P-value	Rejected/Not rejected
H ₀₁ Digital marketing → Performance	.44	<.001	Rejected

At an alpha significance level of .05 ($p < .05$)

Three indicators that measured the construct of digital marketing were online advertisements using the website, social media, and online sales of products and services. Figure 5.5 presents the results on digital marketing with coefficient $\beta = 0.44$ at p-value $< .001$.

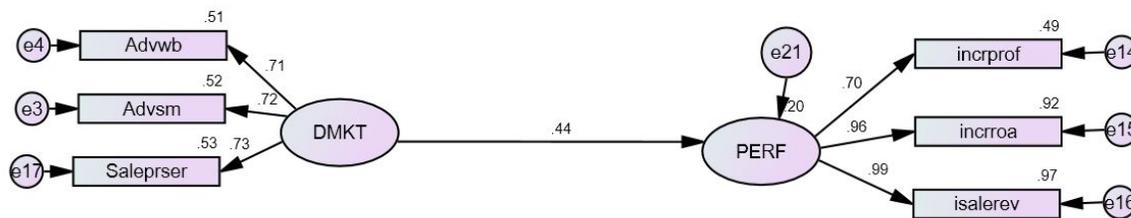


Figure 5.5 Digital marketing and performance of tour operators

The results confirm that a positive relationship exists between digital marketing and the performance of tour operators. Based on the findings, the null hypothesis was rejected meaning that digital marketing usage can enhance the performance of tour operators by increasing ROA, sales revenue and profitability. Thus, digital marketing correlated positively with performance. The results could be due to the cost reduction in marketing, an increase in customer service through improved information accessibility, and customer relations.

The findings are consistent with the findings of qualitative data that majority of the respondents admitted to have been using, social media such as Facebook, Instagram, Google ad, and website to reach the global market and create awareness of products and services, which help to obtain cost saving in the advertisement, improve the relationship with customers, and increase revenue. For instance, one of the interviewees (RP10) remarked, “we make sure our website and social media appeal to our customers because about 80 percent of our visitors originate from the use of website. Most of the youth prefer to use the internet than old people. Thus, the website should be informative, interactive, easy, relevant, and timesaving.

Similarly, RP23 responded, “I use Facebook and Instagram to post pictures and facilitate sharing of visitors’ experience.” Others reported to have been advertising their website through Google (SEO) to increase their visibility in search engine pages (RP15), (RP17). However, (RP14) explained, “not all the visitors come from online; some come straight to the office and do all the bookings and pay in cash. We are dealing with both online and offline customers”. The majority of tourists agreed that they use Online Consumer Reviews (OCRs) such as TripAdvisor, Yelp, and safaribooking.com during making decisions about tourism related-products. Interview results have shown that the majority of tour operators sell their products and services via trip advisor and safari booking. Similarly, the respondent (RP1) reported, “I use TripAdvisor to explore Expedia, and safari.com due to very high online business competition as most of the tour operators depend on online agents to obtain customers.”

The result of the hypothesis was consistent with the results in a study by (Ainin *et al.*, 2015) who found that digital marketing using Facebook had a strong positive impact on the financial and non-financial performance of tour operators in terms of cost reduction on marketing and customer service, improve customer relations, and information accessibility to visitors. In another study, (Ráthonyi, 2016) demonstrates

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that travellers used social media during the planning process by collecting information, confirming selection of holiday destination, and share experience and photos or write reviews using mobile technologies and their Apps such as TripAdvisor.

Most of the visitors indicated to have been using Google search engine to obtain the information. For instance, two participants (V2), and (V6) stated, "I search through Google search engine, and use booking.com, and trip advisor to get the opinion of other travellers." Other visitors (V3), (V4), (V7), said, "We obtain information through agents in our country and the internet." Visitors (V5), and (V9) noted, "I obtained information about tourism attractions through our school, the internet, my relatives, and friends who visited Tanzania." Furthermore, visitor (V1) said, "I use Trip Advisor because I trust and can read recommendations from other people's experiences as well." Similarly, visitor (V2) commented, "I use TripAdvisor because I don't trust companies' websites as they can manipulate information."

The findings were also supported by Schumpeter's theory of innovation, and profit maximization theories. These theories show that the use of innovations such as digital marketing can facilitate the introduction of new tourism products to the market, can open up new markets for selling tour operators products and services making firms competitive in the market, increase sales, and hence increase profitability. Therefore, the results fit well with Schumpeter's theory of innovation, and profit maximization theory and provide further support to the two theories.

Conclusion and Implication

The findings conclude that digital marketing has a positive effect on the performance of tour operators.

Theoretical implication: The findings of the study provide evidence of the applicability of Schumpeter's theory of innovation and profit maximization theory. Thus, the performance of tour operators can be predicted by the intensity of digital marketing usage.

Practical implications: the study has several implications for the effective utilization of digital marketing as follows;

1. Predicting tourists' behaviour in digital platforms using an electronic database will help in the allocation of resources in the areas of marketing, and improvement of infrastructure.
2. The usage of advanced multimedia technologies such as digital maps and virtual reality techniques are vital in promoting tourist destinations.
3. Employment of skilled ICT experts is essential in enhancing the quality of websites and social media, which reduces the risks of hackers. Thus, the development of websites with valuable updated content to capture the minds of visitors, website optimization, as well as social media, and applications with security features increase visitors' trust.
4. Customers are paying for an experience, tour operators have to promote the superior experience they offer and allow customers to share their experience with others and utilize online recommendations from the visitors concerning their trip experience to improve products and service delivery.

The Study Limitations

1. The study was carried out in three regions; it could have been extended to other regions for a comprehensive understanding of the digital marketing usage to improve tour operators' performance.
2. The study was carried out to tour operators alone. The study could be done by including other stakeholders such as suppliers of products and services

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Organisational Factors Influencing Vendors' Participation in Public Electronic Procurement System in Ilala District, Tanzania

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Abstract

The Strive for improvements in public procurement operations, public electronic Procurement holds a tremendous promise to meet intended public service delivery. The uptake by vendors' community for participation in public electronic procurement system is still unsatisfactory. This study examined the organisational factors influence on vendors' participation in public electronic procurement system. Ilala district was used as a study area and using a cross-sectional research design. Simple random and purposive sampling techniques were used to sample 300 vendors and select three key informants respectively. Structured questionnaire and key informants guide were used to collect quantitative and qualitative data respectively. Structural Equation Modeling (PLS-SEM) was used to analyse quantitative data and content analysis was used to analyse qualitative data. The overall results found strong significant training, willing to change, top management support and skilled human resources as organisational factors influencing vendors' participation in public electronic procurement system at ($p < 0.05$). The study concludes that organisational factors once mediated by governmental aspects had a strong significant influence for vendors' participation in the system. The study recommends Public Procurement Regulatory Authority as system pioneer to continue providing training to vendors as strong organisational aspect for vendors' participation in the system. The study also recommends vendors' top management to set strategies that will nurture willing to change on participation in public e-procurement system. These findings enlighten policy makers and vendors' top management to participate from design to implementation stage of public e-procurement system where government should improve environment for easy vendors' system participation.

Keywords: Organisational Factors, Participation, Public electronic procurement, Vendors

Introduction

Globally, service delivery improvement by governments through public procurement has become an important agenda due amount budget set for this activity. Dello (2017) revealed that, public procurement done manually was very ineffective, which lead to corruption, delays on project completion, costs inflated, lack of transparency in its operation and provision of poor quality of services and supplies. To cater those challenges of manual procurement system, the Information and Communications Technologies (ICT) has opened new possibilities for governments to introduce what so called public e-procurement (World Bank, 2016). The public e-procurement implementation in developed countries has brought benefits such as cost reduction, efficiency; reduction of the procurement process, reduction of corruption level, enhanced compliance and standardisation of procurement (Tutu *et al.*, 2019; Vaidya and Campbell, 2016). The expected benefits of e-procurement transaction have been considerable just after the adoption of this technology, public procurement expenditure reduced by 5–20% once properly encouraged participation of private sectors (vendors) (European Commission, 2012).

In globalization era, vendors' participation in public e-procurement system is becoming critical for improving public e-procurement success rates by meeting the intended objectives like transparency, quality improvement, time management, costs reduction, paperwork system reduction, and improving efficiency and effectiveness in the operation (Ujakpa *et al.*, 2016). It is also documented that, among other benefits of vendors' participation in public e-procurement system is allowing advanced and qualified suppliers from developed countries to trade with developing countries (Dhaoui, 2019; Eei *et al.*, 2015; Sharabati *et al.*, 2015). Scholars researched organisational factors which were organisational culture, willing to change, top management support, ethical practice, training for practitioners, resources and business nature for vendors' adoption of an e - procurement system for individual firm use (Daoud and Ibrahim, 2019; Suliantoro and Ririh, 2019; Naik and Bobade, 2018). This study adopted post-established organisational factors with a focus of examining their influence on vendors' participation in public e-procurement system mediated with governmental factors like System by laws, reliable procurement procedures, administrative practices at government level (Premathilaka and Fernando, 2018; Gutierrez *et al.*, 2015).

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Scholars like Shouran *et al.*, (2019); Zhou (2018); Irma *et al.*, (2016); Cousins *et al.*, (2011), anticipated organisational factors that lead vendors to adopt an e-procurement system for their own use like Information Technology (IT) literacy and infrastructures, financial aspects, managerial support and legal preparedness. This study adopted these organisational factors to examine their influence for vendors' participation in public e-procurement system. Furthermore, Aqeel and Asim, 2019; De Coninck *et al.*, (2018); Enrique *et al.*, (2018); Seo and Warman, (2018); Lynn and Davis, (2016); Thiga, (2016), also revealed that, top management support, presence reliable procurement procedure, training to vendors, reliable database were factors influence vendors' adoption as aforementioned scholars given a little attention to these organisational factors for their influence on vendors' participation in public e-procurement system.

In Tanzania, Dello and Yoshida (2017); Mohamed and Kayungi (2013) study revealed that, manual public procurement was ineffective, which lead to corruption, delays in public projects completion, costs inflated, lack fairness, lack of transparency and provide poor quality services/supplies. The introduction of e-procurement is expected to be a catalyst to rectify those shortfalls observed from manual procurement system and relative advantages like transparency, paperless system, corruption free and usefulness were documented (Shatta, 2020). Ngussa *et al.*, (2020) found that, merchandise management (vendors) where one key drive for best public procurement performance. Tanzania through PPRRA invested efforts to integrate public procurement functions and its proceedings between vendors and Procuring Entities (PEs) into public e-procurement system. However, there is reluctance on the vendors' side, resulting the use incompetent suppliers in government projects due to lack reasonable numbers of qualified vendors in the database for procurement competitions (URT, 2018, Mlinga, 2018). Therefore, the current study adopted organisational factors mediated by governmental aspects to examine how it influences vendors' participation in public e-procurement system.

Construct models and hypotheses development

The paper adopted one exogenous construct, one endogenous construct and mediating construct, which sometime stand as exogenous and endogenous construct. Endogenous constructs were guided by Diffusion of Innovation (DOI) theory by Rogers (2003), for relative advantages which are profits maximisation, increase market share, enhance trust and contract control. Furthermore, Rahman *et al.*, (2019) documented factors influencing e-procurement implementation in the organisation which were selling efficiency, improved savings, increased job performance, increased productivity and management improvement. The Diffusion of Innovation (DOI) theory also catered for exogenous construct aspects like training, top management, willing to change, database capacity for quick retrieval and mediating construct which was governmental aspects like administrative practice, by laws for the system, reliable procurement procedures, equal access for both big and small vendors, these both stand as resources and capabilities for vendors' participation in public e-procurement system. Abdul and Lyimo (2019) also revealed factors influencing adoption of e-procurement in institutions which were top management support, suppliers' capacity and information systems infrastructure. This paper adopted post-established organisational factors to examine they are influencing for vendors' participation in public e-procurement system. According to Suliantoro and Ririh (2019); Thiga (2016); Li *et al.*, (2015), revealed organisational factors influencing adoption of e-procurement in the respective organisation such as top management support, e-security, information sharing, business to business experts and change management. The current study adopted the same organisational factors to examine their influence toward vendors' participation in public e-procurement system. Prayudi *et al.*, (2019); Kaliannan, (2009), revealed the uptake for vendors to public e-procurement system is very low, hence the current study used governmental factors (administrative practice, by laws, procurement procedures and equal access to all vendors) been mediators to organisational factors on their influence toward vendors' participation in the system.

Likewise, Daoud and Ibrahim (2019); Shukla *et al.*, (2016) revealed the importance of e-procurement like access to a wider market, control of malpractice, time saving, reduction of business costs, maximize transparency and streamlining the procurement process, but postulated that, only 27% Jordan firms (vendors) participated in the public e-procurement system. Seo *et al.*, (2018) also found vendors' willingness to participate in public e-procurement is limited; hence call for the investigation of organisational factors affecting vendors' participation in the system. Furthermore, Isaac *et al.*, (2015), revealed a major limitation for organization' e-marketing (similar to e-procurement system) uptake been confidentiality and trust, worrying the information leaked to rivals, hence strongly recommended government and others stakeholders

to intervene the process by providing awareness programs to SMEs (vendors). Therefore the governmental factors influencing vendor participation in public e-procurement system need to be researched.

Furthermore, challenges for public e-procurement system implementation documented to be: stakeholders' behaviors (vendors), leader's behavior, leadership shortcoming, unskilled personnel, lack of training, resistance to change, organisational power and politics and public e-procurement value creation (Mohungoo *et al.*, 2020). The current study focus was to use the same challenges (organisational factors) to examine their influence toward vendors' participation in public e-procurement system while being mediated by the government itself. Lumsden (2015), under the study of Technological-Organisational-Environmental (TOE) factors influence managers' decision to adopt cloud computing, the study revealed for organisational factors necessity for legal regulation, service linkage and best vendor identification (procedures), which from the current study termed as governmental factors used for mediating purpose for the influence on vendors' participation in public e-procurement system. From the facts narrated, the current need to fill the existing knowledge gap, therefore these hypotheses were hypothesized and tested:

H₁. Organisational factors have positively influenced on vendors' participation in public e – procurement system,

H₂. Governmental aspects have positively influence on vendors' participation in public e-procurement system.

H₃. Organisational factors are positively associated with Governmental aspects.

H₄. Organisational factors mediated by governmental aspects have positively influenced vendors' participation in public e-procurement system.

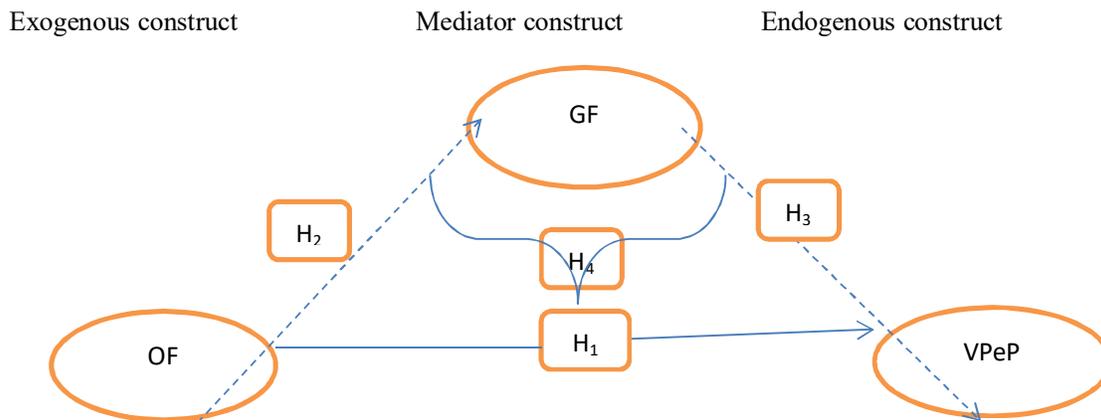


Figure 1: Construct Model

Key:

- > Direct Influence (OF: Organisational Factors & GF to Vendors' Participation)
- - - -> Indirect Influence (OF via GF to VPeP: Governmental Factors to VPeP)

Theoretical Guidance

The study was guided by Diffusion of Innovations (DOI) Theory by Rogers (2003). The choice of this theory was justified by need of resources for participation and the requirement for advantages motives for the diffusion of the newly established innovation system which will support vendors to participate in public e-procurement.

Diffusion of Innovation (DOI) Theory

Diffusion of Innovations Theory by Rogers, (2003) was used to evaluate the dissemination of innovations. The innovation process for adoption by organisation passes first knowledge of an innovation for forming an attitude towards the innovation, to a decision to adopt or reject given innovation, to the implementation of the new idea”, and that the awareness of characteristics of an innovation has an impact upon the intention of the individual to use the technology (Rogers, 2003). The Innovation diffusion is communicated through certain channels over time, among the members of a social society as “*an idea, practice, or object that is perceived as new by an individual or other unit of adoption*”. Innovation distribution is dependent upon the relative complexity (knowledge for practitioners by training), advantage (relative usage which will create willing for change), trialability and observability (to justify management support aspect, the innovation to allow testing for approval and the results being visible), compatibility (perceived values, need and reliability to justify the need for database capacity aspect, which assure availability required information timely). Diffusion theory suggests that an innovation that offers higher relative advantages, compatibility, triability, observability and lower complexity will be disseminated earlier, therefore it will justify vendor’ participation in public e-procurement system.

Methodology

The study was conducted in Ilala District, Dar Es Salaam; the study area was selected because of having 1110 vendors out 9740 countrywide (11.4%), who were eligible in public e-procurement system’s participation (URT, 2018). The study collected quantitative data through a structured questionnaire (5 Likert scale format) which was self-administered by the researcher. Qualitative data were collected through interview with key informants; the interview was guided by the key informants guide. The study adopted cross-sectional research design, because the design allows the use of a variety of analytical techniques, the use of different methods for data collection and its ability to allow data management due interaction of variable over one-another (Flick, 2011; Creswell, 2009).

The simple random sampling technique was used to select 300 vendors (were vendor’s managerial personnel considered as respondent) after random generated number done (with the help of Microsoft excel) from the vendors list obtained at Government Procurement Service Agency (GPSA) database Financial Year (FY) 2018/2019. A purposive sampling technique used to sample three (3) Key Informants form the empowered public institutions (Public Regulatory Authority, Government Procurement Service Agency and Medical Stores Department) to develop and control the system, these institutions were selected due to the richness of information on public e-procurement system (Tanzania National electronic Procurement System (TANePS)). The minimum sample size reached by the use of Cochran’ finite population formula (Cochran, 1977). To get n_0 from infinite first:

$$n_0 = \frac{z^2 pq}{e^2} = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 384..... (1)$$

Where n_0 =Infinite sample size, z =selected critical value, p =estimated proportion of attribute,

$q= 1-p$, e level of precision. Assuming $p=0.5$, taking confidence level as $+0.5$, $p=0.5$, $q=1-0.5=0.5$, $e=0.05$, $z=1.96$.

The finite population formula (Cochran, 1977) was used to determine sample size for vendors:

$$n = \frac{n_0}{1+(n_0-1)/N} = \frac{384}{1+(\frac{384-1}{1110})} = 286 (2)$$

A questionnaire was developed without ambiguity in concepts and terms used and pre-tested using the sample size of 30 respondents (vendors) as a rule of thumb at Ubungu District (which is not actual study area) (Saunders *et al.*, 2016). Reliability was tested using Cronbach Alpha before proceed with further steps and the overall reliability of 0.972 which was above minimum required threshold of 0.7, hence allow the final document to be developed, then the respondents were informed about the confidentiality which will be observed on their responses, in order to assure reservation on their sensitive information for competitiveness base. A total of 26 items from 29 items were involved with loading beyond 0.5: Organisational factors 9 items, governmental aspects 10 items, vendors’ participation aspects 7 items were assessed. For the purpose of the used software (SmartPLS 3.0 for PLS-SEM) require results from positive to negative (Hair, 2016), Likert scale statements developed ranging from 1 to 5 (ranging from 1→ strongly agree; 2→ agree; 3→

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agree nor disagree; 4→ disagree; 5→ strongly disagree) to examine the organisational factors influence on vendors' participation in public e-procurement system.

Quantitative data were analyzed by using the Partial Least Square Structural Equation (PLS-SEM) SMART-PLS 3.0 software, which was appropriate for testing hypothesis in the model. The study assessed reliability, item loading, convergent and discriminant validity by clearly observing the indicated threshold: Cronbach's Alpha > 0.7, outer loading > 0.5, Average Extracted Variance (AVE) > 0.4 and composite reliability (CR) > 0.5. The qualitative data analysis was done by using content analysis (thematic approach) after stage-wise task as follows: data recorded, transcribed, categorised, axial coded and grouped into themes relating to organisational factors influencing vendors' participation in public e-procurement system.

PLS-SEM analysis tools was chosen due to its flexibility which permit examination of complex associations with various data types (Wolf et al, 2013) also has capability to combine number of linear regression and factor analysis, it can estimate constructs which are formatively specified, it's also free from model fit and sensitive assumptions met hence remove error measurement problems (Hair et al, 2016). The PLS-SEM analysis method used as a prediction-oriented technique, capable to carry Confirmatory Factor Analysis (CFA) with the provision of reliable and valid outer loading which guide on which indicator to drop and which one retain for results interpretation (Afthanorhan, 2013). The PLS-SEM analysis involve two main stages (Chin, 2010): (1) The assessment of the measurement model like discriminant validity, internal consistency and item reliability of the measures (Formative measurement model for this study) and (2) the assessment of the structural model for path analysis determinants.

Reliability, Validity and Multicollinearity Test

The Variance Inflation Factor (VIF) was inspected on assessing the multicollinearity problem. Table 1 depicted the VIF results are all below 10, meaning that the problem of multicollinearity does not exist (Chin, 2010). The widely measurement used to measure reliability was Cronbach's Alpha as per social sciences (Loewenthal and Lewis 2018; Bonett and Wright, 2015; Cronbach, 1951). Reliability of data was used to assess the internal consistency for all 26 aspects through Cronbach's Alpha and was significant at an Alpha of 0.925 and reliability as per constructs was significant as indicated in Table 1 where all constructs' reliability tested scored above 0.7 indicates a strong consistency among constructs aspects (Prajogo & Sohal, 2003).

The two aspects were used to measure Construct validity which was discriminant and convergent validity. These measures used to examine the variance of the shared latent variable and their differences between each other's (Alarcón *et al.*, 2015). In order to overcome traditional Cronbach's Alpha (CA's) deficiencies, the Composite Reliability (CR) was applied. The CRs threshold accepted in the study was above 0.80 and all observed as per Table 1 results shown. The Average Variance Extracted was used to measure convergent validity and the acceptable threshold should be above AVE > 0.5 (Fornell and Larcker 1981). The current study results observed the acceptable threshold for convergent validity (see Table 1).

Table 1: Factor loading, Reliability, Multicollinearity, Average Variance Extracted and Composite reliability

Construct	Indicator	Factor Loading	VIF	Cronbach's Alpha	AVE	Composite Reliability
OF	OFVPeP1	0.541	1.288	0.838	0.519	0.874
	OFVPeP10	0.674	1.673			
	OFVPeP11	0.745	1.789			
	OFVPeP12	0.618	1.619			
	OFVPeP3	0.706	1.733			
	OFVPeP4	0.612	1.448			

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	OFVPeP5	0.720	1.716			
	OFVPeP6	0.532	1.476			
	OFVPeP8	0.768	1.936			
GF	GFVPeP1	0.625	2.076	0.932	0.622	0.942
	GFVPeP10	0.777	3.050			
	GFVPeP2	0.815	3.291			
	GFVPeP3	0.741	2.219			
	GFVPeP4	0.812	2.822			
	GFVPeP5	0.809	2.477			
	GFVPeP6	0.820	2.701			
	GFVPeP7	0.845	3.569			
	GFVPeP8	0.831	3.287			
	GFVPeP9	0.792	3.130			
VPeP	VPeP2	0.759	1.861	0.852	0.532	0.888
	VPeP3	0.801	2.091			
	VPeP4	0.750	1.828			
	VPeP5	0.684	1.494			
	VPeP6	0.760	1.890			
	VPeP7	0.712	1.712			
	VPeP1	0.626	1.380			

OF1 Electronic procurement strategy, :OF3: Willing to change; OF4: Ethical Practice; OF5: Top management support; OF6: Agreements on new standards and procedures; OF8: Skilled human resources; OF10: Management Style OF11: Training for practitioners; OF12: Database Capacity; GF1; Government leadership; GF2: Administrative Practice; GF3: Legal and policy framework GF4: Bureaucratic control; GF5: By laws for the system; GF6: Policies for Public-Private partnership GF7: Reliable Procurement procedures; GF8: Access of information for policy making; GF9: Equal access for SMEs and big enterprise; GF 10: Presences of PeP- contract management; VP1: Maximize Profit; VP2: Increase Market share; VP3: Maximize trust; VP4: Help contract control; VP5: Require small investment and accessible solution; VP6: Help in production planning; VP7: Help on inventory management

Discriminant Validity requires the square root of Average Variance Extracted (AVE) being greater than the correlations for the given constructs (Fornell and Larcker 1981). Hence it was tested and found the square root of AVE for all constructs as shown diagonally in Table 2 were greater for all model's constructs than the construct correlations, therefore, proved that, no problem with discriminant validity for the applied model's constructs.

Table 2: Discriminant validity test for measurement model in PLS-SEM

	GF	OF	VPeP
GF	0.789		
OF	0.449	0.662	
VPeP	0.531	0.563	0.729

GF: Governmental Factors, OF: Organisational Factors, VPeP: Vendors' Participation e-Procurement

Findings and Discussions

The structural model was assessed by using two measures: coefficient of determination (R square-R²) and significance level (t- test) with estimated path coefficient (β). The PLS-SEM method used to confirm influence between the constructs with the model by testing hypothesis model. The significance of paths for respective model was determined by actual testing. Therefore, the squared multiple correlation (R²) in each construct was assessed. Then the paths' significance was also evaluated in each construct.

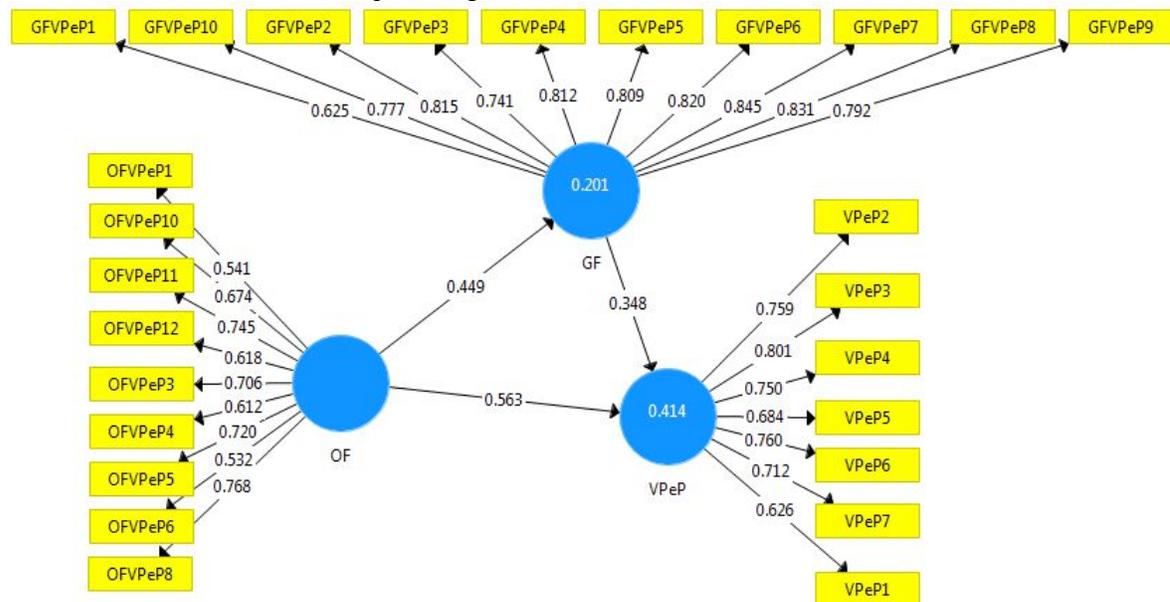


Figure 2: The PLS-SEM model results

According to Chin (2010), R² suggested that values around to 0.190 are weak, values ranging from 0.200 to 0.333 are moderate and values 0.35 are substantial. The figure 2 shows that, 20.1% (0.201-R²) of the variance in organisational factors is explained by governmental factors. The 41.4% (0.414-R²) in vendors' participation aspect were explained by both organisational factors and governmental factors. The R² values fall under the moderate and substantial category as per Chin (2010) hence depleted good results.

Table 3: The Partial least squares (PLS-SEM) results for hypothesis model test

Constructs	B	T-Value	P-Value	Remark
GF -> VPeP	0.348	5.006	0.000	Supported
OF -> GF	0.449	5.865	0.000	Supported
OF -> VPeP	0.563	6.038	0.000	Supported
OF -> GF-> VPeP	0.156	3.680	0.000	Supported

GF: Governmental Factors, OF: Organisational Factors, VPeP: Vendors' Participation e-Procurement.

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In PLS-SEM, paths' significance for the measurement model was tested by using the bootstrapping method. This bootstrap method because it is an alternative way to get better approximations for a true small sample properties (according to Chin's (1998) good sample size for bootstrapping is 500 samples and it's also used as a technique for testing the study hypothesis (Schmidheiny and Basel, 2012; Beaumont and Bocci, 2009). According to Hair *et al.*, (2011) the critical t-values for two-tailed test, t-value >1.65 (significant at 0.1 level), t-value >1.96 (significant at 0.05 level) and t-value >2.58 (significant at 0.01 level). Table 3 indicated the hypothesis test, and standardised path coefficient results. The result revealed that, all the independent constructs are positively significant to the dependent constructs VPeP (GF $\beta=0.348$, t-value=5.006, p 0.01; OF $\beta=0.563$, t-value=6.038, p 0.01; OF-GF $\beta=0.156$, t-value=3.680, p 0.01) and GF (OF $\beta=0.449$, t-value=5.865, p 0.01).

Alternative hypothesis (H_1) was supported in Table 3, once the results revealed that organisational factors (mainly were top management support, willing to change, training to practitioners and skilled human resources) has a positive influence with vendors' participation in public e-procurement system. This implies that, vendors to participate in public e-procurement system, vendors practitioners must be trained, vendors' top management must be supportive but also allow change for better, but also, human resources involved in the whole vendors' procurement process must skillful due to the fact, they are number of guidelines and procedures to be observed perfectly for better participation in the system. The view on training to vendors for participation in the system was supported by key informants interviewed and this statement quoted:

We as a mandated government agency for the system, our priority for attracting vendors to participate in the system is training, although it is heavy duty, but we must do it (PPRA, TANEPS personnel, 8th May, 2019)

This view is also confirmed by another Key Informant interviewed from another institution:

Yes, being knowledgeable of public e-procurement system as vendor, will motivate to participate and use it (MSD, TANEPS personnel 7th May, 2019)

The main arguments from these key informants is training on how influencing vendors' participation in the system, hence it require continued attention for attracting more vendors to participate in the system. The study finding also correspond with study conducted by Bahaddad *et al.*, (2019); Muganda *et al.*, (2018); Thiga, (2016) revealed that organisational readiness (willing to change), training for employees (IT knowledge and skills) and top management support were significant and supportive for adoption and implementation in e-procurement system which was also decision on acceptance to existing technology.

Furthermore, the second organisational aspect with great influence for vendors' participation in the system was supported by the key informant interviewed by this statement:

Vendors' top management must be supportive and willing to register; we have no other mechanism than letting them know the importance of being the part of the system, because no way they can do business with government anymore (MSD, TANEPS personnel 7th May, 2019)

The integration between public e-procurement system and vendors' systems, depend much managerial commitment from respective vendor organisation. Third party software integration is the biggest issue; management willing must be guaranteed (GPSA, TANEPS personnel 7th May, 2019)

Suliantoro and Ririh, (2019) supported the current study by arguing that, supportive leader (top management support), knowledge sharing (training) and change management (will to change) were significant and strongly influencing the vendors' usage of an e-procurement system.

Alternative hypothesis two (H_2), for the organisational aspects influence of governmental aspects on driving vendors to participate in public e-procurement system also supported and proved that organisational aspects can be influenced governmental aspects of vendors' participation in the system. This implies that for every unit increase in organisational aspects, its effects would contribute a unit increase in governmental aspects of supporting the vendors' participation. And more importantly the effects of organisational factors on governmental factors is significant ($p<0.001$). Thus, hypothesis stated that, organisational factor has positive significance of governmental factor was supported.

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Alternative hypothesis three (H₃) was also supported once results found a positive influence on governmental aspects (mainly bureaucratic control, bylaws for the system, reliable procurement procedures, administrative practice and access of information for policy making) for vendors' participation in public e-procurement system. This implies that, for the organisation to be attracted on acceptance of new technology, the government has its duties to fulfill, due to the fact that, the government is the one responsible to put regulation and policies in place which guide public procurement operations. Furthermore, once the bureaucracy was controlled and procurement procedures are reliable, vendors will be attracted to do business with government due assurance of not tie-up the capital and increase competitiveness base. But also, by government giving vendor's full information on how they can participate in the procurement policy making, this act will make vendors more willing to do business with government and being one of its agenda.

Lastly, alternative hypothesis four (H₄) was also supported due to the study results found a positive influence on organisational factors mediated by governmental aspects for vendors' participation in public e-procurement system. This implies that, once the government set by laws for the system, easy administrative practice, put reliable procurement procedures in place and provides equal access for both small and medium sized enterprises and big companies and then organisational factors can influence vendors' participation in public e-procurement system. According Key Informant's interviewed; he supported the intervention of government by saying:

I think when government initiatives on implementing public e-procurement system by vendors were well supported; participation rate must improve due to the fact that, vendors have nothing to do with establishing laws and regulation on behalf of government agencies (MSD, TANEPS personnel 7th May, 2019)

The arguments above imply that, there were strong influence between mediated organisational factors and vendors' participation in public e-procurement system. The results proved wrong, Baron and Kenny tests, which claim that there is no direct effect but mediation is strongest when there is an indirect effect in the equation, where the truth is, the strength of mediation should be measured by the magnitude of the indirect effect and not by the lack of the direct effect (Zhao *et al.*, 2010). The study results imply that, organisational factors have a strong influence for vendors' participation in public e-procurement system once mediated by governmental factors than direct effects.

Theoretical Implications of the Study Findings.

The study findings support that, Diffusion of Innovation theory (DOI) require the relative advantages for vendors to diffuse in new innovation and participates in public e-procurement system, where by organisational factors like training, top management support, skillful human resources and willing to change for better being the motives and relative advantages for vendors' participation in public e-procurement system. Therefore, this theory was clearly supported by the study findings, where organisational factors once mediated by governmental aspects have a strong contribution to vendors' participation in public e-procurement system.

Conclusion and Recommendations

The study concluded that, organisational factors (training, top management support, willing to change and skilled human resources) have a significant influence for vendors' participation in public electronic procurement system. There were also an indirect linkage between organisational factors and governmental aspects and vendors' participation in public e-procurement system. The study recommends that so long as willing to change and training influence vendors' participation, Public Procurement Regulatory Authority (system pioneer), should continue training vendors on the associated benefits of their participation in the system. The study also recommends to vendors' top management to support participation by setting strategies and employee skilled human personnel as its influence participation in public e-procurement system. Lastly, since there is a significant influence between organisational factors and governmental aspects, the study recommend that, the government (through PPRRA), should set all supportive environments (system by laws, reliable procurement procedures, bureaucratic control and administrative practice) for easy vendors' participation in public e-procurement system.

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Assessment of Entrepreneurial Training methods to Women Food Vendors in Ilala Tanzania

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Abstract

This study assess women food vendors' preference of entrepreneurial training methods for the successful operation of a business in Ilala city. A cross-sectional design was employed coupled with both qualitative and quantitative approaches. The target population of the study was all 242 registered women food vendors in three markets of Ferry, Buguruni, and Kariakoo. Random sampling techniques were used in which 151 women food vendors were sampled for the questionnaire. Four (4) entrepreneurship trainers were purposively selected for an in-depth interview. Three formal training observations were done. Quantitative data were analyzed using SPSS version 20, which computed descriptive statistics measures in frequencies, mean and standard deviation while qualitative data was narrated and presented thematically. The study indicates that 36% of women food vendors' preferred lecture method for business management skills training, 36.7% of women food vendors' preferred lecture method for interpersonal skills training, and 34% of women food vendors preferred discussion method for personal entrepreneurial skills training, and 34% of women food vendors preferred learning by doing for technical skills training. 44% of respondents rated learning by doing as the most preferred entrepreneurial training method. Furthermore, a correlation between the successful operation of a business and training methods was found, though this correlation is weak ($p < 0.5$). Therefore, respondents have indicated different preferences of training methods concerning the subject matter of entrepreneurial skills. It is recommended that trainers, institutions, and organizations offering entrepreneurial skills training should consider trainee's preferences of training methods to equip them with necessary entrepreneurial skills for running a successful business.

Keywords: training methods, entrepreneurial skills, skills, business successful, women food

Introduction

Globally, entrepreneurship scholars emphasize the critical role of entrepreneurial skills training in advocating entrepreneurship, enhancing capacities for sustainable growth and economic activity (O'Connor, 2012; Lewrick, 2011). Countries as diverse as Brazil, India, Malaysia, Singapore, and the UK have recognized this importance and introduced entrepreneurship training since 1990 (Dana, 2001). Other countries like the US, Latin America, Poland, India, and Iran have also introduced entrepreneurial skills training as a tool for solving the inadequacy of present and future entrepreneurial skills (Amad, 2014 and GEM, 2010).

In African countries, entrepreneurial training has been recognized as nutritious ingredients for Small and Medium enterprises' growth. According to Smith and Perks (2006), entrepreneurial training for entrepreneurs is the key to future Africa's economy, which can create wealth, businesses, and jobs for others. Thus, entrepreneurial training is documented as ongoing and continuous processes, which intend to achieve better entrepreneur's performance through improving entrepreneur's attitude, skills, knowledge, and the way entrepreneurs perform at work (Mozael, 2015). Furthermore, it is an action of upgrading an entrepreneur's entrepreneurial skills for specific tasks (Nischithae and Rao, 2014).

Although entrepreneurial training contributes enormously, its heart is relying on entrepreneurial training methods. According to Ampaipipatkul, (2004) entrepreneurial training methods are defined as all activities that trainers/learners employ as a medium to deliver/acquire knowledge, skills, experience, or information, which might lead to change in working behaviour and attitudes according to the course objectives. In Tanzania, and particularly Ilala city in collaboration with various institutions and organizations like a university of Dar-es-Salaam (UDSM), College of Business Education (CBE), the Vocational Education Training Authority (VETA), Small Industries Development Organization (SIDO) and civil society

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organizations (CSOs) have been offering entrepreneurial skills training using various training methods. Equally, Li et al, (2008) highlighted that the development of new skills and knowledge requires a variety of training methods. Utilization of suitable training methods in any training session with which match the trainee's preference, learning become resourceful and pleasant (Li et al, 2008). The situation in turn has a positive impact on work-related and business performance.

Despite the heart of entrepreneurial training being relying on training methods, its implementation sometimes is questionable. More essentially, the preferred training methods themselves are even more questionable. In some circumstances, selection and implementation of training methods decisions are made based on assumptions about the age of trainees and size of the class or with misguided information about preferred and which methods resulted most successfully the acquiring and retaining knowledge. Thus, the active involvement of women food vendors (trainees) in the decision-making process and recognizing of their preferences on the entrepreneurial training methods remain the problem and create difficulties training environment thereby causing an ineffective training learning process. It is noticed in works of literature that more training and learning that is successful occurs when trainers' training methods are matched to trainees' learning styles that trainees can adapt more readily to different training and learning situations. Therefore, determining women food vendors' preferred training methods can lead to an increase in trainees' attitude towards learning and success in business operation.

Literature Review

Social Constructivism Theory

The social constructivism theory was developed by Jerome Bruner in 1966 (Olorode and Jimoh, 2016). Social construction theory is a learning theory that views learning as a social process where trainees collaborate by engaging in in-group activities for meaningful learning to take place. The theory describes that people construct their understanding and knowledge of the world through experiencing things and by reflecting on those experiences. Social constructivism upholds that knowledge and skills development because of social interaction and shared experience.

Several scholars have applied social constructivism theory to investigate various issues such as education, gender, sociology, business management (Pritchard, & Woollard, 2010, Arends, 2012, Pitsoe, & Maila, 2012, Olorode, & Jimoh, 2016). For instance, Nzilano,(2015) investigated the influences and outcomes of implementing a social constructivist curriculum on tutor's beliefs and practices as a result of their professional learning and development experiences in Tanzania's teacher education colleges. The study found that a variety of professional learning and development experiences shaped tutors' understandings of the social constructivism approach, which influenced their practices in transferring the knowledge constructed to the job. However, the study found that tutors employed the social constructivism approach in teaching by embracing socio-cultural and economic situations.

According to Kelly, (2012), social constructivism could be applied in the classroom using such instructional methods as collaborative learning discussion, demonstration, learning by doing among others. Trainers employ instructional guidance using teaching methods that allow knowledge, discovery, and construction by trainees as they interact and work together in the learning process. The theory shifts the responsibilities of knowledge acquisition from the teacher to the student and transforms the trainees from passive listeners to active participants and co-creator of knowledge among co-trainees. This theory was criticized that a social classroom can be a difficult place for trainees with some needs (Pritchard and Woollard, 2010). For this study, social constructivism theory will be analyzed given how trainees acquire knowledge of entrepreneurial skills in cooperative with a specific objective that focused on the assessment of women food vendors preferred methods of entrepreneurial skills training.

Women Food Vendor' Preference for Entrepreneurial Skills Training Methods

A study by Ünal (2017) on preferences of teaching methods and techniques in mathematics with reasons was done in Turkey. The study employed qualitative research methods, primarily case studies. The sample size of 40 teachers was selected randomly from different secondary schools in Kirsehir. The study used the semi-structured interview to collect the primary data. While analyzing the data, a categorical descriptive analysis technique was employed in which participants' opinions were divided into categories and sub-categories, and quotations were included to ensure opinions were reflected accurately. Findings of the study indicated that teachers preferred techniques such as "Question and Answer" and "Demonstration," that offered relative ease

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of use. Techniques including the "Scenario" and "Case Study" had fallen out of fashion, as they needed further planning including the use of educational resources. This study focused on teacher's preferences on teaching methods and techniques in mathematics and it was limited to a small sample size of 40 teachers who were randomly chosen. It is from this evidence that the author thought that it is important to expand this study by focusing on women food vendors' preference of training methods in entrepreneurial skills in Tanzania. To avoid biases the study employed both probability and non-probability sampling.

Bengi, Zeynep and Fatma (2016) did a study on the teaching method preferences of teachers. The study was focusing on the cooperative teaching method. The study used a qualitative approach to examine 47 primary and secondary school teachers. The findings showed that (1) teachers mostly prefer direct instruction; group work is the second preference. Based on the study findings, the researchers recommend extending this study by interviewing students to widen the point of view on this matter. In this regard, the currently reported study was conducted to extend the above study by examining women food vendor's preferences on training methods for the successful operation of a business in Ilala municipality, Tanzania.

Ismail et al (2014) conducted a study on the preference of teaching and learning methods in a new medical school in Malaysia. This study used a cross-sectional design and employed 50 pre-clinical respondents randomly selected from 117 students to answer the surveyed questionnaire. The finding indicated that 36 (72%) out of 50 respondents chose lecture as the most preferred teaching and learning method. Five (10%) of the 50 respondents preferred tutorials and three (6%) of the 50 respondents preferred realistic, problem-based learning and early clinical exposure. Neither of the participants has selected Computer Assisted Learning (CAL) as their preferred form. Probably the learning guideline of CAL is not clear that makes the session the most un-preferred. In the pre-clinical phase, the majority of the student's preferred lecturer / teacher-centred learning practices to gain knowledge of medicine. This study used a small response rate of 50 SMEs operators and was limited in scope to Malaysia and programs offered by UNISZA. Evidence from this empirical study calls for further investigation on the preferred training methods for acquiring entrepreneurial skills training among women food vendors in Tanzania.

Al Maghraby, et al (2013) conducted a study on the learning style and teaching method preferences of Saudi students. The purpose of this study was to determine the learning styles and the preferred training approaches for Saudi Physical Therapy students. The study applied a cross-section study design. The study uses fifty-three Saudis practising physiotherapy (21 men and 32 women) to engage in study. The study results revealed that more than 45 (85%) of students rated "hands-on training" as one of the most preferred teaching methods. While approximately 30 (57%) students rated the following teaching methods as the most preferred methods: "Advanced organizers," "demonstrations," and "multimedia activities." 31 (59%) students rated concrete sequential learning as the most preferred style, these students illustrated mixed types with different style dimensions: abstract sequential, abstract random, and concrete random. The study concluded that the predominant concrete sequential learning style is consistent with the most preferred teaching method (hands-on training). The study recommended that educators consider the diverse learning styles of the students and utilize a variety of teaching methods to promote an optimal learning environment for the students. Since this study adopted a learning style and focused on preferred teaching methods of Saudi students, it is, therefore, useful to conduct a similar study focusing on women food vendors' preference of training methods for acquiring entrepreneurial skills required for the successful operation of a business in Tanzania.

A study by Aynalem et al (2015) on students' preference for the various teaching methods in tourism courses was conducted in Ethiopia. This study aimed to assess the student's preference for different teaching methods in the department of tourism management at the University of Madawalabu. Students and teachers have been subjects of research. Lottery random sampling technique used to select 23s from 1st, 2nd and 3rd-year students for survey questions. The study selected five teachers purposely for in-depth interviews including the team leader. Six formal lesson observations were conducted. The study used qualitative data to narrate, present thematically while quantitative data was analyzed using SPSS Version 20 for the calculation of descriptive statistical measures (frequency, percentage, mean and standard deviation), and the relationship between different variables analyzed using Pearson Correlation. The findings indicated that that field trip is preferred as the most interesting method of teaching for students to learn tourism courses followed by discussion, problem solving and brainstorming whereas the lecture method is labelled as least interesting. In

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this study, Aynalem et al did not ensure the validity and reliability of the data. The findings of such a study may therefore be unreliable. This cannot be the case in developing countries due to infrastructure and ICT policies binding mobile technologies usage in supporting SMEs operations and hence involves contextual issues in technology usage when crossing from different states of economies for business operations

Materials and Methods

This study aimed at determining women food vendors' preferences of entrepreneurial skills training methods for success in business operation in Ilala city. The study used a cross-sectional design to determine women food vendors' preferences of entrepreneurial skills training methods. The target population of the study was 242 women food vendors registered at the three markets of Kariakoo, Buguruni and Ferry in Ilala city. A simple random sampling technique was employed to select one hundred and fifty-one (151) women food vendors for the questionnaire. Purposive sampling technique was employed to select eight (8) entrepreneurship trainers and environmental health officers for interview.

The study employed mixed approaches involving both qualitative and quantitative. The choice of both qualitative and quantitative approaches was justified by Yin (2014) who suggested that multiple methods of data sources and theoretical schemes provide dependability and credibility in both qualitative and quantitative approaches. Besides, (Maimbo and Pervan, 2005) recommend the use of these approaches as a mechanism for increasing both the credibility and dependability of the research. Data collection was done using both interviews and questionnaires. Data from women food vendors using questionnaires were collected in three sessions. The researcher, who is an expert in the field of training methods, handed the questionnaires to women food vendors, and then immediately delivered an interactive detailed lecture of approximately 45 min, explaining all the training methods listed in the questionnaires, giving the same length of time and explanation for each item. Women Food vendors were given instructions on how to complete the questionnaires. To indicate training method preferences on the questionnaire, both closed and open-ended questionnaires were administered individually to women food vendors with multiple questions and in the form of a Likert scale. The most common using training methods were also identified using interviews with key informants.

The data obtained through the questionnaire were cleaned and missing data were removed, other data were coded, summarized and fed into the computer using the SPSS software for analysis. The analyzed data were presented in different forms such as tables, frequencies, and figures. Whereas data from interviews were coded into themes per the specific objectives of the study. Eventually, the findings were presented using excerpts or narratives.

Results and Discussions

Demographics of the respondents included gender, age, educational level, place of business, and experience in business, previous work-related training. The socio-demographics of respondents were analyzed quantitatively and were presented in a form of a frequency distribution table. Table 1. This indicates that the majority of respondents were women. This was evidenced by the fact that food vending businesses were largely dominated by women, who account for 80-90% of all vendors and were known as "Mama Lishe" or "Mama Ntilie" in Kiswahili (Raphael and Mrema, 2017; Marobhe and Sabai, 2016; Daudi, 2015; Maingwa, 2015; and Rugemalila, 2015). The majority of respondents were in the age of 20-39 years age group. The finding is similar to the study by Njaya (2014) in Zimbabwe who found that the majority of respondents 46% were in age between 21 and 30 years old. In the same vein, the study finding is similar to a study in Addis Ababa by Birhame (2015) report that the majority of respondents were between 30 and 39 years.

In this study, more than a half, 78.7% of respondents had primary school education. This finding is in agreement with a study in Namibia by Hamukoto (2016) who found that informal food vending is the main source of employment to people with low education while in Ghana Asiamah and Osei (2007) found that micro-enterprises are under the control of the people with less or no education. The study was found also that majority of women food vendors 76.7% had experience (0-5) years of running the food-vending business. This implies that women food vendors had significant experience in the food vending business.

Furthermore, the study found that majority of women food vendors (40%) were running their business at Kariakoo market, followed by buguruni market (33.3%) while at Ferrey market women food vendors were accounted (26.6%). Despite differences in the percentage of women food vendors operating in the three markets, both of the markets share common characteristics that are the presence of wider interaction among

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the people who visit the market for various services and the presence of chambers for women food vendors to run their business. Of the surveyed respondents, over 50% had undergone previous training work-related training and 50.6% of respondents had undergone more than 2 sessions.

Table 1: Socio-Demographic Characteristics of Respondents

Demographic	Characteristics	N	%
Gender	women	151	99%
	Men	8	100%
Age	20-39	98	65.40%
	40-59	47	31%
	>60	5	3.30%
Educational level	Never gone to school	8	5.30%
	Standard seven	118	78.70%
	Secondary education	17	11.30%
	Certificate	5	3.30%
	Diploma	2	1.30%
Place of business	Ferry market	60	40%
	Buguruni market	50	33.30%
	Kariakoo market	40	26.60%
Experience in Business	0 -5 years	115	76.70%
	6- 11 years	32	21.30%
	over 11 years	3	2.00%
Previous work related training	No	33	22%
	Yes	117	78%
Number of session attended	none	36	24%
	1	15	10%
	2	23	15.30%
	>2	76	50.60%

(Source: Survey Data, 2019)

Respondents Experience in Entrepreneurial Skills Training Methods

With regards to respondents experience with entrepreneurial skills training methods the results are indicated in table 2. The findings revealed that the majority (27.3%) have experience with both lecture methods and discussion methods, (22.7%) have to experience with learning by doing method, (20%) have experience with demonstration method and (2.7%) have experience with field trip method. The findings of this study reveal that respondents have experience with multiple types of training methods. Respondents' experience in short

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or long training may be an indication that they have experience with one or more than one training method. This finding is similar to a study conducted in the US by Carpenter (2006) who found the trainees-having experience on a blend of training delivery methods. The multiple types of training methods revealed in this study have at least some component of active learning/participation in combination with the traditional lecture. The study confirms the importance of including some level of discussion during the class, but also providing structure through an organized lecture.

Table 2: Respondents Experience on Entrepreneurial Skills Training Methods (N=150)

Training methods	Frequency	Percent
Field trip	4	2.7
Lecture methods	41	27.3
Demonstration method	30	20
Learn by doing	34	22.7
Discussion method	41	27.3
Total	150	100

Source: Field Data Survey, 2019

The quantitative finding above is supported by the interview findings conducted with key informants. During the interview, the key informants were confirmed that women food vendors have experience with several training methods from various work-related training participated. One entrepreneurship trainer had this to say:

"...I have been used both participatory and non-participatory methods in training entrepreneurs and observed that trainees have experience with multiple training methods from their past training background. I, therefore, confirm that entrepreneurs have experience with the multiple training methods..." (Trainer 1, October 2020)

Another entrepreneurship trainer added that the most known training methods that are common and experienced by entrepreneurs are lecture methods and discussion methods. These are the most commonly used training methods in various training sessions either in a seminar or in one on one coaching. The trainer had this to say:

"...my eight years' experience on training entrepreneurs, I observed that entrepreneurs have experience with discussion methods and lecture methods. On all training I conducted, the trainees have shown interest with lecture and discussion methods..." (Trainer 2, October 2020)

Training Methods Preference by Subject Matter of Entrepreneurial Skills

The study was interested to know respondent's preferences of training methods concerning the subject matter of entrepreneurial skills. First, the findings in figure 1 show that the majority (36%) of the respondents have chosen the lecture method as the preferred method for training business management skills while (30%) of respondents prefer the discussion method; (26%) of respondents prefer learning by doing and (6%) of respondents prefer demonstration method. This finding implies that women food vendors preferred the lecture method for learning and training businesses management skills. The findings of the current study correspond to the literature available on the topic. The study of Salwani et al (2014) found that 36 (72%) out of 50 respondents chose the lecture as the most preferred training and learning method. Furthermore, a study by Sarkar and Majumdar (2013) found the lecture method as the prime method of training. Although; lecture method was identified the highest preferred method for business management skills training among women food vendors but still considered the oldest method of training and learning in all types of training including entrepreneurship. Training of business management skills involves financial skills, marketing, record keeping skills, time management to mention a few.

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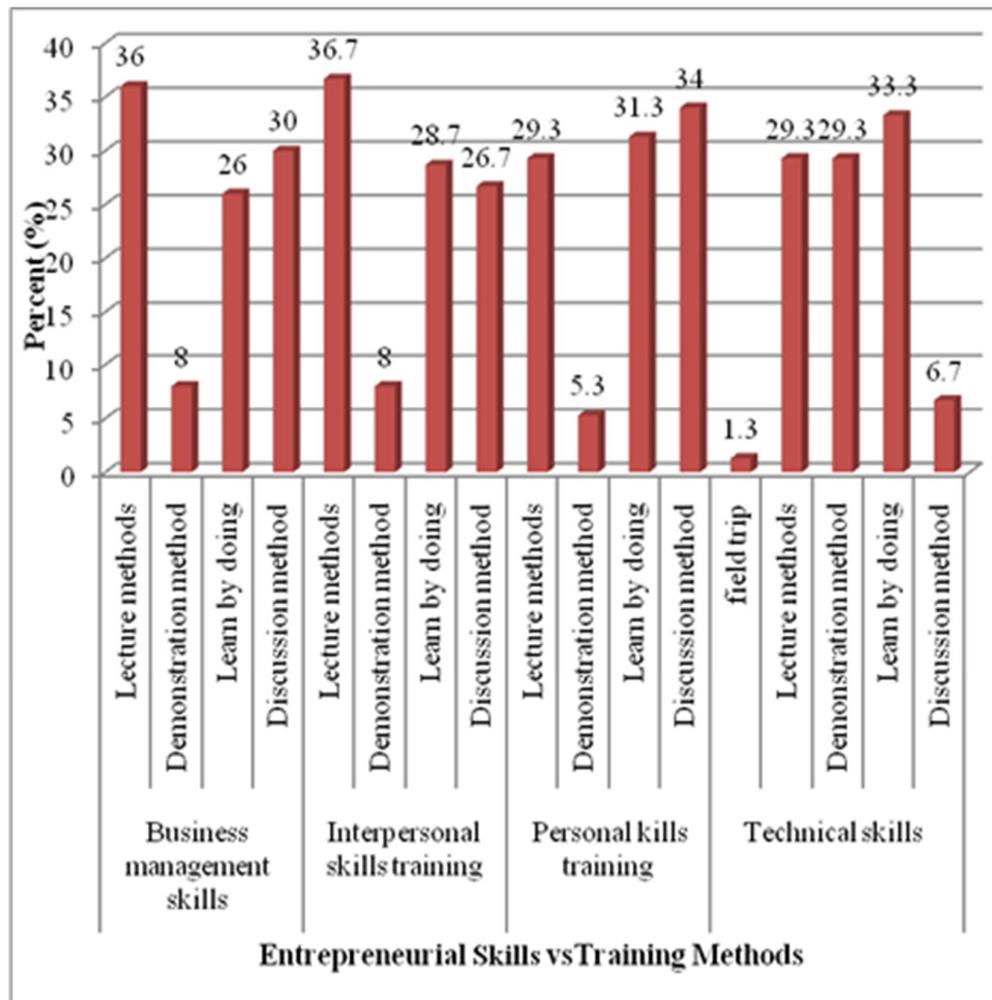
Second, the finding in figure 1 shows that the majority (36.7%) respondents have chosen the lecture method as the most preferred training method for interpersonal skills. This was followed by (28.7%) of respondents have chosen learning by doing as the most preferred learning methods of interpersonal skills, (26.7%) of respondents have chosen discussion methods as the most preferred method of interpersonal skills and (8%) of respondents had chosen demonstration method as a preferred method for training interpersonal skills. The findings of the current study produced the finding, which is dissimilar with study findings in the USA by Massachusetts Institute of Technology (2006) who found that training method of interpersonal entrepreneurial skills should involve training methods that are more interaction that is interpersonal over non-interactive methods. Besides, Phillpott (2018) highlighted that development of interpersonal skills are very important and can be effectively obtained in a work environment.

Third, the findings in figure 1 indicate that (34%) of respondents have chosen discussion method as a preferred training method for personal entrepreneurial skills, (31.3%) of respondents have chosen learning by doing as a preferred method of acquiring personal skills, (5.3%) of respondent have chosen demonstration method as a preferred training delivered method of personal entrepreneurial skills. The finding of this study reveals that the discussion method was rated high compared to other methods for training personal skills. The respondent's preference of the discussion method results from the richness of interaction with the methods.

Fourth, the findings in figure 1 show that a large proportion of respondents (34%) have chosen learning by doing as preferred learning method of technical skills, followed by (29.3%) of respondents had chosen demonstration as the most preferred training method of technical skills, while some (29.3%) were chosen lecture method as the most preferred training method of technical skills. The other most preferred training methods of technical skills chosen by respondents were; 6.3% discussion method; and 1.3% field report. The findings of this study are in line with (MIT, 2006) that respondents prefer learning by doing as an important training method for new skills, especially technical skills. The finding of this study reflects the theory by Kolb(2005) who describe that learning by doing is a situation where the trainees acquire training content through the action of performing the task. Learning comes by the way of the transformation of experience in this educational philosophy that is referred to as experiential. Additionally, Martin et al (2013) found that a greater number (62%) of training methods involve the learning modality of doing when compared with the learning modalities of seeing or hearing.

The finding of this study has a reflection on the social constructivism theory, which upholds that knowledge, and skills development because of social interaction and shared experience. Trainees construct their understanding and knowledge of the world through experiencing things and by reflecting on those experiences. According to Kelly, (2012) social constructivism could be applied in the classroom using such instructional methods as collaborative learning discussion, demonstration, learning by doing among others. Trainers employ instructional guidance using teaching methods that allow knowledge, discovery, and construction by trainees as they interact and work together in the learning process. The theory shifts the responsibilities of knowledge acquisition from the trainer to the trainees and transforms the trainees from passive listeners to active participants and co-constructor of knowledge among co-trainees.

Figure 1 Entrepreneurial Skills Training Methods Preference of Women Food Vendors (n=150)

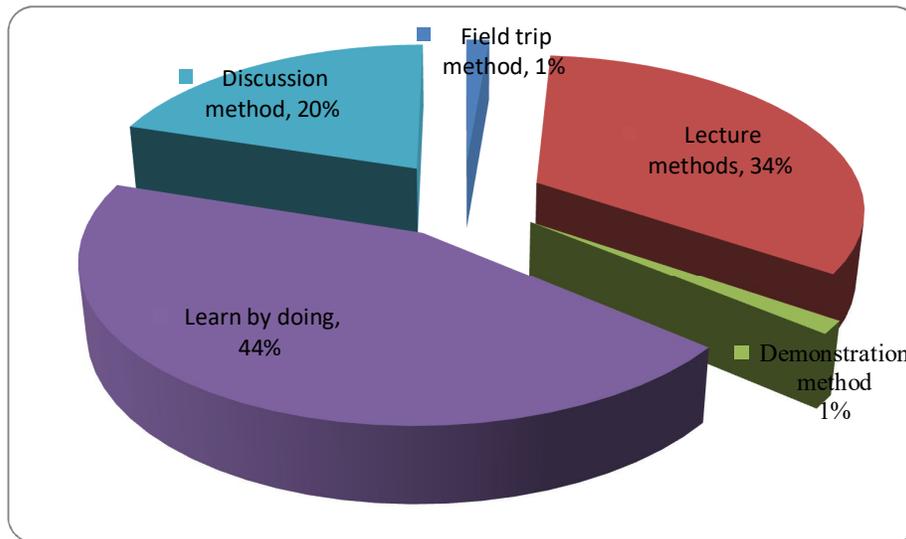


Source: Field Data Survey, 2019

Most Preferred Training Method of Entrepreneurial Skills Among Women Food Vendors

In this study, respondents were asked if they have to choose one training method, which would be most preferred for them in the acquisition of entrepreneurial skills, and why? The study findings in Figure 2 showed that the majority (44%) of respondents have chosen Learning by doing as the most preferred training method of entrepreneurial skills, followed by (34%) of respondents who have chosen lecture method, (20%) respondents have chosen discussion method and only (1%) of the respondent has chosen either demonstration or field trip. The findings indicate that learning by doing is the overall preference training method of entrepreneurial skills chosen over the other training methods. Though lecture, methods were rated as the most preferred training or learning method of business management skills and interpersonal skills (see figure 1), it was rated the second when respondents had to choose only one training method. Thus, it does appear that subject matter can affect participant experience or choice of the most preferred method. Thus, learning by doing is the most preferred training method of entrepreneurial skills among women food vendors. The methods involve the learning process of food and preparation dishes, record keeping, serving food and customer care. This study is in line with a study in India by Pilz et al, (2015) who found that Learning by doing is the main learning method for street food vendors.

Figure 4 the Most Preferred Training Methods of Entrepreneurial Skills among Women Food Vendors (n=150)



Source: Field Data Survey, 2019

The Relationship Between Successful Operation of A Business and Women Food Vendors Preferences of Training Methods

The present study conducted the correlation between the successful operations of a business and preferred training methods. The findings in table 3 indicate that the correlation coefficient -0.178 and - 0.115 shows there is a negative correlation between women food vendors' successful operation of a business and lecture method and demonstration method although this correlation is fairly weak. Hence, the more the women food vendors successful operate a business the lesser they prefer the lecture method and demonstration method. Most of the trainees centers training methods including discussion method, learning by doing method and field trip as the women food vendors' preference training methods for the successful operation of a business. The respective positive correlation coefficients of learning by doing (0.237), field trip (0.065) and discussion (0.146) indicate that there is a linear relationship between women food vendors' successful operation of a business and those training methods though weak (Table 3). The current study is similar to the available literature. The study by Olson (2000) found a few statistically significant but weak relationships between learning styles' scores and their teaching methods and instructional activities' factor scores.

Table 1: Results of Pearson’s correlation coefficient Between Successful Operation of a Business and Women food vendors Preferences of Training Methods

	Successful operation of a business	Demonstration training methods	Lecture training methods	Discussion training methods	Field trip training methods	Learning by doing methods
Successful operation of a business - Pearson Correlation	1.000	-.115	-.178	.146	.065	.237
Sig. (1-tailed)	.	.081	.015	.038	.215	.002
N	150	150	150	150	150	150
Demonstration training methods- Pearson	-.115	1.000	.070	-.221	.042	.099

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Correlation						
Sig. (1-tailed)	.081	.	.198	.003	.303	.115
N	150	150	150	150	150	150
Lecture training methods - Pearson Correlation	-.178	.070	1.000	.400	-.546	.040
Sig. (1-tailed)	.015	.198	.	.000	.000	.315
N	150	150	150	150	150	150
Discussion training methods -Pearson Correlation	.146	-.221	.400	1.000	-.422	.000
Sig. (1-tailed)	.038	.003	.000	.	.000	.496
N	150	150	150	150	150	150
Field trip training methods - Pearson Correlation	.065	.042	-.546	-.422	1.000	.147
Sig. (1-tailed)	.215	.303	.000	.000	.	.036
N	150	150	150	150	150	150
Learning by doing methods- Pearson Correlation	.237	.099	.040	.000	.147	1.000
Sig. (1-tailed)	.002	.115	.315	.496	.036	.
N	150	150	150	150	150	150

Source: Field Data Survey, 2019

Conclusion and Recommendations

The study was aimed to assess the preferred training method among women food vendors for the successful operation of a business. The results indicate that the most preferred training method among women food vendors is learning by doing. The findings of preferred training methods by subject matter indicated that women food vendors preferred learning by doing for acquiring technical skills, discussion method for acquiring personal skills, while lecture method was preferred for acquiring business management skills and interpersonal skills. Therefore, it is recommended that entrepreneurship trainers should apply a balanced variety of training methods to satisfy the different training preferences of trainees. Future research may include women, food vendors, from different parts of Tanzania and compare women food vendors from different parts of Ilala municipality.

Acknowledgement

The authors are grateful to those women food vendors who spent their valuable time participating in the current study. This study received no financial support from any resource. The author(s) declared no potential conflicts of interest to the research, authorship, and/or publication of this article.

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Factors Explaining the Effectiveness of Human Resource Information System in Tanzania Local Government Authorities

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Abstract

Evolution of technology has encouraged organizations to use Human Resources Information Systems (HRIS). This study was conducted in six regions of Tanzania Mainland namely; Mwanza, Arusha, Dodoma, Morogoro, Iringa, and Kagera and factors explaining HRIS effectiveness in Tanzanian LGAs were examined. Data that informed this study was obtained through questionnaire and interview methods. The questionnaire was administered to 201 human resources officers while interviews were conducted with 8 key informants. Ordered regression model was used to examine user influence and assess the association between technological and organizational characteristics on HRIS effectiveness; whereas content analysis was used to analyse qualitative data. In reference to user attributes, IT skills and employee commitment had the strongest influence on HRIS effectiveness (as measured in terms of timeliness, completeness and accuracy). Technological characteristics that had significant influence on HRIS effectiveness were usefulness, compatibility, complexity and reliability. Organizational characteristics with strong influence on HRIS effectiveness were IT infrastructure and organizational support rendered to employees. As implied by study findings therefore, regular employees skills training in IT, nurturing commitment of HRIS staff; encouraging experience-sharing, improvement of technological features, provision of sufficient employee support, and recruiting sufficient and qualified ICT personnel are central to the effectiveness of HRIS in Tanzania LGAs.

Keywords: User characteristics, Organization Characteristics, Technological Characteristics, Human Resources Information System and Effectiveness.

Introduction

The fast paced nature of globalization demands for swift and continuous incorporation of innovations if organizations are to acquire and sustain a competitive edge. As more organizations realize that continuous innovations are a major ingredient for success (Ishijima, 2015), most organizations are currently making a strategic move towards investing in Information and Communication Technology (ICT) and increasing its application in daily operations (Nagendra and Deshpande, 2014). IT use has globally revolutionized business approach as organizations improve their operations, goods and service delivery hence enjoying a competitive advantage (Al-Mobaideen, Allahawiah and Basoni, 2013).

Other than the imperative role IT operations play in organizations, human resources (HR) similarly play an important role and one that cannot be overemphasized. Skill-based economies around the world regard human resource as an integral part of organizational success (Kassim, Ramayah and Kurnia, 2012) perhaps explaining the ever evolving role of HRM from a more traditional to a strategic one (Nagendra and Deshpande, 2014). Since people and information significantly impact organizational performance, management of the two will no doubt have implications for organizational success (Wahab, 2011). With this understanding therefore, the application of ICT alone or the sole use of HR is unlikely to drive organizations to a competitive edge but rather; the simultaneous use of both (Akoyo and Muathe, 2017). Thus, the adoption of proper IT in organizations is key for success achievement. Fundamentally, IT is used to convert manual human resource operations to computerized operations that is; 'Human Resource Information Systems' (HRIS). HRIS merges HRM as a discipline and in particular it's basic HR activities and processes with the information and communication technology field (Kroenke, 2014). HRIS is referred to as the systematic computerized processing of human resource functions in an organization (Wahab, 2011) and its major functions are to acquire, store, manipulate, analyze, retrieve, and disseminate information regarding organizational human resources (Jahan, 2014).

The major functional components of HRIS are input, data maintenance and output (Kovach, Hughes, Fagan, Maggitti, 2002; Kroenke, 2014). Employee information is entered into the database through the input function and unlike the case in the past, where data entry was one way; modern technologies currently enable

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the scanning and storage of actual document images as the data maintenance function updates the database upon data entry. The generation of valuable output requires HRIS to process, calculate, and present output in a comprehensible manner. However, the efficient executions of these functions require proper management of 'human effort'. Thus HRIS is basically comprised of human effort, policies, data, computer hard and software (Kroenke, 2014). In a controversial view however, Singh, Jindal, and Samim, (2011) noted that the most important elements of HRIS are not the computers but rather, the information. This is because computers are just the recipient and yet output greatly depends on the input. Actually, what goes in the computer determines what comes out (garbage in garbage out). Therefore, the components of HRIS should support validity, reliability and utility of information.

More organizations are currently applying HRIS as it facilitates their HRM performance (Troshani, Jerram, and Hill, 2011), improves their administrative efficiency (Ahmer, 2013) orients them towards new strategic directions (Jahan, 2014) and generally improves organizational performance (Hien, Nguyen and Cuong, 2014; Opiyo, 2015). Moreover, HRIS also improves organizational efficiency in reference to service delivery and decision making through fast and accurate information retrieval (Kassim et al., 2012). In principle, HRIS seeks to improve information access, save cost, improve data accuracy, achieve higher processing speed, create more useful and sophisticated results and ultimately enhanced productivity through precision and timeliness of generated information (Ahmer, 2013; Akoyo and Muathe, 2017). The notion of HRIS is however novel in developing countries and at the very infancy stage of implementation (Slyvester, Bamidele and Oluyemi, 2015). Studies undertaken in developing countries concur that the main challenge of HRIS implementation is the efficient and effective integration of HR and IT operations as owed to several factors.

According to Sylvester, Bamidele and Oluyemi (2015), information-based decision making is yet to be integrated into organisations' culture in developing countries, as attributed to shortage of personnel, equipment and financial resources essential for information collection, analysis, dissemination and use. They however contend that the importance of information in managing organisations' human resources is undermined in these countries.

Inadequate employee data poses as an organisational detriment since information is a vital managerial ingredient (Wairimu and Karanja, 2016) and enhances growth and consequently leads to success (Opiyo, 2015; Akoyo and Muathe, 2017). The information system is imperative for the effective and efficient organisation, capable of keeping employees' information that includes their capabilities, recruitment, promotion, personal histories, talents, salary, retirement, leave, training and their accomplishments (Ahmer, 2013; Nagendra and Deshpande, 2014).

Prior to the introduction of computerized Human Resource Information Systems in Tanzania, both central and Local Government Authorities use paper-based records (Ishijima et al., 2015) that were characterised by slower retrieval speed and inaccurate outputs. By the late 1980s, the paper-based system was one of the factors attributed to the public sector's poor performance, as characterised by fraud in the public payroll (ghost workers) and unqualified government civil servants (Jorojick, 2015). In response to the prevailing challenges therefore, the government introduced the computerized human resource information system, which was also in support of the Government Public Service Reform Program (PSRP) of 1991, with the overall objective of maintaining a smaller, affordable, well compensated, efficient and effective civil service. The installation of HRIS started with the MDAs.

Due to marked inefficiencies in the LGAs such as poor employee performance, poor planning for employees both present and future, high turnover rates, corruption and payroll fraud, LGAs installed HRIS (Fjeldstad et al, 2008; URT, 2013, Poncian, 2014). The purpose was to store employee's information and simplify decision making processes, with the hope of improving employee performance and derive a long lasting solution to prevailing problems. In order effect HRIS implementation, data cleaning was undertaken to enhance HR data accuracy and integrity. The exercise was conducted for each employee, using data collection forms to obtain employees' number, position, salary, and terms of service, date of employment and promotion, and personnel information, birthdates, citizenship, marital status, education and disabilities. These forms served as the main data source for the interim database, which was intended to provide a reliable information base for employment control and wage bill.

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In order to improve human resources data management, HRIS has undergone major usage transformations from a desktop platform to a web enabled platform that is; 'LAWSON VERSION 9' (Kassam, 2013). Several challenges were observed during the period when the desktop platform was used and these included; delay of employee's promotions, salary increments and unpaid leaves (URT, 2010), inefficient recruitment and overestimated wage bill (Lameck, 2015), obliging the government to introduce a web-based network (Lawson version9). According to Daniel (2015), the Lawson version 9 provided prompt accurate data that guided administrators' decisions regarding human resources. Lawson V9 has since been installed in 184 LGAs, every council and is managed by HR officers in the HR department. Although LGAs upgraded HRIS to the web enabled Lawson Version 9 however, challenges persist.

Many regions in Tanzania still encounter challenges of delays in employees' promotions, salary increments and unpaid leaves (URT, 2010), inefficient recruitment and overestimated wage bill (Lameck, 2015). Other challenges in LGAs are poor career planning for employees, corruption (Fjeldstad et al, 2008; URT, 2013) and payroll fraud (Poncian, 2014). These challenges depict that HRIS in LGAs is yet to be exploited to its maximum potential, and LGAs are yet to reap from its supposed benefits. Critical questions often raised regarding the poor performance of HRIS in the LGAs are: Why does Lawson v.9 underperform in LGAs? Is Lawson V 9 a proper technology for the intended effectiveness in LGAs? Are the predicaments attributed to employee incompetence or poor policies? The current study sought to answer these questions by examining factors explaining the effectiveness of Human Resources Information System in the LGAs.

Theoretical Framework

The theoretical underpinning of this study is coined around the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Integrated Management Competence Models (IMCM) to explain the effectiveness of HRIS in LGAs. The relevance of UTAUT theory to the study is based on the fact that it enshrines the proper process of adopting and implementing technology and in this the HRIS in LGAs for; completeness, accuracy and up-to-date HR information. UTAUT provided the basis for singling out variables for measuring the influence of organizational characteristics and technological characteristics on HRIS effectiveness in Tanzanian LGAs. In the current study, the indicators of performance expectancy included; usefulness, and outcome expectation, while use/complexity was the sole indicator for effort expectancy. Furthermore, facilitating conditions included; IT infrastructure, management support, compatibility and reliability of information technology. The UTAUT moderating variables include: experience, age, and voluntariness of use and their influence on the effectiveness of HRIS use. However, a major weakness in UTAUT is that the model does not provide user characteristics variables which influence HRIS effectiveness in LGAs thus, it was necessary to adopt the Integrated Management Competence Model (IMCM) in the current study.

The Integrated Management Competence Model is an explanatory tool that identifies the knowledge, skills, abilities, traits, and behaviour needed to enable the effective performance of tasks embedded in a particular job (Lucia and Lepsinger, 1999). For this model to be considered useful therefore, competencies must comply with an individual's job activities (Lindner, 2001; Vathanophas and Thaingam, 2007). The IMCM is relevant to the current study as it allows the researcher to formulate user' characteristics variables (skills, knowledge, experience, commitment and education, qualification) which influence the adoption and proper implementation of HRIS in LGAs. The objective of HRIS was to improve the maintenance of employees' information for decision-making purposes although this yet to be attained. Accordingly, IMCM applies to the current study as the model can be employed in identifying the influence of user' characteristics on HRIS effectiveness in the provision of complete, accurate and up-to-date employee information.

Methodology

The study was conducted in six regions of Tanzania Mainland namely Mwanza, Arusha, Dodoma, Morogoro, Iringa, and Kagera. Sampled regions represent the prevalence of ghost workers in varying degrees as reported in Civil Servants' Auditing Report of 2016 (URT, 2016). Regions were selected through stratification and were based on the number of ghost workers reported. Three strata were created; high (> 150 ghost workers), moderate (< 150 but > 50 ghost workers), and low (< 50 ghost workers). Regions in each stratum were first assigned a unique number for identification and in each stratum two regions were

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randomly selected for further assessment of the influence of users' characteristics on HRIS effectiveness. In each stratum, the 'random' function in the MS excel was used to randomly pick two regions. According to the Civil Servants' Auditing Report, Mwanza had 334 and Arusha had 270 ghost workers (workers (URT-Mwanza, 2016; URT- Arusha, 2016) and thus represented the 5 regions with the highest number of ghost workers. Dodoma had 139 and Morogoro had 122 ghost workers (URT-Dodoma, 2016; URT-Morogoro, 2016), hence representing the 9 regions with moderate numbers of ghost workers. Iringa had 15 and Kagera had 14 ghost workers (URT-Iringa, 2016; URT-Kagera, 2016), therefore representing the 9 regions with the lowest number of ghost workers. In addition to the ghost workers, the audit discovered 9,932 civil servants with fake certificates (Materu, 2017; Iaccino, 2017) and particularly revealed that, more than 1500 fake academic credentials were in use while 11,500 civil servants had incomplete records (Akwei, 2017; Iaccino, 2017). Among the 9,932 public servants with fake certificates, 87.76 percent (8716) were from LGAs in selected Regions and 12.24 percent (1216) were from the central government (Iaccino, 2017).

Fieldwork for this study was conducted in two sequential distinct phases of quantitative and qualitative data collection. The first phase commenced with quantitative data collection and analysis of numerical data relevant to research questions. The second phase was then conducted mainly for qualitative data collection. Quantitative data were collected through a structured questionnaire supplied to and filled by Human Resources Officers (HROs). HROs are well informed and possess valuable knowledge on the application and effectiveness of the HRIS in LGAs as they use HRIS on a daily basis, thus justifying their participation and as such, the sampling frame for the study comprised of all HROs in selected regions amounting to 249 HROs. The suitable sample size was 213 HROs and was computed as per Robert and Morgan's (1970) recommended formula. Although the researcher could only recruit 201 respondents, the sample size was sufficient (Elamir and Sadeq, 2010; Mohammad, Torabi and Dogani 2015; Basbas, Tetou and Politis, 2013).

All district councils (i.e. Local Government Authorities – LGAs) in selected regions participated in the study. Proportional sampling (Equation 1) was used to obtain the adequate number of HROs to be recruited per district council. In each district, the random function in the MS excel was used to obtain HROs who participated in the questionnaire survey. Responses to questions posed to respondents were recorded against specific questions on the questionnaires. The researcher employed two research assistants to facilitate the data collection process, and the recruitment criterion was based on their familiarity with ICT and HR practices. This was intended to not only simplify the training process but also to ensure accurate data collection. The training centred on HR practices, enumerators' roles, questionnaire administration, data recording, data collection methods, and adherence to research codes of conduct and ethics.

$$S_d = \left(\frac{HRO_d}{HRO_T} \right) \times G_s \quad \text{Equation 1}$$

Where:

S_d = sample per district (i.e. number HROs sampled per district/LGAs)

HRO_d = number of HROs available in the district that used to prepare sampling frame

HRO_T = total number of HROs in all sampled regions (i.e. all LGAs in sampled regions) = 249 HROs

G_s = General sample size obtained using a developed by Robert and Morgan, (1970) = 213 HROs

Qualitative data were collected through in-depth interviews with key informants that were selected on the basis of their HRIS knowledge and included HROs (approvers) and Directors of Human Capital Division. A total of six (6) HROs "approvers" and two (2) Directors of Human Capital Division were approached and interviewed. To supplement primary data, secondary data were collected by reviewing and analysing relevant documents such as ICT policies, HRIS reports accessed from government authorities on; recruitment and promotion procedures, ghost workers, and counterfeit certificate reports.

Data collected through structured questionnaires were summarized, coded and entered into the IBM - Statistical Package for Social Sciences (SPSS) computer programme version 21.0 for analysis. Respondents' preliminary information was analysed using descriptive statistics; frequency and cross tabulation. To examine influence of user, technology and organizational characteristics on HRIS effectiveness, the study employed the ordered logistic regression model. As depicted hereunder;

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Where:

Y = HRIS effectiveness in LGAs (ordered to be measured by Five Point Likert Scale of timeliness of information, Completeness of information and Accuracy of information).

β_0 = Constant term

$\beta_{ij} - \beta_{nj}$ = Explanatory indicators (coefficient estimates) of predictor 'i' to 'n' in setting j

X_{ij} – X_{ij} = Predictor 'i' to 'n' of Y in setting j in this study, predictors are user, technological and organization characteristics

ε = Normally Distributed Error Term

The dependent variables were categorically measured through a five point Likert scale and responses were ranked as 1= Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree; 5= Strongly Agree. User characteristics, Technological characteristics and organizational characteristics were recorded as either numerical (discrete and continuous) or categorical variables. The modelling procedure included checking the multicollinearity of user, technology and organization characteristics. Multicollinearity exists whenever an independent variable is highly correlated with one or more independent variables; in this case the cut point was for $r = 0.9$ and above as recommended by Pallant, (2005). The results of the correlation matrix (which is not presented here due to space limitations) show that the maximum $r = 0.401$, thus all variables were included in the modelling procedure. Qualitative data were subjected to content analysis, a process which helps to reduce the volume of recorded information or communication to a set of categories that represent some characteristics of a research. Content analysis was done to establish links in information and to explain the situation in the field regarding HRIS effectiveness in improving employees' information in selected LGAs.

Results

User characteristics and HRIS Effectiveness

In reference to the influence of user characteristics on HRIS Effectiveness, out of the 5 independent variables (user characteristics), at least one for each dependent variable had a negative β -value implying that they negatively influence the effectiveness of HRIS while four of the 5 factors for each dependent variable had positive influences. The factors with negative for each dependent variable were education level (timeliness), HR knowledge (completeness and accuracy), and education level for accuracy. As further revealed on Table 1 and in reference to information timeliness, IT skills ($\beta = 0.452$, $p = 0.002$) and employee commitment ($\beta = 0.889$, $p < 0.001$) (Table 5.16) had a statistically significant influence on HRIS effectiveness. In reference to completeness, only employee commitment ($\beta = 0.464$, $p = 0.031$) and experience ($\beta = 0.46$, $p = 0.006$) were statistically significant. For accuracy, only one user characteristics: IT skills ($\beta = .329$, $p = 0.023$) was statistically significant as depicted on table 1.

The importance of IT skills, commitment, and experience in influencing the effectiveness of HRIS was also reported by other scholars. Regarding IT skills, Njau (2018) reports that lack of IT expertise hinders system usage in Mwanza Municipality as only 43.3% of the system is currently utilized. Thus, adequate IT skills is a prerequisite for the effective use of the system in LGAs.

The above findings are consistent with responses from an HRO in UTUMISHI, who was asked about the challenges that approvers face while working with LGA HROs and had this to say:

One of the challenges that baffle me is the rate of computer illiteracy among human resources officers; some of them cannot even attach documents in PDF format. Similarly, other officers are ignorant about system policies and it is not uncommon to find a number of them using outdated systems.

Another HRO from Kyerwa observes that:

I get very demoralized when I load information into the system and feedback shows that data is perfectly loaded but cannot be processed because it is yet to be approved by other officers in the central ministry. Some issues are very urgent and require immediate response but that doesn't always happen, I have to wait.

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This is a noteworthy challenge in HRIS use.

These findings suggest that poor record management previously recorded in Mwanza and Arusha regions, was attributed to the limited ICT skills among employees. It is important to note that ICT skills play a crucial role in HRIS usage. Thus HROs with adequate ICT skills are expected to be more competent in using the system than their unskilled counterparts. These findings are in line with Njau (2017) who reports that lack of IT expertise hinders system usage in Mwanza.

Regarding HROs experience, study findings are in line with the UTAUT theory assumption that experience impacts mediating usage constructs such as; usage intention and behavior (Venkatesh, Morris, Davis and Davis, 2003). In this case, experience in using HRIS impacts three constructs namely; effort expectancy, social influence and facilitating conditions. The interaction between experience and the three constructs was observed as follows: experience eases the use of HRIS (effort expectancy), a situation that influences the user to perceive HRIS use as imperative in an organization (social influence/factors) thus encouraging an organization's investment in the system to ensure availability of required infrastructure.

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Table 1: Parameter Estimates for User Characteristics

Timeliness	Attributes	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval		
							Lower Bound	Upper Bound	
Threshold	[TIMELINESS = 1.00]	0.074	1.87	0.002	1	0.968	-3.59	3.739	
	[TIMELINESS = 2.00]	3.535	1.6	4.88	1	0.027	0.399	6.67	
	[TIMELINESS = 3.00]	6.237	1.644	14.393	1	<0.001	3.015	9.459	
	[TIMELINESS = 4.00]	8.837	1.706	26.839	1	<0.001	5.494	12.18	
	Location	q5.1_IT skill	0.452	0.145	9.705	1	0.002	0.167	0.736
Location	q5.2_HR knowledge	0.32	0.206	2.414	1	0.120	-0.084	0.724	
	q5.3_commitment	0.889	0.234	14.43	1	<0.001	0.43	1.348	
	q5.4_experience	0.234	0.175	1.801	1	0.180	-0.108	0.577	
	q5.5_education level	-0.098	0.338	0.084	1	0.772	-0.761	0.565	
	Completeness	Threshold	[COMPLETENESS = 1.00]	0.41	1.532	0.072	1	0.789	-2.593
		[COMPLETENESS = 2.00]	3.373	1.513	4.973	1	0.026	0.409	6.338
		[COMPLETENESS = 3.00]	4.486	1.527	8.625	1	0.003	1.492	7.479
		[COMPLETENESS = 4.00]	6.431	1.561	16.973	1	<0.001	3.371	9.49
Location	q5.1_IT skill	0.231	0.135	2.934	1	0.087	-0.033	0.494	
	q5.2_HR knowledge	-0.027	0.194	0.02	1	0.888	-0.407	0.353	
	q5.3_commitment	0.464	0.215	4.673	1	0.031	0.043	0.885	

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		q5.4_experience	0.46	0.168	7.488	1	0.006	0.131	0.789
		q5.5_education level	0.159	0.32	0.246	1	0.620	-0.469	0.786
Accuracy	Threshold	[ACCURACY = 1.00]	-4.667	1.869	6.234	1	.013	-8.331	-1.003
		[ACCURACY = 2.00]	-.593	1.589	.139	1	.709	-3.708	2.523
		[ACCURACY = 3.00]	2.041	1.597	1.633	1	.201	-1.090	5.172
		[ACCURACY = 4.00]	4.678	1.668	7.862	1	.005	1.408	7.947
Location		q5.1_IT skill	.329	.144	5.183	1	.023	.046	.612
		q5.2_HR knowledge	-.052	.206	.065	1	.799	-.456	.351
		q5.3_commitment	.033	.226	.021	1	.884	-.409	.475
		q5.4_experience	.274	.176	2.417	1	.120	-.072	.620
		q5.5_education level	-.162	.340	.227	1	.634	-.829	.505

Source: **field** **data** **(2019)**

Technological Characteristics and HRIS Effectiveness

Table 2 presents parameter estimates which establish the level and direction of influence of each independent variable and whether such influence is statistically significant. Direction can either be positive or negative as indicated by (-) sign one none in β coefficient in column labeled estimates. A positive sign associated with a β coefficient shows that a particular technological characteristic increases the logit of the dependent variable. Out of the 12 independent variables for the three models, eight were statistically significant and positively influenced HRIS effectiveness in LGAs (see Table 2).

Study findings revealed that the level of influence differs among technological characteristics, which were statistically significant and as indicated by the magnitude of β coefficients and level of significant (p value). The most influential variables in descending order for every element of effectiveness are as follows: for usefulness - completeness ($\beta = 1.158, <0.001$), and compatibility ($\beta = 0.458, p = 0.009$); for timeliness - complexity ($\beta = 0.791, <0.001$), compatibility ($\beta = 0.571, p = 0.002$), and reliability ($\beta = 0.451, p = 0.017$); and for accuracy - complexity ($\beta = 0.6, p = 0.007$), reliability ($\beta = 0.523, p = 0.008$), and usefulness ($\beta = 0.803, p = 0.001$). Findings therefore depict that technological characteristics have the strongest influence on HRIS effectiveness, as similarly revealed by several other scholars (e.g. (Ahmer, 2013; Hien et al., 2014; and Al-Mobaideen et al., 2013).

Regarding technological characteristics, one district HRO from Arumeru had the following views:

“...some templates are yet to be activated for use by the department, important background employee information like place of domicile cannot be added to the system to datethe system is also occasionally malfunctioned and might not respond or reveal whether data entered is accepted (saved) or rejected, technical errors are however inevitable. This is an obstacle to the efficient utilization of the system”.

Another HRO from Chemba shared that:

...inappropriate use of the system can be detrimental, considering that HROs have full access to the entire employment information of the council. If HROs are not well vetted and committed to work, they can simply misuse their power and cause significant problems to both the organization and employees.

Recognizing the influence of technological characteristics, the Director of Human Capital division said that the government plans to purchase a new system that meets current needs and as quoted:

We are expecting to adopt a new system next year and the reason is twofold. Firstly, we purchased a system that was not suitable for us so the government through its system specialists is devising means of implementing a system that best suits us. Since we adopted a new system that captured a lot of unnecessary information, this time we are well prepared to store relevant information on especially employees whose information is insufficient compared to new employees who found the system in place.

“Secondly, the current system is outdated since it lacks modern modules. The new system will certainly meet the requirements of the government”.

These findings imply that technological characteristics have the strongest influence on HRIS effectiveness. Similar findings are reported by several other scholars (e.g Ahmed, 2013; Hien et al., 2014; Qteishat, 2014 and Al- Mobaideen et al. 2013).

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Table 2 Parameter estimates for technological characteristics

Attributes			Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval			
								Lower Bound	Upper Bound		
Timeliness	Threshold	[TIMELINESS = 1.00]	1.033	1.289	0.641	1	0.423	-1.495	3.56		
		[TIMELINESS = 2.00]	4.704	1.004	21.965	1	<0.001	2.737	6.671		
		[TIMELINESS = 3.00]	7.362	1.077	46.699	1	<0.001	5.25	9.473		
		[TIMELINESS = 4.00]	9.977	1.177	71.808	1	<0.001	7.669	12.284		
	Location	Compatibility	0.571	0.183	9.776	1	0.002	0.213	0.93		
		Complexity	0.791	0.212	13.878	1	<0.001	0.375	1.207		
		Reliability	0.451	0.189	5.722	1	0.017	0.081	0.821		
		Usefulness	0.187	0.213	0.771	1	0.380	-0.23	0.604		
		Completeness	Threshold	[COMPLETENESS = 1.00]	2.616	0.963	7.387	1	0.007	0.73	4.503
				[COMPLETENESS = 2.00]	5.965	1.021	34.153	1	<0.001	3.964	7.965
[COMPLETENESS = 3.00]	7.165			1.051	46.435	1	<0.001	5.104	9.225		
[COMPLETENESS = 4.00]	9.273			1.119	68.675	1	<0.001	7.08	11.466		
Location	Compatibility		0.458	0.175	6.877	1	0.009	0.116	0.801		
	Complexity		0.306	0.201	2.324	1	0.127	-0.088	0.7		
	Reliability		-0.157	0.18	0.762	1	0.383	-0.509	0.195		
	Usefulness		1.158	0.224	26.641	1	<0.001	0.719	1.598		

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Accuracy	Threshold	[ACCURACY = 1.00]	1.431	1.326	1.164	1	0.281	-1.168	4.029
		[ACCURACY = 2.00]	6.244	1.107	31.82	1	<0.001	4.075	8.414
		[ACCURACY = 3.00]	9.343	1.22	58.682	1	<0.001	6.952	11.733
		[ACCURACY = 4.00]	12.186	1.358	80.481	1	<0.001	9.524	14.848
Location	Compatibility	0.241	0.187	1.672	1	0.196	-0.124	0.607	
		Complexity	0.6	0.222	7.284	1	0.007	0.164	1.036
		Reliability	0.523	0.197	7.018	1	0.008	0.136	0.909
		Usefulness	0.803	0.231	12.072	1	0.001	0.35	1.256

Source: Field data (2019)

The influence of organizational characteristics on HRIS effectiveness

As depicted on table 3 below, data entered into the model adequately fitted the model and at least one of the predictors is significantly related to the response variable. Table 3 also presents SPSS output for parameter estimates and further presents variables in the equation, their direction and magnitude of influence on dependent variables. It gives the coefficients (β), their standard errors, the Wald test and associated p-values (Sig.), and the 95% confidence interval of coefficients.

Table 3 further portrays the relationship between explanatory variables and the outcome. As portrayed, our major focus is on the second part where there are location coefficients and results show that the regression coefficients (β values) are either positive or negative. Positive sign associated with a β coefficient shows that a particular variable increases the logit of the dependent variable and vice versa. Out of all independent variables (organizational characteristics), four had negative β -values implying that they negatively influence effectiveness of HRIS in LGAs. These include Support to HR, and No. of IT specialists (in timeliness), and IT infrastructure and Support to HR (in completeness).

Furthermore, Table 3 presents the level of influence of each independent variable and whether such influence is statistically significant. Out of the 12 independent variables for all three models (four independent variables for each dependent variable), only three; one for each were statistically significant influence HRIS effectiveness in LGAs. These include IT infrastructure (in timeliness and accuracy), and HRIS support that employees receive from the employer - support to HR (completeness).

One HRO interviewee in Ngorongoro shared that;

...unstable power supply is a major detriment..... poor internet connectivity is another challenge because the capacity of the internet bundle we use is much smaller than required.... the first and last HRIS training was in 2012 and yet new functions are frequently introduced to the system. Had it not been for the personal efforts we have made to learn from neighbouring councils, we would have been unable to effectively operate the system. All this is attributed to the limited support rendered by top management.

These findings imply that organizational characteristics influence HRIS effectiveness in terms of completeness, accuracy and timeliness of information, as supported by Suhail (2007) who recommends that successful computer operation requires stable power supply and adequate equipment to shield the computer hardware from electricity related damages. Hussain, Wallace and Cornelius (2007) affirm that effective HRIS operation requires skill, IT infrastructures and managerial support in terms of training. Moreover, Matimbwa and Masue (2019) found that effective HRIS operation, particularly the management of employee's records requires skilled users, commitment, and adequate motivation. Programs that update personnel's knowledge on the proper and efficient use of HCMIS should be in place. There should also be motivational practices to enable personnel avoid bias, laziness, nepotism and favoritism in handling employees' records.

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Table 3: Parameter estimates for organizational characteristics

			Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Timeliness	Threshold	[TIMELINESS = 1.00]	-4.988	1.328	14.116	1	0	-7.591	-2.386
		[TIMELINESS = 2.00]	-1.644	0.896	3.371	1	0.066	-3.399	0.111
		[TIMELINESS = 3.00]	0.701	0.884	0.627	1	0.428	-1.033	2.434
		[TIMELINESS = 4.00]	3.008	0.919	10.722	1	0.001	1.208	4.809
	Location	IT infrastructure	0.317	0.156	4.143	1	0.042	0.012	0.623
		Support to HR	-0.273	0.172	2.513	1	0.113	-0.61	0.065
		No. of IT specialists	-0.073	0.171	0.185	1	0.668	-0.408	0.261
	No. of HR specialists	0.09	0.091	0.982	1	0.322	-0.088	0.267	
Completeness	Threshold	[COMPLETENESS = 1.00]	-5.254	0.976	28.982	1	<0.001	-7.167	-3.341
		[COMPLETENESS = 2.00]	-2.268	0.877	6.68	1	0.010	-3.988	-0.548
		[COMPLETENESS = 3.00]	-1.106	0.866	1.63	1	0.202	-2.803	0.592
		[COMPLETENESS = 4.00]	0.906	0.883	1.053	1	0.305	-0.824	2.636
	Location	IT infrastructure	-0.051	0.151	0.114	1	0.735	-0.347	0.245
		Support to HR	0.751	0.176	18.194	1	<0.001	-1.096	-0.406
		No. of IT specialists	0.109	0.167	0.424	1	0.515	-0.218	0.435
	No. of HR specialists	0.069	0.088	0.608	1	0.435	-0.104	0.242	

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Accuracy	Threshold	[ACCURACY = 1.00]	-3.107	1.331	5.449	1	0.020	-5.717	-0.498
		[ACCURACY = 2.00]	0.958	0.908	1.113	1	0.291	-0.822	2.738
		[ACCURACY = 3.00]	3.607	0.948	14.492	1	<0.001	1.75	5.465
		[ACCURACY = 4.00]	6.284	1.076	34.085	1	<0.001	4.175	8.394
Location		IT infrastructure	0.363	0.162	5.03	1	0.025	0.046	0.679
		Support to HR	0.144	0.176	0.665	1	0.415	-0.202	0.489
		No. of IT specialists	0.024	0.176	0.019	1	0.891	-0.321	0.369
		No. of HR specialists	0.129	0.094	1.888	1	0.169	-0.055	0.313

Source: field data (2019)

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Conclusion and Implication

In conclusion, technological characteristics have the strongest influence on HRIS effectiveness, followed by user characteristics. Organizational factors pose as a major challenge in LGAs and most particularly, limited managerial support in terms of training for HROs, recruitment of sufficient Human resources officers and IT experts to support HRO's system operation.

The implication of findings is that frequent skills training of IT employees, nurturing HRIS staff commitment; encouraging experience-sharing, enhancement of technological features, provision of sufficient support to employees, and adequate recruitment of qualified ICT personnel are central to HRIS efficiency.

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Assessment of Mobile Phones Usage in Accessing Tomato Farming Information: A Case of Kilolo District, Iringa Region

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Abstract

Technological change and adoptability is a fundamental fluctuation from one stage to another. Usually any change should be delineated and differentiated from the previous situation as compared to the present situation. The study on hand has differentiated technology variation in cultivation specifically on tomato production in comparison to previous and the present eras. The major focus was on the application of mobile phones in transmission and payment modalities of information between tomato farming stakeholders to speed up the process. The conclusion of the study was based on the data gathered through questionnaires from three hundred eighty four (384) tomato cultivators in Kilolo District. It was observed that, despite of many people having mobile phones of different nature, they mostly use them to share common information and contributes very minimal on farming practices. The reality is that despite of many people having mobile phones of different nature, they mostly use to share common information but the mobiles contribute very minimal on farming practices. Therefore, the study on hand has identified such weaknesses and suggested best practices of using mobile phones to tomato stakeholders in both information transmission and payment systems. The use of mobile phones in tomato cultivation practices helped dynamically in spreading information and payments related to agriculture, eventually resulted into good quality and quantity of tomato output.

Key Words: Mobile phones, Technology, Tomato farming & Information

Background of Tomatoes Production

The application of mobile phone technology in the crop farming value chain (from the earliest to the final stage of tomatoes growing) enables both small - scale farmers (SSFs) and large scale farmers (LSFs) to access farming information that supports optimal decision - making and increases crop productivity. The optimal decision may be on acquiring land/farm, farm preparation, the preferred tomatoes seeds to be planted, size of the farm, and so many related issues regard to crop production. The farming information includes access to artificial manure, market, loaning financial institutions, transport facilities and weather information. The positive outcome on the application of mobile phones at transmitting information rapidly to both SSFs and LSFs lead to increased production which improve food security and maximum reduction of poverty in African countries which mostly depend on agriculture as a major economic activity. Number of studies describe that the application of mobile phones technology is vital to farmers and supports to the maximum on the crop production (De Silva & Ratnadiwakara, 2010; Shimamoto et al., 2015; Arinloye et al., 2015; Misaki, Apiola, Gaiani, and Tedre 2018).

Mungera and Karfakis (2013) describe SSFs as people who own between 0.1 and 10 hectares of land while LSFs possess more than 10 hectares per individual and mostly they have an average of more than 15 hectares per each large scale farmer and Small - scale farmers commonly have access to less than 2 hectares of land (NEPAD, 2013; Vanlauwe et al., 2014).

Krone et al., (2016), Mbatia et al. (2013) & McNamara(2009) described that, despite of having very large land for tomatoes cultivation for both SSFs and LSFs information related to the activities it is very important to be circulated to them so that can stand informed for what they intend to do as far as agriculture is concerned. The easiest way to spread all these information is through mobile phone, and is well accommodated to most of the aspects of tomatoes production including cultivation seasons and market information.

In Tanzania and Zambia, 75% of the total population derives their livelihoods from agriculture (Kalinda, Filson, & Shute, 2010; Misaki, Apiola, & Gaiani, 2016). Hence, an innovation that increases agricultural productivity cannot be ignored as it improves the livelihood of most farmers. Studies that address challenges facing SSFs and LSFs may be pivotal in reversing a decline in food production and deserve attention (Kalinda et al., 2010). One of the many difficulties SSFs and LSFs face are getting reliable

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farming information, thus leading to poor and weak decision – making during farming phases (Misaki, Apiola, & Gaiani, 2015). This is one of the reasons that have prompted technology innovators to design mobile phone technology solutions to improve the quality and quantity of information flow. The application of mobile phone technology has, in some studies, been shown to be beneficial to SSFs and LSFs (Aleke, Ojiako, & Wainwright, 2010; Chisita, 2010; Sanga, Mussa, Tumbo, Muhiche, & Haug, 2014).

TCRA 2019; asserts that, mobile phones lead for information transfer, and statistics shows about 99.2% of Subscription Market Share (Zantel – 1% Halotel – 9%, Tigo – 31%, TTCL – 1%, Vodacom – 35%, Airtel 22% and Smart – 0.2%) of Tanzania have mobile phones reflecting that, most of the information can reach to the end user as quick as possible. Not only information, but also money transfer through such networks is also growing with very high speed and reached 96% Mobile Money Subscriptions Market Share (Halotel Money 4%, M-pesa 35%, Airtel Money 26%, Tigo Pesa 30% and Ezy pesa 1%). Since mobile phones play vital role in spread of information and money, then the study on hand has conducted a Systematic Literature Review to explore the application of mobile phones in linking tomato farmers and respective markets in Kilolo District – Iringa Region.

Despite of being informed by researchers like Mahant, Shukla, Dixit, & Patel (2012); Nsimbila, Larsen, & Kimeme (2014) Saidu, Clarkson, Adamu; Mohammed, & Jibo, (2017) & Saidu et al. (2017) that mobile phones help to spread information but do not address the link between the tomato growers and tomato markets.

Since access to information and an effective and efficient use of the data obtained can improve SSFs' and LSFs' chances to gain competitive advantage in the farming business, the study has conduct a Systematic Literature Review (SLR) on mobile phone technology usage in tomatoes farming projects in Iringa region specifically Kilolo District which is giant in tomatoes production of all districts of the region so as to identify obstacles and recommend appropriate future solutions.

Literature Review

The revolutions in crop production, especially Tomato started with the mechanical revolution that began with the plow, planter, reaper, and the shift from horsepower to tractor power. The mechanical revolution started after the turn of the 20th century with the replacement of the horse with modern tractors. Meanwhile, due to the advancement of technology, the mechanical approach has been revolutionized by the new availability of computers, software, and satellites which together form, Information Communication Technology (ICT) (Mahant, Shukla, Dixit, & Patel, 2012). This technology enables what is frequently referred to as Precision Agriculture (PA). The precision agriculture technology enables advances from a data-poor to a data-rich environment. Formerly, in mechanical era yields were measured by fields; while with the advance in ICT it is possible to measure yield continuously. With the avail of the Internet services, the farmers' business practices are affected in a similar fashion as it does other types of business (Saidu, Clarkson, Adamu, Mohammed, & Jibo, 2017).

In many successful countries in the world that produces the tomato in great quantity and quality like India, China and USA migrated from mechanical revolution to Precision Agriculture, which possesses the huge potential of ICT to produce, process, store, retrieve and disseminate information like yielding production, market facilitation and financial intermediation services to different stakeholders in the agriculture industry (Mahant, Shukla, Dixit, & Patel, 2012).

Southern and Eastern Africa is the largest organic tomato production region in Africa. The following Southern and Eastern African countries produce organic tomato: South Africa, Tanzania, Uganda and Zambia. In the past Uganda has regularly been the largest producer of organic tomato fiber in Africa. This position is now occupied by Tanzania due to the many political issues (including the anti-malarial policy) that is currently affecting the organic sector in Uganda. Organic tomato production is currently being trialed in Kenya and efforts are underway to regenerate interest in organic tomato in Zimbabwe (Products Exchange, 2010).

Tanzania is an East Africa Country which yields tomato as a cash crop for export and internal activities to generate household and national income. The production process of tomato is the major source of

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household income which relatively employs about 500,000 rural households. More than 90% of tomato is produced in Tanzania are from Iringa, Morogoro, Tanga, Kilimanjaro, Mbeya, Kilinjaru, and Arusha regions (Baffes, 2012). The tomato is produced primarily by smallholders on farms of 0.5 to 10 hectares with an average of 1.5 hectares with a yield of about 750kg of seed tomato per hectare (Nsimbila, Larsen, & Kimeme, 2014). Traditionally, the type of agriculture conducted in Most regions of Tanzania are predominantly rain-fed, with the majority of smallholder farmers using hand hoes and animal tracking for tillage, has low-yielding production, lacks access to critical information, market facilitation, and financial intermediation services (Mwangulumba & Kalidushi, 2012).

The moderate quantity of tomato produced in Tanzania particularly in highland zones is not associated with rapid delivery of information as a link between tomato farmers and markets. Information regarding tomato farming practice is not easily accessed by the tomato growers, which is the reason of not producing the right quality and quantity at a proper time. Thus, the study has suggested the way forward in solving this problem to tomato growers, and the market by making them freely interacting and disseminating information instantly through mobile phones as they are requested.

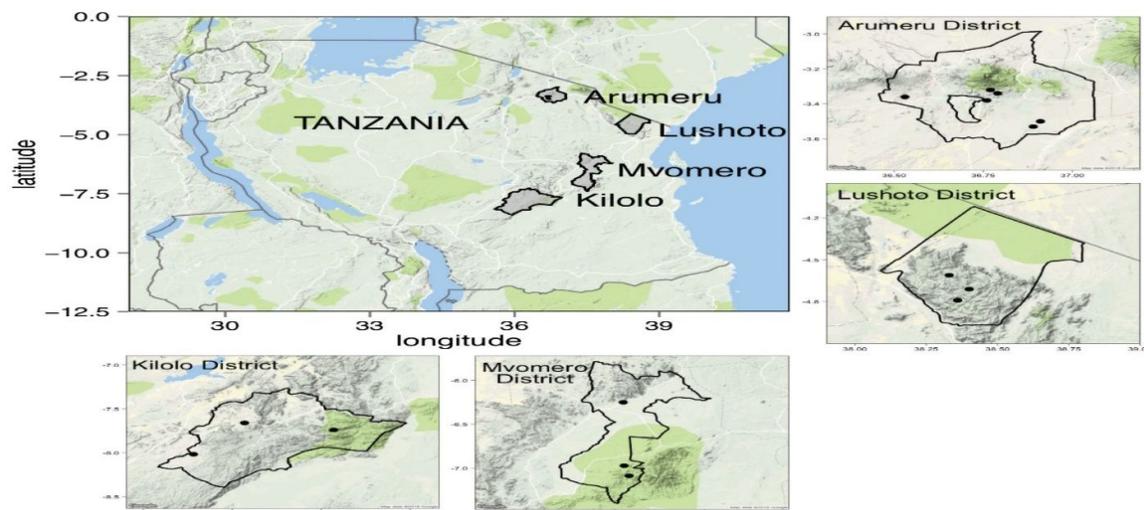
Other Related Works

Saidu et al. (2017) explained that, 'e-Kapas' an initiative of utilization of information and communication technologies (ICTs) for delivering appropriate tomato technologies to farmers aiming to improve the efficiency of current manual system by saving time, money and making technologies available anywhere & anytime to users using mobile phones and to connect tomato growers for profitable and sustainable tomato farming in India. Meaning that, all information regarding to tomato faming demands can easily be accessed by using mobile phones at the earliest stage. Therefore, in relation to that, the study on hand will focus at looking on only one aspect which is how the mobile phones contribute on the transmission of information relating to tomato seeds.

Omri, Trish, Liezl, & Kamal (2012) clarified the 'DrumNet', a project of Pride Africa; offers support services to smallholder farmers in Kenya by providing access to information, financial services, and markets. DrumNet works to address the need for access to markets using information technology, efficient business processes, and economies of scale. It combines information, commodity transaction services, and financial linkages into a single business service model that provides access to markets, market information, and credit for the rural poor to support sustainable agriculture and rural development.

Mahant et al. (2012) clarified the role of mobile technology in the Groupe Spéciale Mobile Association GSMA's 'mAgriProgramme', which aims to identify and fund opportunities for mobile communications in the agricultural value chain as an initiative to alleviate food security related problems.

In Tanzania, tomatoes are mostly cultivated in regions like: Iringa, Mbeya, Morogoro, Tanga, Kilimanjaro and Arusha as indicated in the map below; however the markets of the products is not limited to the regions rather the markets are in all regions of Tanzania because of its demand



Source: https://bioone.org/ContentImages/Journals/flen/101/4/024.101.0417/graphic/f01_573.jpg

Statement of the Problem

Misaki, Apiola, Gaiani, and Tedre (2018), Mbatia et al. (2013) & Mwangulumba & Kalidushi, (2012) emphasized that, mobile phones have great impact at spreading information from one point to another, either by using short messages (SMS) or through the use of social media such as *WhatsApp, Facebook, Instagram, IMO*, the few to mention where the information may be bad or good. The studies have tried to point some areas that mobile phones are useful at spreading agricultural information such as access to artificial manure, market, weather (temperature and rainfall), and financial institutions. However, on crops' information transmission particularly on seeds awareness to farmers by agents/dealers is common to maize, pineapples, and tomatoes simply by dialing *150*43# which is the most common Unstructured Supplementary Service Data (USSD) for the registered members to the mobile network providers. Therefore, studies have not covered on how tomato seeds information can be accessed by tomato farmers through mobile phones. The Systematic Literature Review (SLR) explored about the knowledge of tomato farmers towards accessing information thorough mobile phones and provided critical recommendation for succession. The study filled the gap of knowledge of information transmission and on time delivery of tomato seeds to the tomato farmers which required close interaction between tomato seeds agents or dealers and tomato farmers so as to speed up the farming process which is the solution to both tomato farmers and tomato seeds agents/dealers within a lake zone.

Study Rationale

The rationale of this study is seen in the outcome by supporting the knowledge on how tomato farmers can easily access information related to tomato seeds which can help to facilitating best tomato farming practice as the solution to both tomato farmers and tomato seeds dealers.

The study has emphasized on creation of a strong link of information to all stakeholders of tomato production, market facilitation, and accessibility of the financial intermediation services within the agricultural industry.

In additional to that, the study has transformed Tanzania tomato smallholder farmers to adopt the precision agriculture technology that enriches tomato stakeholders with precise information and cost effective approach about best farming practices by improving the income which relatively employing about 500,000 rural households (Nsimbila, , Larsen, & Kimeme, 2014).

Furthermore, it is perceived that this study has enhanced the tomato statistical data by; providing accurate data/information, data acquisition and processing, storage, filtering and dissemination for the respective user/stakeholder as per needs.

The General Objective

The general objective of the study is to investigate how mobile phones can improve access to raw tomatoes to the markets in Kilolo, Iringa.

The Specific Objectives

- i. To identify the crucial tomato farming information to farmers
- ii. To assess how the tomato farmers and middlemen interacts each other through mobile phones when transacting tomato in the markets.
- iii. To measure the potentials of mobile phones in strengthening information flow and mobile money transaction between tomato farmers and tomato markets in Kilolo

Methodology

The study approach and design

This study operated within the quantitative and qualitative research design. The cross-sectional data was collected from the selected sample using structured questionnaires for the survey. However, qualitative data were collected to get the inner perspective of the farmers with regards to how mobile phones usage is improving access to raw tomatoes to market, determining crucial tomato farming information to tomato farmers, how tomato farmers interact with middlemen through phones, and the potential of mobile phone

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in strengthening information flow to tomato farmers, and the usefulness of mobile money transaction between tomato farmers and tomato markets for each identified marketing channel of tomatoes.

The Study Area

Kilolo district in Iringa region was our study area. Kilolo district is among the four Local Authorities forming Iringa Region. The district extends between Latitude 7.0° and 8.3° south of the equator and between Longitude 34° and 37° east of the Greenwich. The district is divided into 3 divisions, 24 Wards, 106 Villages. Kilolo District has a total population of 218,130 inhabitants of whom 105,856 are male and 112,274 are female (Census, August 2012).

Kilolo has been selected because it is estimated to have 60,000 farmers involved in tomato production in Iringa. According to the 2008 national sample census of agriculture, Kilolo District had the largest planted area of tomatoes (51% of the total area planted with tomatoes) and accounted for more than 60% of tomato in Tanzania is produced in Iringa (URT, 2012).

According to regional agricultural statistics Kilolo District is the best district in Iringa Region for farming tomato product and provides employment and income opportunities in tomato sub-sector in Ilula. (A map of the study area, Ilula emerging urban centre Published in 2017).

Sampling Procedure

A multi-stage cluster sampling method was used to select a sample of farmers. Sampling procedure was done in three stages. Kilolo district was purposely selected because is the potential agricultural area for tomato crops. Kilolo district was further divided into wards and Ilula ward was selected from the sample because is the ward that provides employment and income opportunities in tomato sub-sector in Kilolo district, Tanzania (A map of the study area, Ilula emerging urban center Published in 2017) and it has trading center for tomatoes.

Kilolo District in Iringa set to offer a ready market for farmers around the area that is famous for tomato farming because there is a factory built at Ilula ward in Ikokoto Village, set to offer a ready market for farmers around the area that is famous for tomato farming in Kilolo district

Ilula ward was then divided in villages/streets. The streets of Ilula Ward are Itunda, Igunga, Madizini, Masukanzi and Ikokoto. Villages were random selected from the list Ikokoti was then selected by the fact that the village is producing the best quality of tomatoes and the target population was small scale tomato farmers and a list of middlemen who defines the distribution channel of tomato crop from Ikokoti village located in Ilula ward, Kilolo District. The list of tomato farmers and middlemen were then drawn with the help of local administration and local agricultural extension officers.

Sample Size (SS)

The necessary sample size was derived from the formulae presented by (Kothari, 2007)

$$SS = \frac{Z^2 \cdot \sigma(1 - \sigma)}{e^2}$$

$$SS = \frac{1.96^2 \times 0.5(1-0.5)}{0.05^2} = 384$$

$$n = SS / [1 + \{(SS - 1) / N\}]$$

Where:

n - Is the sample size

N - Is the population size

Z - Is the Z-score and for the purpose of this study was 1.96 in order to have a 95% confidence level.

σ - Is the Standard of Deviation and to be safe the decision is to use 0.5 as this ensures that the sample is large enough.

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e - Is the margin of error and for the purpose of this study one construed to give a confidence interval of +/- 5%

Mathematically from the above formulae the study envisaged that a sample size of 384 respondents is needed to be representative of the population.

Methods of Data Collection and Study Tools

This study used primary data because the interest of the study is to assess the contribution of mobile phones at speeding up the rate of information delivery of tomatoes to all stakeholders. For example, manures can easily be accessed through mobile phones *150*53# for YARA TANZANIA, where the study has suggested to be the same even for tomato production (Chacha & Nziku, 2020). Primary data involved the collection of data from respondents by the use of a questionnaire, focus group discussion, interview guide and the information from respective tomato bodies. The use of the questionnaire was justified because it is an effective way of collecting information from a large literate sample in a short period of time and at a reduced cost than other methods.

Additionally, questionnaires facilitate easier coding and analysis of data collected (Resnik, 2011). The questionnaires were important tool in assessing whether the model is effective in facilitating best farming tomato practices. Focus group discussion and interviews were engaged to collect information which was not readily available from the prepared data collection tools.

The communication process through mobile phones in farming process has enabled tomato farmers to ask and receive tomato farming information easily which resulted to the increased tomato productivity and the welfare of all tomato farmers. The process become softer due to vital information gathered from tomato farmers in solving the problem of information delay as demanded by tomato growers.

Data Analysis Methods

The researchers applied both qualitative and quantitative methods of data analysis in order to provide the reliable results or findings to the study. Data collected through questionnaire especially closed ended questions were analyzed using Statistical Package for Social Sciences (SPSS) version 23.0. Descriptive analysis in the form of percentages and univariate measures such as mean were used to analyze the data and were presented in form of tables. The data collected through personal interview and documentary review was analyzed using content analysis.

Ethical Considerations

Ethical considerations form a major element in research. Ethical research principals: honesty, objectivity, integrity, carefulness, openness, respect for intellectual property, confidentiality, competence and legality are important to follow(Resnik, 2011). Thus, the study carried out considering a range of ethical principles such as Obligations to Subjects (avoiding undue intrusion, obtaining and adjusting informed consent, protecting the interests of subjects, enabling participation, maintaining confidentiality of records, preventing disclosure of identities). Obligations to Colleagues (maintaining confidence in research, exposing and reviewing their methods and findings, ensuring safety and minimizing risk of harm to field researchers and referencing texts that belong to other authors in APA style.

Results and Discussion

The findings were based on the commonalities between the needful information by both tomato growers and dealers or agents of tomato products. The important issue in this aspect is to measure the speed of information delivery and the product with the aid of mobile phone. Moreover is to assess on the interaction between tomato agents and the growers. Finally is to measure the potentiality of mobile phone it strengthening tomato farming process.

Results

The systematic literature review has tried to explore the tomato productivity in southern highlands zone particularly Iringa region and the target location being Kilolo district – Ilula division, from the year 2008/2009 to 2018/2019 indicating the production trend in tones from Kilolo District. However the Tomato Board report does not overstate anything how mobile phones had been potential at transferring

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information related to tomato rising practices. Hereunder is the needful information by the tomato dealers (tomato farmers and agents) percentagewise as rated by the respondents;

Table 1: Tomato output information

S/N	Needful information	Scores in percentage (%)
1	Information about availability of tomato outputs	52
2	Information about types of tomato species and outputs	43
3	Information about price per kilogram or bucket	71
4	Information about time frame to reach tomato growers	16
5	Information about cultivation seasons	32

Table 2: Mode of payments on tomato transactions

S/N	Needful information	Scores in percentage (%)
1	Payment through bank account	8
2	Payment through credit cards	0.1
3	Payment through M-pesa	89
4	Payment through Tigo pesa	62
5	Payment through Airtel Money	59
6	Payment through Hallopesa	0.1

Discussion of Findings as per Study Objectives

Both systematic literature review and random sampling reflected that the application of mobile phone in tomato farming is there however is not more active for early delivery of some farming vital information. Information provided in Table 1 and 2 rated in percentage tries to provide an overview about the application of mobile phone in speeding up the tomato agronomy process. The information is categorized into two important aspects which are general tomato outputs and mode of payment information which are the most important in strengthening quality tomato agribusiness practices. Table 3 tried to identify the possible losses and challenges associated with transportation issues because of the remoteness of the tomato producing areas forming Kilolo districts particularly villages of Ilula division.

Tomato Output Information Delivery:

i. Information about availability of tomato as an output

The cultivation of quality tomatoes in a well-controlled environment, usually results into good yields during harvesting period. This information reaches tomato stakeholders for an average of 52%, which is very low speed depending on the potentiality of the information. Therefore there is a need to stimulate the spread of such information up to about 90% - 99% so as to increase sales of tomatoes and increase of production of quality raw tomato and its products at an appropriate time.

ii. Information about types of tomato species and outputs

Familiarization of tomato species and outputs is very important because farmers sometimes they cultivate basing on the nature of the environment (climatic condition) therefore could be in need of specific species. Despite of these information to be readily available, but mobile phone usage at spreading such information is not sufficient and constitute about 43% which should be increased to manageable level so as to sophisticate the process.

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iii. Information about price per kilogram or bucket

Price per kilogram or bucket is very important to be cognizant by the tomato growers at appropriate time and can help farmers to budget appropriately. A reasonable average of 71% of reach ability of information through mobile phones to the customers about the pricing models of tomatoes helped to make decision at right time.

iv. Information about time frame to reach the tomato growers

Distance from urban and other cities of which the tomato markets are available to the rural areas where farmers are positioned matters a lot because help to determine the time frame at which when demanded can arrive to the markets at right time however both tomato dealers they value less for about 16% indicating that the practice is not significant. It is suggested to be given more priority so as to estimate the ordering and delivery time.

v. Information about cultivation seasons

32% of the respondents agreed that, mobile phones rarely help to share some information promptly about the cultivation seasons, however some of them they are less concerned with it, and rather they watch on the moderate rainy seasons and listen to the weather forecasting agents for cultivation strategy implementation.

Mode of Payments:

i. Payment through bank account

Banks are very scattered, commonly are located in towns and some famous areas basically a place with specific economic activities like mining, large industry like that of Dangote in Mtwara – Mikindani. Therefore, banks are not sufficient system for completing payments because farmers basically are situated in rural areas. Therefore this kind of payment modality does not favor majority as rated very low for about 8% of total respondents and this is due the presences of National Microfinance Bank (NMB) at Ilula central town.

ii. Payment through credit cards

Credit cards are not popular to most of Tanzanians up to the year 2020. Credit cards are commonly used by foreigners especially tourists who come to visit Tanzania National Parks where they do not accept cash payments rather through credit cards or directly payment through their respective bank account. Only 0.1% of total respondents are able to use credit cards, that is to say the payment modality for tomato farmers is not common and is totally disparaged instead they need to use payment system which is user friend to most of tomato growers.

iii. Payment through M-pesa

M-Pesa is one of the most commonly payment modality which is rated by good number of respondents for 89%, that is to say is the most preferred by the good number of tomato dealers around Kilolo District. The underlying assumption on this aspect is that Vodacom has more customers around Iringa Region as compared to other networks.

iv. Payment through Tigo - pesa

62% of the respondents have been paying and still suggesting the payments to be made through Tigo - pesa

v. Payment through Airtel Money

59% of the respondents have been paying and still suggesting the payments to be made through *Airtel Money*.

vi. Payment through Hallo pesa

0.1% of the respondents have been paying and still suggesting the payments to be made through Hallo – pesa. However this is not popular because the mobile network is very new in the market since is introduced in Tanzania late 2016 therefore has very few customers and yet not adopted to use Hallo – pesa in tomato transactions.

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Table 3: Key tomato transport challenges to the farmers due to communication breakdown

S/N	Challenging information	Scores in percentage (%)
1	Low tomato poke due to the shortage of transport after road cut	18
2	Loss of income due to post harvest loss	19
3	Incurred added cost by transferring tomato from collection points to where transport is available	33
4	High transport cost due to bad weather condition	35

The reality on tomatoes growing activities takes place in rural areas due to favorable weather condition, fertility of the soil, moderate rainfall, availability of both organic and inorganic manures, and technical advice from agricultural extension officer inline to the strong government support as per the made policies. During rainy seasons sometimes local roads are cut off and restrict connection between tomato outputs and customers thus making the products to be scarce in the market. This problem cause major transport challenges to the tomato growers such as; High transport cost due to bad weather condition, Incurred added cost by transferring tomato from collection points to where transport is available, loss of income due to post harvest loss and Low tomato poke due to the shortage of transport after road cut ranging from highest to lowest respectively as rated by tomato stakeholders.

Recommendations:

Mobile phones are superior in transferring information from one point to another in recent years as compared to the previous years where we had only internet and mails. The power of information spread through mobile phones is an outcome of introduction of smartphones and is termed as universal due to the fact have covered all the areas of communication like, internet and ordinary messages. Moreover mobile phones have facilitated rapid flow of information in different forms like audio, video, still photos, and others at right time. Mobile phone has helped much on strengthening the link between tomato markets and farmers on delivery of related information such as harvesting time information and payment modalities on time.

The interaction between tomato farmers and markets is not significant, and therefore it should be increased up to more than 90% to make all the necessary information readily available to all respective categories.

Each payment modality is sufficient depending to the user of the mobile network, however a credit card are not popular to tomato stakeholders and therefore through observation is suggested to be ignored and adopt to bank and mobile payments because they are secured, easy to transact, easy to realize payments, and services are abundant. Therefore through findings' analysis it is suggested that information related to tomato seeds should be strongly stimulated so as to be readily available to both sides for more than 90% and the payment modalities should be adopted any one for which is sufficient to every individual using the selected method and should be sufficient for not less than 98% to avoid unnecessary setbacks.

Conclusion

In recent years, most of Tanzanians are good users of mobile phones particular smart phones. However most of them are using for normal communication and rarely for agricultural information transmission. In Iringa Region they have additional issues in communication which is receiving and transmitting information related to tomato farming and in any other business categories. The study's focus is on contribution of mobile phones in transmission of information to and fro between tomato farmers and agents or businessmen in the market which has been in average; therefore this study has suggested to activate the flow of information so as significantly can increase production of quality tomato and its related outputs. The study has observed that, there is insufficient utilization of mobile phones particularly for farming; therefore it supposed to be utilized vigorously so as to make tomato farming practices more better and raise the productivity for more than 95%.

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E-Readiness of Library Services' Providers and Users towards Digital Library Services in Academic Institutions Tanzania

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Abstract

The purpose of this study is to investigate the degree of e-readiness of library service providers (librarians) and users towards digital library (DL) services in academic institutions in Tanzania. This study argues the concept of e-readiness in academic institutions during transforming from traditional libraries to digital libraries in Tanzania. The study examined the e-readiness levels of library service providers and users concerning digital library services' provision and usage. The investigation was performed through a thorough survey which was conducted at the College of Business Education (CBE) Dar es Salaam campus and the Muhimbili University of Health and Allied Science (MUHAS) through questionnaires and interview schedules as methods of collecting data. SPSS software was used for data analysis. The study revealed that most of the academic libraries have DL service providers and users who have limited knowledge of digital library services provision and usage. Thus, the readiness for digital library services provision for librarians was still low, and library users lacked enough knowledge about digital library services. In terms of the practical implications, the study seeks to promote academic inquiry about the need for innovative traditional library services, information literacy, and the adoption of these digital library services in Africa's academic libraries in higher learning institutions. The study provides empirical findings on the use of digital library services in academic libraries, specifically in the Tanzanian context. The study provides a basis for further research on the use of digital library (DL) services.

Key words: E-Readiness, Library Services, Providers And Users, Digital Library Services, Tanzania

Introduction

Libraries are established to meet the information needs of society; therefore, they play a vital role in educational and societal development by providing relevant and useful information to the people. Previously most services were provided manually in different sectors in world, but nowadays most sectors are focusing on digital services provision and usage (Bukht, 2017). Educational sector is among the sectors centering to provide digital services. In that sense, the library services are among of educational sector that focused to be provided in digital way (Sharif, Lodhi, Siddique, & Munir, 2021). This is because currently, the means of making information has increased as well as materials carrying this information are more readily available. The goal of any digital library is that the information it comprises remains accessible to users over a long time (Masenya & Ngulube, 2020). The traditional library cannot allow users to remain with the information carrier like books, journals, or CD-RMOs for a long time. Users are given a time limit to borrow and use the book and return back to the library. Failure to return the book, the borrowers are penalized for book(s) overdue. In addition, Traditional libraries are mostly based on printed information whereas Digitization libraries are based on electronic information. Digital information resources currently offer greater opportunities that information resources accessibility are faster than consulting printed ones whereby searches are straightforward when desiring to use combinations of keywords and Online Public Access Catalogue (OPAC) (Nwabueze, 2014). Digital libraries allow information materials to be stored in a computer system that can be accessed anytime anywhere by users; while traditional libraries store information materials on printed paper that can be organized manually and users can only access physically.

Exactly, digital technologies should be regarded as instructional tools for improving access as it provides educational opportunities by strengthening library resources to be easily accessible. The Internet has provided universal access to Information and Communications Technology (ICT) and transformed Library and Information services worldwide (Lakshmikant Mishra & Jyoti Mishra, 2014). The researchers from Iran identified and prioritized the main dimensions based on the concept of electronic readiness (e-readiness) in university libraries, whereby they stated that the proportions of network programs and

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services, human resources, electronic infrastructures, and enablers of the networked world had the standard relevance to e-library correspondingly (Keshavarz & Noorafrooz, 2020). Through the researchers' experiences of current academic libraries based on digital library services provision in Tanzania, mostly were not successful to provide intended services whereby librarians are not more skillful on digital library services provision, so trainings are needed (Isibika, Zhu, De Smet, & Musabila, 2021). Therefore, electronic readiness, skills, and knowledge on ICT devices usage for services providers and users are very crucial. Thus, more empirical-oriented work is needed to expand knowledge of librarians' and library users on current status, challenges, and plans on digital library services (Alam, 2012).

Library Services in Tanzania

Libraries in developing countries started in the 1970s. However, historical background of libraries development in Tanzania dates back to 1975 when Tanzania Library Services (TLS) was established. TLS has the authority over documentation services, training of librarians, public library services provision, and literacy campaigns and its promotion of indigenous literature. The distinguished types of Libraries under this establishment were divided into four distinct categories namely public, academic, school, and special libraries.

Over years in Tanzania, there have been Traditional Libraries that provided information via printed resources, but in recent years there is a transformation from Traditional libraries to Digital Libraries. According to the background of eGovernment in Tanzania as a country, there has been e-readiness to use electronic services since on 2008 (Komba & Ngulube, 2015). The Tanzanian Government's efforts to the ICT usage, e-government adoption has been quite slow that may be caused by different challenges such as unstable electric power, low literacy level among potential users, limited technical expertise to support and maintain ICT infrastructure, poor telecommunication, and lack of computers (Komba & Ngulube, 2015). According to Ebiwolate (2018), institutions now spend over 50 percent of their budget on electronic resources. According to Vaca(2018), successful implementation of e-library necessitates an understanding of the device availability and technology literacy of the user. The relationship between educational, information materials accessibility, instructional delivery, and ICT usage should be considered in more compound terms.

In Tanzania libraries such as Academic, Public, Special, and School libraries are in the transformation phase towards digital libraries from the traditional library. This is to implement the processes of e-transformation organizations that are the key drivers for creating e-government services (Lupilya & Jung, 2015). Apart from e-Government services initiatives, even library services are not sitting back on implementing electronic services. Currently printed materials like books, newspapers and periodicals are being dragged off to repositories, technology-rich learning commons are expanding to take over traditional libraries and the growth of the digital library has been a paradigm shift, to say the least. Thus, Libraries in Tanzania most of them as information centers are in process of transforming their services to digital services so that provide quality, accurate, reliable, and relevant information by the support of successful information systems to satisfy users via online services provided (Komba & Ngulube, 2015, Li, Hao, & Ding, 2019, and Zha, Wang, Yan, Zhang, & Zha, 2015). The library services are changed daily from printed books to e-books, printed journals to e-journals, manual catalogue to e-catalogue (OPAC), manual books circulation to digital book circulation mention a few, whereas those services are done to meet their user's needs (Masenya & Ngulube, 2020). Therefore, digital library implementation currently is inevitable according to the higher levels of information seekers in libraries. Samzugui (2015) stated that digital library *"Increasing the efficiency and effectiveness in managing, providing improved library information services, to manage daily library activities and services, especially in the areas of acquisitions, cataloguing, circulation and security"*. For that matter, Libraries require sufficient expert staff who are skilled in electronic records management and digital preservation to support all of the infrastructure and necessary key processes to improve efficiency, accuracy, and quality information (Masenya & Ngulube, 2020).

Nevertheless, there was no clear documentation that showed what e-readiness in academic libraries in Tanzania that librarians and library users required towards digital library implementation despite notable development on ICT infrastructure in Tanzania. The experience of current libraries based on digital services provision indicates that libraries have little success in providing the intended services. Furthermore, library service providers appeared incompetent in ICT device usage and knowledgeable in

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the provision of e-resource services, as well as students were still unable to access information stored in e-library resources (Muneja, 2014; and Ridwan, 2016). Although library users are encouraged to use digital libraries, and service providers are inspired to provide good digital library services, there is a need to understand the e-readiness required of them in order to be competent in service provision and usage. This study focused on assessing the readiness required of library services providers and library users towards digital library implementation. The study was based on ICT knowledge, skills, and expertise library service providers needed; ICT officers on DL training attended, users' skills and awareness given, ICT devices for services provision availability, software and applications usage in academic libraries.

Furthermore, libraries are critical to the success of any information seeker engaged in research, teaching, learning, academic administration, and resource support in any university library (Makori, 2015). This research paper focused on the "E-readiness assessment of selected institutions to determine how DL service providers and DL users are prepared for the provision and usage of Digital Library services. The findings are intended to add value to the government, targeted institutions, other educational institutions, and stakeholders such as information seekers, students, lecturers, and policymakers, to promote their e-readiness level towards advancing their information base through digital libraries.

Literature Review

E-readiness is defined as a country's, region's, or entity's (such as a corporation) readiness to use information and communication technology to maintain welfare and progress. Moreover, e-readiness is characterized as constant access to and application of ICTs in schools, government offices, businesses, healthcare facilities, and residences, as well as community high-speed Internet connection. User privacy and online security are also covered, as well as government initiatives that encourage network connectivity and use. (Mutula, 2015). Not only that but also other scholars discussed that, e-readiness refers to a country's capacity and state of preparedness to participate in the electronic world. The state of maturity is commonly measured by the country's information and communications technology (ICT) infrastructure and the ability of its government and citizens to use the positive impacts of ICT for sustainable development. Other authors noted that Technology readiness (TR) refers to people's tendency to hold and use new technologies for achieving goals in home life and at work (Lai, 2017).

Digitization means a conversion of data and processes while digitalization is a transformation of services from manual model to digital model. "*Digitization refers to the process of translating a piece of information such as book, sound recording, picture or video into bits*" whereas digitalization fundamentally transformed business and society from manual to digital services (Angadi, 2021 and Legner et al., 2017).

Library is a place that contains books, periodicals, and other reading materials, viewing, listening and studying for referencing. The library is the heart of the learning community. Allen and Taylor (2017) contended that "*At the center of every teaching, learning or research institution is a library. And, at the heart of every library is a thriving information community, which helps to distinguish each library type*". Digital libraries are a set of electronic resources and related technical skills for creating, searching and using information (Lucy A. Tedd, 2005). Purcell, (2016) argued that "*a digital library contains collections of electronic information that can be searched and retrieved*". DL services depend on digital resources to deliver Digital Library.

Gard and Keoleian, (2002) of the University of Michigan stated that "*The traditional library system included product-based elements related to the manufacturing and use of a paper*". Moreover other researchers argued that, "*DL possesses a collection of information resources as can be found in a traditional library. But the collections in a DL are in digital or electronic forms*" (Kanai & Umamoto, 2009). In addition, a Digital library is defined as an electronic information collection that contains large and diverse repositories of digital objects, which can be accessed by a large number of geographically distributed users. "*The digital information collection may include digital books, digitally scanned images, graphics, textual and numeric data, digitized films, audio-video clips, mention the least*" (Gard & Keoleian, 2002). This technology provides unique possibilities for communication between people as well as for the development of cultural industries and the deployment of works all over the world. In 1971, the Ohio College Library Centre (OCLC) founded an online Union Catalogue for being used by library

professionals. The 1980s piloted in the integrated library system, whereas the Online Public Access Computer Systems – (OPACS) and CD-ROM databases started and networked with remote servers to allow users to access information from a CD-ROM on any computer in the library (Asamoah-Hassan, 2001). Also, Digital library as a learning environment and resources network, designed to meet the needs of learners, thereby enabling the dynamic use of a broad array of materials for learning in digital format that managed actively to promote reliable anytime, anywhere access to quality collections and services, available both within and outside the network. In addition, this means that these are libraries that use ICT devices in their services provision to library users via internet usage, or a digital library is a library consisting of digital materials and services.

Besides, digital libraries in practice include multimedia content such as text, still, images, moving images or audio sequences, or some combination of these different media in spite preservation of digital media is challenging (Baskar & Babu, 2021; Tedd, 2005). Digital technology has created amazing capacities to store, disseminate and retrieve knowledge. This change in the information-related field particularly in the collection, storing, processing, and dissemination of information has resulted in the evolution of digital library services. Now, most of the reference books like encyclopedias, dictionaries, directories, handbooks, and so on are published in electronic form. A digital library is expected to provide access to digital information collections. This study aimed to assess how e-readiness our institutions library service providers and users have when they transform traditional library services into digital library services.

Digital Library Conceptual Model

For this study, the researcher designed a DL conceptual model that guides the research to ensure investigation on e-readiness on DL from traditional libraries done effectively. This was the model used in this study to investigate the degree of e-readiness in the Transformation from Traditional Library to Digital Library in Academic Institutions Tanzania.

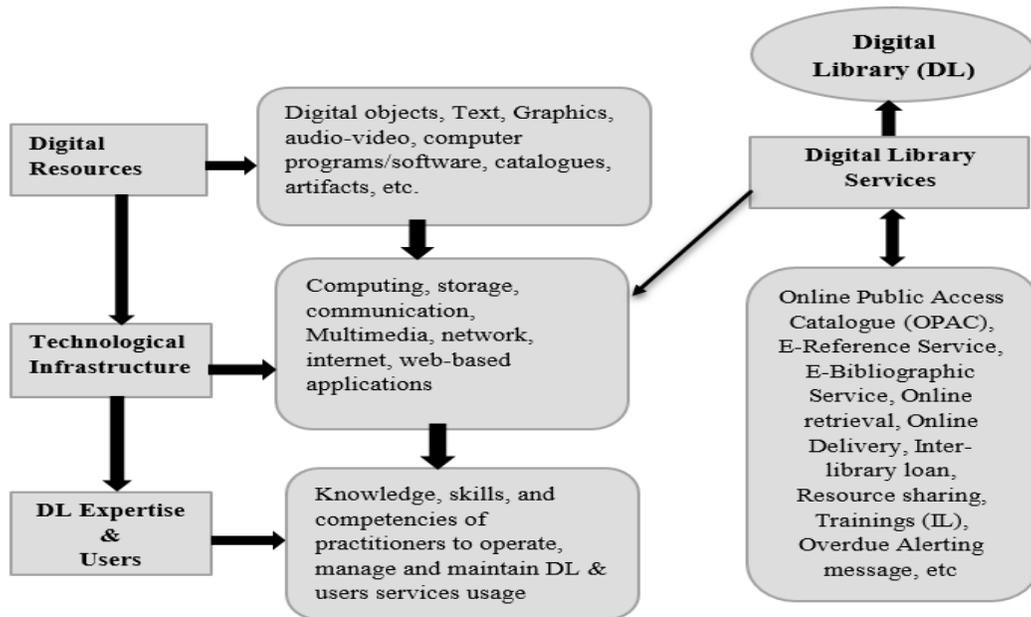


Figure 1: Key Components of Digital Library (DL)

Base on the conceptual model (Fig.2.2), a researcher elaborated its components how are working. This model has three independent variables that consist of digital resources, Technology Infrastructure, and DL expertise but these depends on each other. This model has one dependent variable that was digital library services that depends on three components that their presences provide the digital library. On this model Digital Library shows that depends on having DL expertise who may control digital resources and technological infrastructure so that to provide DL services. Also DL Users are very important in order to use those services. Thus both DL expertise and DL users need good preparation for the digital library services provision and usage.

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Methodology

Study Area and Research Design

The study was a survey of only two institutions' academic libraries such as the College of Business Education (CBE) Dar es Salaam campus and Muhimbili University of Health and Allied Science (MUHAS). Research design used was based upon a mixed-method in-process data collection towards digital library services in academic libraries because the population is large and scattered geographically. Data were collected from digital- library librarians and users. This helped the researcher to come up with the results that show how our libraries prepared themselves to adopt digital library services.

Sampling Technique and Sample Size

The study employed both purposive and random sampling techniques. The respondents were selected randomly and from each institution. Purposive sampling was employed to obtain the library information providers and users. This technique was used to obtain respondents who were aware of the phenomena under the study (Ames et al., 2019). Then from the sampled institutions, a total of 148 questionnaires were distributed whereas about 131 respondents were filled well their questionnaires and returned them. About 10 respondents were not returned their questionnaires but 7 returned unwell filled questionnaires. In addition 36 respondents were interviewed. The cross-sectional survey as well as content analysis methods were used in data collection and analysis. Data collected via questionnaires, analyzed by the support of **Statistics** Package for Social Science (SPSS) computer program that was used to analyze data in terms of cross tabulation for both institutions. The total sample size was 184 respondents from both institutions that represents the population of library users and service providers in both libraries. The sample size of 184 selected with the base of users visiting those libraries per day. Above 89% of questionnaires were filled well and returned. The following were how descriptive done to analyses data collected via questionnaires by the support of SPSS software.

Institutions' Students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CBE	45	53.6	53.6	53.6
	MUHAS	39	46.4	46.4	100.0
	Total	84	100.0	100.0	

Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CBE	31	66.0	66.0	66.0
	MUHAS	16	34.0	34.0	100.0
	Total	47	100.0	100.0	

Ethical consideration of social research ethics ensured according to regulations of research. "Our goals are to support sound and ethical practice in the conduct of the survey and public opinion research" (Sataloff, Johns, & Kost, 2014). Researchers ensured the respondents that all the information that they were given remained confidential and was only used for the study. Researchers also respect the culture and traditional ways of living of informants or respondents in general, so there would be no interference with their social-cultural practices. However, the study should not take any sides or biasness to represent what has been

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observed or what the researcher has been told. Also, since the presence of COVID-19 which emphasizes social distance, the use of masks and sanitizer were observed during interviews and questionnaires distribution. This was done to make sure there is no health danger to respondents during the study.

Sample size formula used were Slovin's formula here below.

$$n = \frac{N}{1 + Ne^2}$$

Whereas n represents total sample size, N represents population size and e represents margin of error (5%). Calculation of total sample size (n) based on Slovin's formula

Calculations

N=343,

n =184,

e =5% (0.05)

n=N/1+Ne²

n=343/1+343*0.05²,

n=343/1+343*0.0025,

n=343/1+ 0.8575,

n=343/1.8575

n=184

This formula developed by Solvin, 2008

Findings and Discussions

The study findings are presented according to the Expertise, Knowledge, and Skills on the following themes:

- I.E-readiness of DL services' providers
- II.E-readiness of DL services' Users

I. E-readiness of digital library services' providers

The digital librarian can be known as a manager of a digital library, digital information center, or a librarian of the electronic library who requires knowledge of data mining and sighting of knowledge from digital libraries to extract information needs of the user (Sreenivasulu, 2000). In the new Information Technology (IT) age librarians need to be knowledgeable in hardware and software needs and evaluation as well as electronic information steering skills that can help them to use the network environment to provide additional value to information (Sonker, 2006). Librarians should be trained towards the collection progress, which must include search engines, electronic resources, Internet searching, DL Webpage, software, and hardware troubleshooting (Rahim, Rahman, & Mohezar, 2020). The lack of trained librarians, a low level of ICT skills among users, inadequate infrastructures, and lack of funds are the main barriers to the use of ICT devices for information extraction (Motahari-nezhad, Shekofteh, & Kazerani, 2018). Thus, the e-readiness among information stakeholders based on skills and expertise is very important. According of the study that assess the degree of E-readiness of Digital Library Services' Providers in academic institutions, the findings revealed as follows below:

Capacity building to Library Information Providers (Librarians) and ICT officers

A researcher wanted to know if information providers were trained to offer digital library services as well as to know which sort of training was gained for the digital library services. The majority said that they

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were trained on a few digital library services such as how to use the Koha system on feeding book catalogues, how to search books and circulation books by using Koha. Also trained on Information literacy that bases on how to search books from different databases like EBSCO, Research 4Life, Google Scholar, Emerald, and Institution repository (IR). Apart from that, about the type of trainings given for the services' provision, respondents from MUHAS said that were trained on *"Digital foundation skills, Ethics, Professionalism, information services in general, and Marketing of Library services and customer care training"*; while respondents from CBE were not trained on the same. The mode of training at all institutions under study was via in-house training. This shows that *"Training and capacity building programs should be developed for people in the educational sector, to develop ICT skills ...how to integrate ICT in the learning environment"* as advised by (Lwoga, Sanga, Kazwala, & Mganilwa, 2006). In addition, Digital library services involve ICT skills in its implementation. ICT officers' surveyed participants were asked if they were ever trained on digital library services to be able to handle digital library activities based on ICT skills. The study findings showed that ICT officers from CBE were not ever trained on library services skills to enable them to deliver good ICT services during the installation of library systems like Koha software. On the other hand ICT officers from MUHAS responded that they were trained on DL services as shown in figure 4.2. Those trainings assisted them to provide good services to the library so that they meet the library requirement on services provision.

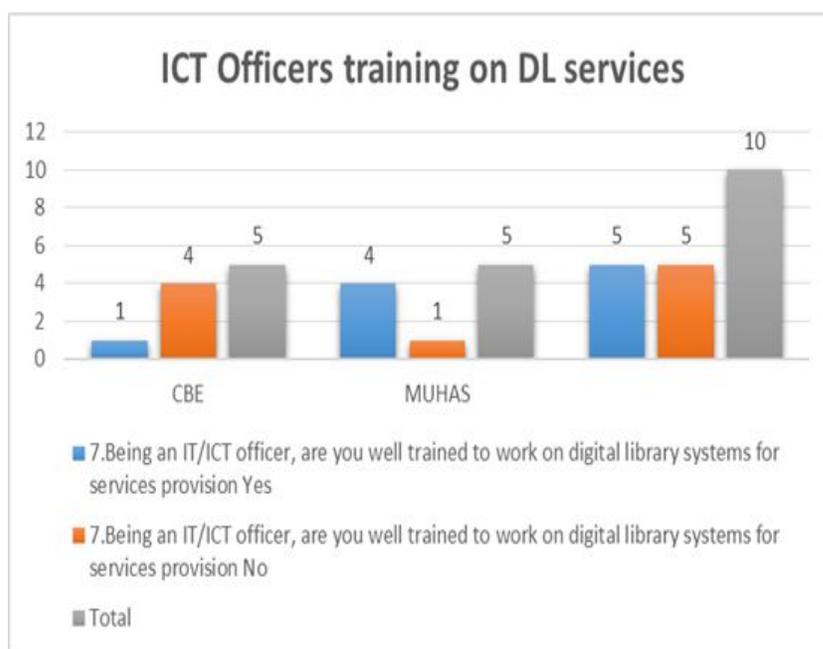


Figure 2: Training for ICT officers on Digital Library Services, n=10

A researcher asked on training ICT officers given if their answer was YES. The majority of respondents from MUHAS said they were trained on the following training: Koha and Dspace on installation and administration, Library information system for library automation and management, and most of Digital Library courses; but respondents from CBE did not get any training. In addition, a researcher asked ICT officer on their opinions if they were not trained on DL services provision. All respondents from CBE said that *"Being trained on library system requirements for the services is very important"*. They advised the institution to increase more training to get more ICT officers who understand about digital library systems for the effective DL services. Also they said, *"To Provide more training to officers about library digital requirements is inevitable if the institution wants to provide effective DL services to their user"*. About the need of having an ICT officer or ICT librarian to support the facilitation of library activities, the respondent said that it is important institutions to plan to hire DL expertise or train librarians on ICT skills. Also, librarians were agreed that they have no Digital library expertise. MUHAS said they do not have DL expertise but they have one ICT officer who deals with library service activities only, and some librarians

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selected and trained to deal with digital activities to solve problems during the implementation and running of the services.

On top of that selected institutions their libraries operate the library services by using the Koha system. The study wanted to investigate if DL services providers were competent in Koha system usage during handling DL services and if the Koha system was effective in enhancing digital library services. Only (9, 81%) of the respondents from CBE and (6, 66.6%) from MUHAS agreed that they had necessary skills and knowledge to use the Koha system, overcome the difficulties encountered and use the System alone without assistance. However, more training was needed so as to be competent on usage of Koha because it has many features that were not well understood to them. This supported by the previous study that analyzed different activities or Koha features that need to be understood to library information providers (Singh & Sanaman, 2012). Also Motahari-nezhad et al. (2018) argued that "*Librarians should be able to take on new roles in the digital era, have sufficient information and digital literacy, be able to teach users how to use e-resources and present digital and internet-based resources, facilities and services to users*"

A researcher was further assessed e-resources management due to its importance in in the digital library. According to other researchers' findings stated that, after automation and digitization of library resources, e-resources management is a big challenge for library professionals in this amazing increase in e-resources whereas their knowledge of ICT facilities is still low (Ridwan, 2016). The best way to manage these resources is to use the E-Resources Management (ERM) system (Tedd, 2005). It was observed by previous research, that all libraries are not following all the steps of ERM such as selection, evaluation, acquisition, license agreement and renewal or cancelation of e-resource which are essential for the better management of e-resources (Patra, 2017). Apart from that, Librarians are required to have enough knowledge and skills on how to manage information materials or e-resources (Ebiwolate, 2018). Other researchers in their findings said that the majority of Institution Repositories (IRs) in Africa used DSpace software to manage their digital contents and revealed that the common of the responding institutions provide long-term digital preservation in their IR (Baro, Obaro, & Aduba, 2019). The findings of the study reported that knowledge on e-resources management (ERM) to librarians were on low level whereby few librarians has knowledge on Dspace software for uploading documents only, and most of them have not that knowledge on ERM steps.

Digital materials can be sorted, transmitted, and retrieved easily and quickly via digital devices such as desktop computers, laptops, I-pad, and smartphones. Access to electronic information is cheaper than its print complement and acts on costs reduction so increased efficiency. Digital texts can be linked thus made interactive; and it enhances the retrieval of more information, (Ebiwolate, 2018). The study was made follow up on the e-readiness level on E-resources availability and accessibility. The results shown that majority of respondents (6, 66%) from both institutions (CBE and MUHAS) agreed on the availability and accessibility of e-resources. They said that have *subscribed and unsubscribed databases to ensure the satisfaction of users' needs. Quality and accurate information for users' needs satisfaction is available*". Moreover, the findings revealed that, E-Resources Accessibility such as (R4L, EBSCO, Emerald, Google Scholar etc.) databases were freely accessible to users. Bout accessibility, users used their own devices to access information/e-resources because there were few computers in the library to serve users. This supported by earlier findings that having computers for students and plenty of computers in libraries supports IL programs that enhance e-resource accessibility (Withorn et al., 2021). They continued to say that, "*For restricted e-resources, library users were given a link that they will pay for*". Furthermore, the researcher asked the management via interview if they plan to increase the fund for e-resources subscriptions apart from those they have. The study findings from both institutions show that, planning for the increased fund for e-resources subscription depends on library departments' budget from both institutions. Thus unsatisfied resources of e-library users caused by the low readiness of library departments in searching new more resources and budget them in their budget. Furthermore E-resources allow multiple accessibilities, thereby enabling users to access the same information material for instance the same book or journal at a time in different areas. On top of that the findings informed about users from CBE complained on remote accessibility that were not get access when are distantly from the institution environment.

Users' Skills and Awareness

Information literacy empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational, and educational goals. It is a basic human right in a digital world and promotes social inclusion in all nations. Other researchers described Information literacy as a set of abilities requiring individuals to identify when information is needed and have the ability to locate, evaluate, access, and use effectively the needed information (Lucy A. Tedd, 2005). The library and the larger institutions need to emphasize information literacy and technology instruction to a much greater extent. Within higher education, computer literacy is being recognized as an important component of the curriculum. The University of Botswana for example has digital literacy aimed at enhancing the quality of learning processes. The issue of equipping students with adequate digital literacy skills was to prepare them for the increasingly digital environment (Tella & Mutula, 2008). Digital library inventors enable users to know users' information needs and their purpose for using these resources. Digital libraries and e-journals have become essential for researchers and teaching faculty in quickening their research and academic tasks that depend on how user information literate they are (Khan & Ahmed, 2013). Moreover, developing e-resources demands for computer and information literate users. Pessa (2019) discussion in his journal, shows that Academic libraries in Tanzania are still on the low level on e-resources usage because users are still unaware of access and use of e-resources. This is an extra challenge, which needs to be critically analyzed and executed (Kiondo, 2004). Users' skills and awareness of information accessibility were not good so they needed to put more effort into Information literacy. In this study results shows that majority of library users were not competent on information literacy. On that situation, effective promotion remains a particularly important issue.

In addition, when the researcher asked Academician and Administrative staff if they were being trained on the use of digital library services. Generally, a half of them said 'Yes' were trained as shown below on the figure 4.4. about 50% were trained from both institutions.

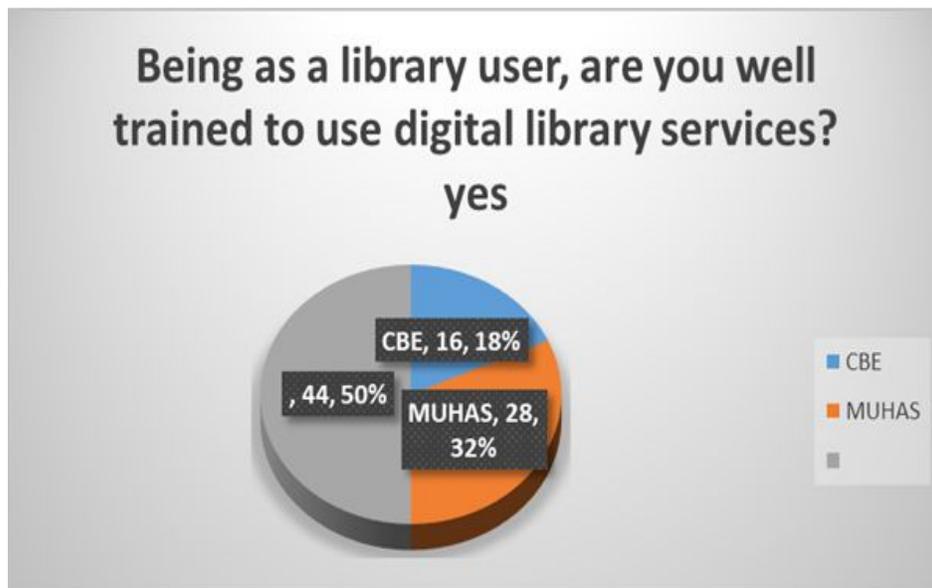


Figure 3: Training to Academician and Non-academician, n=60

Moreover, the researcher asked them which sort of training they earn on how to use digital library services. The findings results were shown that respondents from CBE answered the following trainings attended: trained on "2 Accessing remote online resources, 4 on Online Public Access Catalogue (OPAC), 6 on how to search materials via google books, Google scholar searching, How to use Moodle, Information literacy on electronic resources and Literature search using HINARI. Eight trained on how to use Mendeley tool on citation and referencing and finally, 5 trained on submission of papers to google scholar". MUHAS respondents said that they were trained as follows: "Seven said, trained on Google meeting -zoom, E-Learning management, Moodle compact and Canvas, 9 on Information literacy and electronic resources

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and 14 on Mendeley software as well as PubMed”. According to findings shown on the figure 3 CBE staff were few be trained correspondingly with MUHAS staff. Thus CBE need to put effort on user trainings. Not only that but also, the researcher asked the students from both institutions if they were well trained on how to use digital library services. The majority of respondents from both institutions, about (35, 58%) said that they were not trained whereas (25, 42%) said that they were trained. Also, a researcher asked if the answer were YES wanted to know which sort of training gained. Respondents from CBE - said that they were trained on Information Literacy on how to access books in the library and from online resources, whereas respondents from MUHAS were trained on Basic Knowledge of ICT during Orientation and IT courses for first-year students via Computer studies they have undertaken as well as on information literacy.

In alignment with similar previous studies, students note a lack of awareness of research services and online materials available through the library, leading to minimum engagement with articles and other peer-reviewed resources to support their coursework. It notes that students and facilitators desire online IL instruction from the library and clearer pathways to find research support from the library’s website homepage (Withorn et al., 2021).

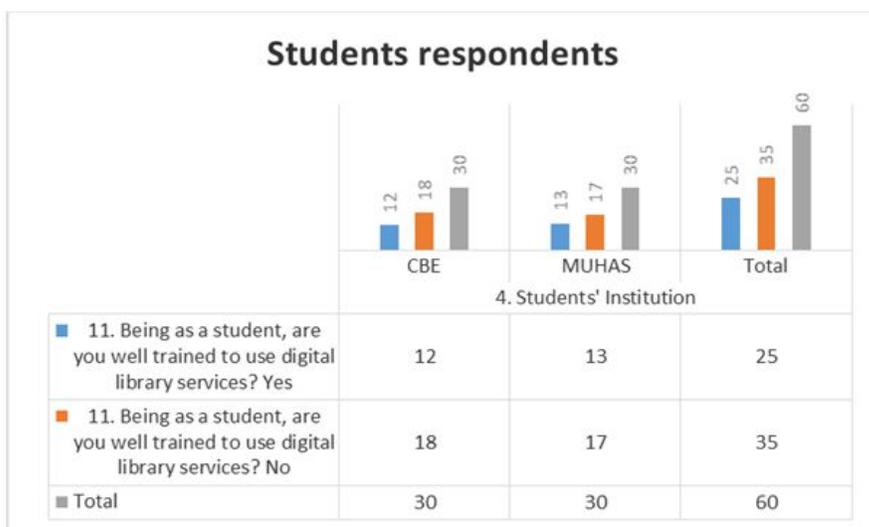


Figure 4: Training to students were undertaken, n=60

The Necessity of Transforming From a Traditional Library to Digital Library Services

The researcher wanted to know if there is a necessity of transforming from a traditional library to digital library services. Most of respondents about 93% answered that Digital Library is very important for all information seekers. They continued to state that “Accessibility of information via digital library is high, and building a new value proportion” also said it “Enable easy information accessibility and help in remotely access i.e. can be accessed from anywhere anytime (no too much limit of resources)”. In addition, “DL makes services easier in access to information and Easy to control the library” as well as “Fast worldwide technological advancement and allows new things /innovation”. Moreover they said it “Gives the most current information, help in reducing the problem of space and reduction of high population in library premises” and 13 participants said, "High technology be used in library services provision and speed up the library operation services”. Sixteen participants said “It has no limited storage of information, Make more education transferrable and Maximize information accessible” and 19 respondents said Provide advanced materials such as e-books and e-journals, provide plenty of resources, providing faster access to the holding of information automatically. Twenty participants said “Reduce traveling to visit the library if there is no class” and 22 respondents said “The expanding of technology inspires library to be transformed from traditional to digital”. From the previous study, Sharma & Vishwanathan (2001) commented that, “Librarians and their staff must prepare themselves for the transformation from an era of scientific management to systems and structural management. While planning for the change from traditional to computer based systems, it is necessary to take it in stages”.

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Financial Challenges for ICT Infrastructure and E-Resources Management

The researcher wanted to know if there were any challenges on the availability of financial resources for ICT infrastructure acquisition and maintenance in their library services operations. Library Services Provider and ICT officers from both institutions majority of respondents (18, 64%) said that YES there were financial challenges. They said, *“Most computers are damaged, Students are increased whereas on training one computer holds two students. At MUHAS “The situation now, computers are few and students are many, cause one computer per 50 users during training”*. This was supported by the earlier study of Nina-Okpousung (2019) who stated that *“Challenges related to inadequate finance, infrastructure and lack of expertise are among issues hindering digital libraries establishment”*. Also, the researcher asked them, *“If YES, what can be done to ensure financial availability to maintain the digital library services?”* Their answers were as follows below:-

Library Services Providers and ICT officers respondents from CBE and MUHAS said, *“Establish a new supportive policy to finance library services”*. *“Having a good way to convince the government and organization to ensure supportive financial on ICT infrastructure and preparing a good budget for Digital library services. “The institution is better to find partnership and collaboration with supportive Non-Governmental organizations”*. *“To invite librarians in the acquisition stage is very important”*. Also, other respondents from MUHAS said, *“Management should ensure each year is budgeting for Digital library requirements”*. Pace in his study supported this, thereby arguing that *“the library should have a detailed workflow, an analysis of all technical and financial requirements, and a business plan that will ensure the proper implementation of the new service”*(Pace, 2003). About financial challenges for e-resources respondents from both institutions said *“Previously we were allowed to hire private companies but now we cannot, we subscribed via COULT”*. Also they acquired e-resources too via uploading research papers, books, dissertations, and thesis as well as journal articles on their Institution repositories (IR). But those resources need skilled personnel to support the Electronic Resource Management (ERM) system. Patra (2017) revealed *“two aspects of managing electronic resources: the front-end details of delivering the content to library users and managing the business details of back-end staff functions related to acquisition, payment and licensing”*.

Stakeholders’ Expectation On Digital Library Services.

Participants as stakeholders were asked about their expectations of Digital Library Services. The findings showed that the majority from both CBE and MUHAS were expecting more improved infrastructure to handle digital library services. Also CBE respondents was expecting DL services available 24 hours whereas others expect that the library will provide digital conferences. ICT officers expect to be trained on digital library requirements so that it will be easier for them during handling DL services. Respondents from MUHAS majority expect to see Visual librarians and user communication as well as Digital conferences done via library services. Moreover, 6 ICT officers expected *“Modern Digital infrastructures like computers and libraries to have rooms that will provide services for zoom meetings and can get any material they like”*. The library focuses on improving the research, enhancing online access to education, supporting e-learning, additional e-resources materials for the studies as well as consultancy and having all the important literature they want. All in all 5 participants expected Low cost of retrieving materials. Respondents from both institutions, CBE and MUHAS students via interviews expected access to library e-books remotely, and that DL will facilitate e-learning performance. Six librarian participants expected *“fast and accurate services”* and 9 said expect the *“full Internet access”*. In addition, 5 academic participants said that *“Library is more than reading books. In the DL some people can remotely or physically visit the library to read newspapers online, so expect digital newspaper services. Also, they expected online TV that may be used to provide knowledge by allowing discussions that people can follow through YouTube channels. Also, 5 participants expected to earn more online books”* and *“to have webinar meetings that some are free and some are subscribed”*.

CBE academician Interviewees: They expected DL to facilitate e-learning performance, E-communication and more awareness to users to meet the purpose of digital library users. MUHAS: Interviewees: Four ICT officers expected reliable network and internet services as well as the availability of digital devices or hardware. Others said e-resources depend on internet connectivity thus they expect the organization to ensure a stable internet with high bandwidth. Finally, academics were expected to be updated on newly

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published e-resources and new digital services. For those explained expectations above, the earlier research study supported that “*Digital library users tend to increase their expectations and demands for better functionality and service delivered by digital libraries*”. Also continued to say, “*In addition to ease of use and usefulness, user experience has received much attention in recent years*” (Zha et al., 2015).

Conclusion and Recommendations

From the findings a researcher discovered that, the Degree level of E-readiness situation for DL information providers and users on transformation from Traditional libraries to Digital libraries in Academic institutions in Tanzania are still on lower level. Moreover the study it indicated that most libraries do not have DL expertise. More effort is needed to the institutions to put on big budget financial resources that will be able to handle Digital library requirements such as DL services, add more DL infrastructure, having ICT officers or ICT librarians for DL activities facilitation, to hire DL expertise as well as building capacity to librarians on DL services skills. Thus, the researcher continues to recommend that:

- I. The institutions should hire or train librarians who will be more knowledgeable and have ICT skills. Also, ICT officers should be trained on DL services requirements or libraries having ICT librarians be able to handle DL services effectively during system maintenance and management. For librarians, they should have more and regular training so that to be ready and updated on DL services provision.
- II. More effort should be taken on information literacy (IL) for library users on Digital Library services so that enable them to access e-resources easily.

Areas for Further Research may also be Included.

- I. Investigating the Degree of E- Readiness base on technology infrastructure in academic institutions towards to Digital Library in academic libraries Tanzania.
- II. Assessment on Digital Library Services required in digital library implementation to meet users’ needs in academic libraries Tanzania.

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The Influence of Budget Allocation on Suppliers' Performance in Temeke Municipal Council

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Abstract

This study examined the influence of budget allocation on supplier's performance. The study adopted a cross section research design and a sample of 67 respondents was selected from Temeke Municipal Council using simple random technique. Data collection methods involved interview, questionnaire and documentary review. Data were analyzed using descriptive statistics and correlation analysis. The study found that user departments are not involved in budget allocation and prepared budget is not sufficient in all planned activities related to procurement. The study concluded that budget allocation, was important organization factors on supplier performance in Temeke Municipal Council. Therefore, the study recommended that the Council should provide enough budgets for procurement activities as well as involves user departments during procurement process this will help to improve supplier performance. This study provides several important policy implications; the fact that organization factors such as budget allocation is critical task in supplier performance, the government through the councils should respond to the transformations of the policies and rules that governing the procurement process specifically in budget allocation in order to enhance suppliers' performance.

Key words: Budget allocation, Supplier performance, Temeke Municipal council.

Introduction

Supplier performance is a very important aspect and it resulted from proper organizational factors like budget allocation, top management support and staff's competence within the organization. Among other factors supplier performance refers to the ability of the supplier to perform function to the organization and fulfil its mission through achieving results expected by the buying organization (Mahapatro, 2010). Supplier performance comprises the actual output or results which a buying organization measured against their expectation in order to achieve their goals and objectives (Richard, 2009).

The organization desire to achieve its goals especially through procurement, the organization must have factors that influence supplier performance and those factors like budget allocation, top management support and staff's competency are the sources of close collaborative working relationship between buying firm and suppliers (Eltantawy *et al.*, 2019). Those organizational factors increased the efficiency of the procurement by minimizing non-value-added activities and associated investment cost and operating cost, increasing customer responsiveness and flexibility in the supply chain. Organizations are striving to improve their performance in response to business markets and the need to efficiently control their business activities. They realize efficiency and effectiveness of procurement performance is linked to supplier performance (Gunasekaran *et al.*, 2011).

The supplier performance is realized in reduced operating costs, increased customer service in procurement activities improved firm's revenue growth, and enhanced shareholder value (Keeber, 2001). A supplier performance is one of the elements of supply chain integration, an important aspect of supply chain management. Effective relationships at inter and intra-firm boundaries and at every link in the supply chain is becoming a prerequisite of business success. Rapid fluctuations in customer demand, unpredictable market trends and increased uncertainty with environmental diversity has made industries and markets volatile. Businesses are encouraged to develop flexible relationships with multiple channel

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suppliers to reduce the dependence on the vendor. Maloni & Benton (2000) found that strong supplier relationships have a significant positive effect on firm performance, supplier performance, and performance of the entire supply chain.

In Africa, as many countries are developing countries including Tanzania face a number of challenges that limit organizational factors that influence on supplier performance. These challenges include: poor budget allocation, low management support and few staff who are competence in their organizations within the countries. In Africa it is widely agreed that those organizational factors influence successful supplier performance and collaboration between buyer-supplier are critical to supplier performance because supplier increasingly utilize other organizations capabilities and resources to achieve its performance in the global perspective (Tanskanen & Aminoff, 2015).

Excellent performance of suppliers is necessary for private and or public companies alike to succeed. Municipal CouncilCabe (2009) argues that suppliers' performance is a vital aspect of the success of any organization. Likewise, Manyabula, (2009) suggest that many organizations fail to have some factors which may influence the supplier performance. This raises questions of determining the extents to which these factors, specifically the organizational factors influence the performance of supplier. This will be significant to improve the performance in service delivery.

Despite its successful operation the CAG report 2019/2020 shows several Councils having qualified opinion and Temeke is among of them. PPRA report 2019/2020 shows that Noncompliance with the budget and Procurement Plan as well as poor performance of suppliers and service provider are included in the courses of such report. This indicates that, there could be some factors and challenges that influence supplier's performance on the implementation of contract for goods, works and services in terms of quality and time delivery.

In Tanzania, most of the studies conducted show the value of the relationship between supplier and buying organizations (Salema & Buvik, 2016). Suppliers' performance and organizational factors just like the customers are essential for the success of any company. Paradoxically, composite organizational factor such as budget allocation remain latent. Previous studies especially in Tanzania explained much on supplier development, supplier performance without considering the role of budget allocation as component of organizational factor, therefore this research study wanted to assess the influence of budget allocation on supplier performance in Temeke Municipal Council.

Literature Review

Okello *et al.* (2019) examined the effects of governance structure on supplier performance in-service state-owned enterprises in Kakamega County- Kenya and the objective of the study was to investigate the effect of governance structure on supplier performance in-service state-owned enterprises in Kakamega County. It is estimated that public procurement accounts for over 10% of the Gross Domestic Product (GDP), making it a large market for suppliers and contractors. However, supplier performance has not been impressive in Kenya's public sector to date. Evidence suggests that Kenya's public entities are suffering from long lead times, poor quality of goods and services delivered and high levels of contract violations. PPOA report of 2015, reported that more than \$200 million is lost every year due to suppliers' failure to deliver as per terms of the signed contracts, and this is despite the presence of a contract management system. The research methodology used was surveyed research design by targeting 120 State Owned Enterprises officials from 15 Service State Owned Enterprises in the County using a census survey. The study was quantitative in nature and used questionnaires as research instruments. Data was analysed using

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both descriptive and inferential statistical methods. The findings were presented in the form of frequency distribution tables. Governance structure was also found to significantly influence on supplier performance. The researcher recommended a further study on the effect of contractor-supplier relationship on quality of goods and services supplied. This study would help to shed light on the lack of consensus on the subject matter as identified in this current study.

Kemunto and Ngugi (2014) conducted study on the influence of strategic buyer supplier alliance on procurement performance in private manufacturing organizations using Glaxo Smith line as a case study. The specific objectives of the study were: to assess the effects of governance structure on the procurement performance of the firm; to find out how technology impacts on the procurement performance of Glaxo Smith line; to establish how top management support affects the procurement performance of the pharmaceutical giant and to establish the effect of awareness of procurement policy and legal framework on the procurement performance of the organization. The study findings revealed that governance structure was the main factor in the relationship between procurement performance and strategic buyer supplier alliance. Governance Structure coefficient of 0.799 was found to be positive at significant level of 0.004 and this indicates that Governance Structure has appositive influence on procurement performance.

Salema (2016) in her research work that was aimed to examine the impact of buyer-supplier integration on supplier logistics performance in the hospital sector in Tanzania: the moderation effect of buyers' crosses functional integration. Based on the resource-based view (RBV) theory, this study examines the association between buying firms' cross functional integration, buyer-supplier integration and supplier logistics performance in buyer-supplier relationships. RBV considers these two organizational dimensions of supply chain integration as strategic resources which play an important role in improving logistics performance. This research examines the effects of both intra-firm integration and inter-firm integration on supplier logistics performance with survey data from key informants in the public medicine supply system in Mainland, Tanzania. The unit of analysis is the purchasing relationships between public health facilities and focal suppliers acting as public agents of the national medical stores department (MSD). The empirical analysis is based on data reported by 166 purchasing managers, and demonstrates that stronger buyer-supplier integration improves supplier logistics performance significantly. There is no main effect of the buying firm's cross functional integration on supplier logistics performance, but more extensive cross functional integration in the buying firms enforces the effect of buyer-supplier integration on supplier logistics performance significantly, and these findings indicate that extensive cross functional integration in the buying firms provides an administrative infrastructure that enhance the affectivity of extensive supplier-buyer integration.

Methodology

Sampling Procedure and Sample Size

This study adopted cross section research design since cross-sectional design allows multiple variables to be investigated at the one time

The study population of this study was 80 employees dealing with supply chain management in Temeke Municipal Council (Human resources Department Temeke MC, 2021)

In this study, simple randomly sampling technique and purposive sampling technique was employed.

Simple randomly sampling was used to select employee from user department and procurement management unit involved in supply chain management in Temeke Municipal Council, the using of simple

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randomly sampling technique based on criteria that, these employee has equal chance to be selected. The lottery methods were used in simple randomly sampling to pick employee who filled questionnaires

Purposive sampling technique was used to selects head of departments and units for interview in Temeke. The application of this technique to this study based on the fact that the head of departments and unit are experienced, knowledgeable and key decision makers related to supply chain management. The sample size for this study was determined using Slovin's formula for sample size calculation as described by Magigi (2015). Therefore, the sample size was selected from 80 employees dealing with supply chain management in the Temeke Municipal Council

The formula state as follows;

$$n = N/1+N(e)^2$$

Where:

N = Size of population

n = Sample size

e = acceptable sampling error (the precision) = 50%

1=Constant.

$$N = 80/1+80(0.05)^2$$

$$n = 66.67 \approx 67$$

Hence the sample size of this study were 67 employees

Table 1: Sample Size Composition

Category of respondent	Population	Number of respondents
Employee from user departments	70	11
Employee from PMU	10	10
TOTAL	80	67

Data Analysis Technique

In this study data was checked for incomplete questionnaires as a preliminary analysis. Completed questionnaires were coded and entered into SPSS 20.0 software version to aid the analysis.

Quantitative data in each specific objective were analyzed using descriptive statistics the descriptive statistics of mean and standard deviation was used and summarized and presented visually by frequency tables and percentages. The relationship between dependent and independent variables are measured by correlation analysis to determine association relationship between variables. Qualitative data were used to analyse data from structured interview method using contents analysis during content analysis data that were recorded from note transcribed and transformed into themes to give meaningful results.

Findings and Discussion

Descriptive Results

This study sought to determine the influence of budget allocation on suppliers' performance in Temeke Municipal Councils. This section present summary of descriptive statistics related to influence of budget allocation on supplier's performance in Temeke Municipal Councils. Therefore, the mean and standard deviation (S.D.) were calculated to establish the findings from the data that were generated using a Likert scale of 1-5 where 5= strongly Agree, 4=Agree, 3= Neutral, 2= Disagree and 1= Strongly Disagree.

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Table 2: Influence of budget allocation on supplier's performance (n=67)

Variables	Mean	Std. Deviation
Funds availability	4.13	0.75
Sufficient Budget	2.22	0.22
Budgeting involvement	2.31	0.14
Payment Process	3.89	0.85

Funds Availability

The results in Table 2 show that, availability of fund was the component of budget allocation that influences the supplier's performance in Temeke Municipal Council with a mean score of 4.13. This implies that there is availability of fund in procurement proceeding.

During in depth interview one respondents add the following, concerning to availability of funds:

"...The available fund is not adequate to cater for the planed procurement. This in turn causes delay in procurement of intended goods and affects the quality of purchased goods and services. Furthermore, inadequate funds also lead to frequent changes of suppliers as unpaid frustrated suppliers are no longer willing to supply their goods or services..."

Sufficient Budget

In additional, findings show that, there is a mean score of 2.22 in budget preparation as a component of budget allocation that influences the supplier's performance. However, the level of agreement was low which indicated that the prepared budget is not sufficient in all planned activities related to procurement .Also during interview one respondent add that about budget preparation:

"...During preparation of budget, sometimes we get challenges in identifying and prioritizing our needs. Such challenges lead to changes in our procurement plan, this has a negative effect to supplier performance..."

Budgeting Involvement

Furthermore, findings show that, involvement of user departments was the component of budget allocation that influence the influences the supplier's performance in Temeke Municipal Council with a mean score of 2.31, this implies that, the all user departments are not involved in budgeting.

Payment Process

Moreover, the results show that, payment process as the component of budget allocation that influences the supplier's performance has a mean score of 3.89. which implies that, the payments' processes to supplier are carried out as per the terms of contract in Temeke Municipal Council.

However, during interview one respondent add the different view, concerning to payment process:

"...Control of public fund is associated with a cumbersome bureaucratic process which leads to delay in preparation of payment to Suppliers. This in turn causes a lot of inconveniences to suppliers and hence poor performance..."

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Furthermore, findings show that, involvement of user departments was the component of budget allocation that influence the influences the supplier’s performance in Temeke Municipal Council with a mean score of 2.31, this implies that, the all user departments are not involved in budgeting.

The findings of the study concur to these of John (2015) showed that budgeting and financing to procurement activities and functions are necessary for the good performance and effectiveness of any organization. That means that procuring organizations need to set out the necessary budgets and have a good procurement plans which can help in making a timely funding on any purchases made. Also it was revealed that inadequate budgets are related to failure to enforce the conditions of the contract which sometimes results into failure to implement the organizational procurement plans which sometimes affects the functions of other departments in the organization (Bower, 2003). Furthermore, Lodrick (2001) reported that procurement in public institutions suffers from budget constrains indicating a serious failure in the implementation of procurement functions.

Correlation Analysis Result

The correlation analysis performed to measure the significant relationship among independent variables (budget allocation) and dependent variable (Supplier performance). The purpose of this analysis is not only to establish cause-effect relationship among variables but to determine whether the variables under study have some kind of association or not. Correlations are the measure of the linear relationship between two variables. A correlation coefficient has a value ranging from -1 to 1 (Temesgen & Estifanos, 2018).

Table 3: Correlation between organization factors and supplier performance (n=67)

		Supplier performance	Budget allocation
Supplier Performance	Pearson Correlation	1	
	Sig. (2-tailed)		
Budget allocation	Pearson Correlation	0.702**	1
	Sig. (2-tailed)	0.000	

** . Correlation is significant at the 0.01 level (2-tailed).

Findings in Table 3 shows that there is strongly significance relationship between budget allocation and supplier performance ($r=0.702$, $p\text{-value}= 0.000$). This implies that any positive change in budget allocation on procurement process within the Council led to improve supplier performance. However, the findings contradict to the findings of Michael (2017) found that, Budgeting affects much the supplier performance at Tanzania Port Authority (TPA). The study clearly shows that delays in budgeting and inadequate budget have set back the performance of procurement functions including suppliers delaying in delivery goods and service at TPA.

Conclusion and Recommendations

Budget allocation was found to have a positive and significant relationship with supplier performance in Local Government Authorities. However, user departments are not involved in budgeting allocation and the prepared budget is not sufficient in all planned activities related to procurement function. Therefore, the study concludes that budget allocation was most important organization factor that influence supplier performance in Local Government Authorities.

This study provides several important policy implications; the fact that organization factors such as budget allocation is critical task in supplier performance, the government and all key institutional stakeholders should in a relative way respond to the transformations of the policies and rules that are governing the

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supplier selection process on procurement process specifically in budget allocation. This will enhance supplier performance. Similar study should be undertaken to other LGA's in Tanzania, because this study covers only Temeke Municipal Councils for findings generalization. Moreover, another study should be carried out to find out the other organizational factors that influence supplier performance.

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The Effect of Sales Promotion on International Business Performance in Selected Wine Processing Companies in Dodoma City, Tanzania

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Abstract

Dodoma city is one of the major grape producers and wine processors in east and central Africa producing an average of 6,435 tons of wine per annum. Out of this total only 54.118 tons of grapes were exported which is equivalent to 0.84% of the entire wine produced in the past three years (2016-2018). This implies that emphases on the external market are limited and most of grapes produced in the city are locally consumed. In this respect, this paper assessed the effects of sales promotion on international wine business performance in selected wine companies in Dodoma. Cross-sectional research design was adopted to collect both primary and secondary data from 40 staffs proportionally selected from four wine companies in Dodoma city (CETAWICO, Makutopora wine company, Alko vintages and Dane Holdings limited). Data were collected using questionnaire, interview and documentary review. To estimate the effects of sales promotion on international wine business performance, the multiple regression models was used. The findings indicate that average order size, goal achievement and sales growth had significantly effect on wine international business performance implying a unit change increase of 71.2%, 18.9% and 39.4% respectively. The study concludes that, average order size, goal achievement and sales growth were having positive contribution on the business performance in the wine processing industries in Dodoma. It is therefore recommended that, wine companies should develop proper sales promotional strategies and set aside funds to market wine product at the global market to increase market stimuli and performance.

Keywords: sales promotions, international business performance, wine processing companies

Introduction

The worldwide wine market has been reported to rise at a growth rate of 6.4 percent, from USD 417.85 billion in 2020 to USD 417.85 billion in 2028 (Rakula, 2016). This implies that, demand for Wine at the global is of all ages of people from young to old. About 77% of the total wine at the global is produced by only ten leading countries which include Italy, France, Spain, Argentina, Germany, South Africa, Chile Australia, China and USA (Lee at al., 2013). Therefore, developing countries like Tanzania could struggle much to penetrate in the international market because of being competitive. To increase sales revenues, winery companies have been utilizing a variety of sales promotion techniques such as Consumer Sales Promotion, Trade Sales Promotion and sales force promotion (Lee at al., 2013). Finding from Scholars indicated that, over the last two decades, sales promotions seem to be a critical tool for marketers, and their importance has grown dramatically. This is due to fact that; they serve as a competitive weapon by giving an additional reason for the target audience to choose one brand over another when purchasing or supporting it. It's especially good at getting people to try new products and buy things they didn't plan on buying (Festus, 2016). Khaniwale (2015) also stresses that, to survive in the competitive business environment like at the international market, Whether Large and small businesses both must employ sales

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promotion means to attract and keep customers, resulting in long-term connections and productivity growth.

Furthermore, according to Kotler (2013); Barry and Howard (2015). A sales promotion is a marketing approach that aims to inform, influence, or recall potential customers about the commodities that are being promoted. Sales promotions, according to Diego et al., (2018) and Kipturgo (2019), are the best measures of sales promotion strategy performance since they are cost-effective and time-efficient. According to UN (2013), Tanzania grape wine exports increased from 176 kilos (\$715) to 151,221 kilos (\$26,238) within a range of 15 years (1998-2013). The Tanzania's wine production stood at 122,200 litres in 2015, in which Dodoma is the only wine producing region (Epaphra, 2016). In the year 2018, Dodoma produced an average of 6,435 tons of wine, but only 54.118 tons were exported, accounting for 0.84 percent of total production (Trend economy, 2018). This justify the argument that, the wine sector in Dodoma, Tanzania, is characterized by a lack of market information, as grape and wine product exports totaled TZS 320.36 million from 2013 to 2016 (TRA, 2018 ; Epaphra, 2016).

Previous studies on the effect of sales promotion strategies to wine processing business such as; Kipturgo (2019), Kipkirui (2017), Tandoh and Sarpong (2015) to mention a few, have not provided enough literature to address the existing problem of sales promotion strategies' on effect to international business performance, and there have been insufficient studies steered in the Tanzanian. Limited literature hinders the understanding of how sales promotion strategies relate to wine processing performance. The paper thus, assessed the effect of sales promotional on international business performance of wine processing companies in Dodoma city, Tanzania. Specifically, this paper: Assessed average order size, goal achievement and sales growth in relation to wine international business performance in the study area;

Review of Sales Promotion

All undertakings conducted to convey and stimulate items or services to market targeted are referred to as promotion. Personal selling, public relations, sales promotion, brochures, exhibitions and Advertising are examples of these activities (Mbage, 2016). Sales promotion,), is a straight incentive that provides an additional worth or motivation for a product to sales force, distributors, or end users. As a result, we recognize that sales promotion should target sales people, middlemen, and the final consumer (Agbonifoh, Nnolim, and Nkamnebe, 2007). Sales promotion is a set of incentives, techniques and instruments, most of which are temporary, that are used to encourage customers or businesses to buy a product or service faster or more frequently (Kotler & Keller 2006; Mkanda, 2009). Shimp (2010) adds that any additional incentive used by retailers, non-profit organizations and manufacturers to temporarily alter the product's professed price or worth is referred to as a sales promotion for example, in the market, offers such as a promotion in which a discount of approximately to 50% is offered, as well as many other strategies such as free goodies, rewards, discount coupons, demonstrations, shows, and pageants, among others, are meant to attract buyers to shop certain increase product sales.

Methodology

Study Area

The study was conducted in Dodoma city, Tanzania. The region was selected because it is a major grape growing and center for wine processing companies in Tanzania (TRA, 2018). Furthermore, Dodoma stands out as a grape-growing region on two levels: having two harvests annually in March and in August/September as well as its dry soil, low humidity and sandy are claimed to be ideal for making red

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wines and dry white. However, this study purposively sampled four wine Processing companies as a case study namely; Central Tanzania Wine Company (CETAWICO), Makutupora wine Company, Alko Vintages Co. Ltd and lastly Dane Holdings Limited in Dodoma city. The choice of these companies is based on their involvement on the international business in large volume as compared to the rest (TRA, 2018; Epaphra, 2016). In additional, the above companies have been poorly performing for a number of years (Kalimang`asi et al., 2014; Kulwijila et al., 2018; Kipturgo 2019). Based on the above, Dodoma city is rendered an ideal area to carry out the effect of sales promotion strategies on international business performance in the selected wine processing companies.

Research Design and Sampling Procedures

This study adopted cross-sectional where the researcher gathered information related to sales promotion tactics on international business performance at single point of time. The study employed stratified sample technique to select respondent from each company. The stratification was based on departmental professional and number of employees involved in the external business, from each stratum the proportional random sampling was employed to select respondents. Purposive sampling was adopted to choose companies which produce wine in Dodoma City and key informants. The key informants included top managers of wine industries in Dodoma. Purposive sampling was used because it provides opportunity to focus on certain aspects of the community of interest, allowing them to answer their research questions more effectively.

Data Collection and Analysis

In order to collect primary data, structured questionnaires were used on the effect of sales promotional on international business performance of wine processing companies in Dodoma city. The questionnaire contained both open ended and closed ended questions. However, open ended questions predominated in order to provide opportunity for the respondents to answer the questions independently. Key informant interviews were used to gather opinions about the effect of sales Promotion Strategies on the International Business Performance in Dodoma City guided by interview guides to provide more details on the subject matter. The acquired data was analyzed both narratively and experimentally using simple descriptive analysis such as frequency, means, variance and the results were displayed in tables and graphs using SPSS.. The data collected was analysed based on the specific objective and the study design. The data analysis process included editing, coding as well as cleaning (Nyakibari, 2020). Both inferential and descriptive statistics were computed with the aid of (SPSS).

Model Specification

Multiple regressions were used to evaluate the effect of sales promotion level on international business performance of Wine processing companies in Dodoma city. This model was selected because the dependent variable (business performance measured in sales) is continuous. The regression model was expressed by equation below: -

Business Performance (Y) = $\beta_0 + \beta_1SG + \beta_2AOS + \beta_3GoA + \epsilon$ (1)

Where by:

SG = Sales revenue

AOS = Average Order Size

GoA = Goals Achievement in % and

ϵ = error income level.

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Results and Discussion

Descriptive Results

The study emphasizes the relevance of studying a study population's characteristics since it aids in data interpretation. As indicated in Table 1, interviewees were requested about their age, gender, marital status and degree of education.. These variables deemed important in the interpretation of the data. The findings from revealed that, about 58% of respondents were male and only 42 were female. This implies that, most of the respondents involved in the wine processing were male, a fact that may be due to the financially rewarding nature of the Wine Processing Companies and the physical strength requirements involved.

Table 2: Population profile

<i>Variable</i>	<i>Response</i>	<i>Frequency</i>	<i>(%)</i>
Gender	Male	23	57.5
	Female	17	42.5
Age	Less than 30 years	12	30.0
	31 to 35 years	8	20.0
	36 to 40 years	7	17.5
	41 to 45 years	6	15.0
	46 to 50 years	4	10.0
	Above 51 years	3	7.5
Education level	Certificate	7	17.5
	Diploma	10	25.0
	Bachelor's degree	12	30.0
	Master's degree	5	12.5
	Others e.g. PhD No formal education, Primary, Secondary	6	15.0
	Working Experience	Less than a year	7
1 – 4 years		25	62.5
5 – 7 years		9	22.5
8 – 10 years		5	12.5
Above 10 years		4	10.0
Total			40

Source: Study findings (2021)

Additionally, it was also observed that majority of the respondents were less than 30 years represented by 30/% followed by participants ranging 31-35 years constituting 20% of the respondents. Furthermore, 18% of the respondents were aged between 36-40 years whilst 15%, 10% were aged between 46 to 50 years and 8% were between 41-45 years, 46-50 years and above 51 years respectively. This implies that; Central Tanzania Wine Company (CETAWICO), Makutupora wine Company, Alko Vintages Co. Ltd and finally Dane Holdings Limited had a young and strong labour force.

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In terms of the level of education attained, the results further indicated that majority (30%) of the respondents had a Bachelor's degree as represented. This was closely followed by respondents with a Diploma represented by 25% of the respondents. Respondents having attained a Certificate and Masters constituted of 18% and 13% of the respondents respectively. While only 15% of the respondents were having other levels of education such as not having attended school, PhD Primary, Secondary. Generally, Central Tanzania Wine Company (CETAWICO), Makutupora wine Company, Alko Vintages Co. Ltd and finally Dane Holdings Limited had a well-educated labour force that understands the contribution of promotional strategies on international business performance in those selected wine processing companies in Dodoma city. Regarding to the working experience, majority that is 63% of the respondents, had 1 to 4 yrs of experience, 23. Of participants had 5-7yrs working experience whilst only 18% of the respondents had less than a years' working experience. Generally, most of the workers had worked at Generally Central Tanzania Wine Company (CETAWICO), Makutupora wine Company, Alko Vintages Co. Ltd and finally Dane Holdings Limited for a relatively good number of years so they were in better position to provide information regarding the contribution of promotional strategies on international business performance in those selected wine processing companies in Dodoma city.

Table 3. Sales promotional strategies at Wine Processing Companies in Dodoma city

Sales Promotional strategies	Mean	Mean Difference	t	P-value
Consumer promotion	2.33	0.10	2.76	0.007
Trade promotion	3.37	0.30	6.22	0.000
Sales force promotion	3.30	0.37	5.66	0.000

Test value = 3

The sampling t-test results suggested that all three Sales Promotional techniques items were substantial because their p-values were below 0.05. The overall average for the Economic cooperation were significantly greater than 3 according to the one paired - samples t result. (mean = 3.37), and Sales force promotion (mean=3.30). only Consumer promotion had a mean less than 3 that was (mean=2.33). The main findings had a significant difference between the means, and their associated p-values would be less than 0.05, according to the t-test results. Their t-values were significant at 1%. This implies that the majority support the employment of trade, consumer, and sales force marketing as sales promotional techniques at a number of Dodoma-based wine processing companies. This is supported by Pembi, et al (2017) that noted that sales promotional methods have favorable and significant impact on business performance. Festus (2016) also supports the findings, stating that the study revealed a positive and significant correlation among sales promotion and efficiency. As a result, a 1% increase in sales promotion resulted in an increase of 0.44 percent in sales turnover. Nevertheless, no connection among promotional strategy and non-financial success was discovered.

The Effects of Sales Promotion on the Business Performance of Wine Processing Companies in Dodoma City

Results from Table 3 indicated that the R- square was estimated at 93% indicating that the model was fit in explaining the variables. It also established that the variation in business performance (in term of sales volume) can be explained by the independent variables (sales growth, average order size, goals achievement) by 93 percent. Multicollinearity was tested to ascertain whether the independent variables were correlated using the Variance Inflation Factor (VIF) where, if the VIF value is between 1 and 10 it implies no multicollinearity but if it's below 1 and above 10 it will mean that multicollinearity exists. Multicollinearity was further tested to ascertain whether the independent variables were correlated using the Variance Inflation Factor where if the VIF value was 1.716 so it was between 1 and 10 implying no multicollinearity exists.

The Table 3 presents the results of multiple regression analysis models on the effects of sales volume on the business performance. The findings indicate that, Sales Promotion had a positive statistically significant related with business performance at the p-value less than 5% ($p < 0.012$) and with the coefficient at 0.394. This implies that the unit change in Sales Promotion on average increased the business performance by 39.4%. Therefore, more used of sales promotional strategy will attract more customers from the global market. This finding is in line with those of who noted that, most sales promotion strategies like free samples, price-offs and bonus packs practiced in the Alcoholic Spirits Industry had a significant positive influence on the consumer behavior.

Table 4: Multiple Regression Results

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	.201	.122		1.413	.141	1.716
Sales Growth	0.221	.075	0.394	5.253	.012	
Average order size	.363	.055	0.712	12.945	.000	
Goals achievement	.213	.074	0.189	2.554	.040	
R-Square	0.934					

a. Dependent Variable: Sales Volume Business Performance (sales volume)

On the other hand, the effects of sales promotion on selected wine processing companies in Dodoma city were also supported by results from, interviewee A stated that,

“Sales volume and market share might have been increased momentarily in order to gain sales volume and market share”.

Furthermore, Interviewee B stated that,

“We have carried out sales promotion occasionally to clear out year-end inventory prior to the arrival of new stock in warehouses. It has helped our company in persuading all potential customers to buy the product both the local customers and those abroad. So, all in Sales promotion has been designed in our company and it used both in the short and long run as a tactic to boost sales”.

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Interviewee C stated that,

“Sales promotions have been used as a competitive technique to undercut the competition by offering a reduced price or some other incentive in exchange for business”.

Interviewee D stated that,

“Sales promotion has had effect on brand establishment, growth within your target market segment, the discovery of new secondary markets, the development of customer loyalty and defense against competition”.

Similarly, the order size was found to be positively significant with the business performance since the unit change in average order size increased the business performance by 71.2%. Therefore, sales promotional strategy led to more customers from the global market, since the increase in the average order size increased the business performance. These findings is in line with those of Kipturgo (2019), Kipkirui (2017) and Mugo (2015) that noted that since promotion affects product brand, thus implied the promotional strategies affect the business performance in Kenya.

On the other hand, goal achievement by the firm was significant and positively related with the business performance for wine processing industry with the coefficient at 0.189. This implies that the unit change in goal achievement on average increased the business performance by 18.9%. These findings concur with those of Li (2017) who found that Ningxia wine is facing the stiff completion due to lack sufficient promotional strategies like publicity; advertisement; direct marketing; personal selling, and sales promotion affect the business performance. This conclusion resembled the work of Tandoh and Sarpong (2015) in Ghana. However, both studies were conducted out of Tanzania as such are little relevant on basis of context. Daniel (2018) in Nigeria supported Tandoh and Sarpong (2015) by emphasizing on the importance of promotional mix to performance wine business.

Generally, from the study findings it can be noted that sales promotion strategy assisted selected wine processing companies in Dodoma city to achieve their goals. This is in line with Tandoh and Sarpong (2015), who explored the effects of sales promotions on company effectiveness in the Ghanaian automobile industry and discovered that there is a link between sales promotions and organizational performance. Most sales promotions offer additional incentives to purchase while also enhancing vendor demand and efficiency. It was discovered that good sales marketing boosts sales.

Conclusion and Recommendations

The result of the multiple regressions on assesses the effect of sales promotion level on international business performance of Wine processing companies in Dodoma city revealed that, export strategy and overall order size help the selected wine processing companies in Dodoma city to increase its sales volume. Sales promotion strategy assisted selected wine processing companies in Dodoma city to achieve their goals. All in all, Central Tanzania Wine Company (CETAWICO), Makutupora Wine Company, Alko Vintages Co. Ltd, and Dane Holdings Limited, revealed that sales promotion had significant effect on international business performance. The following are some suggestions based on the findings and insights provided; the government of Tanzania should provide them with subsidies to enable them to export to the International Market and encourage these companies by reducing extreme charges to lower cost of exporting to the international market. To wine companies such as Central Tanzania Wine Company

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(CETAWICO), Makutupora wine Company, Alko Vintages Co. Ltd, and Dane Holdings Limited and other companies should develop promotional strategies and set aside adequate funds to market the wine products so as to increase responsiveness to market stimuli.

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Effect of Cost Estimation on Performance of Local Government Procurement Functions in Bahi District, Dodoma Region

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Abstract

This study examined effect of cost estimation on performance of procurements functions in Bahi district council. Specifically it assessed influence of cost accuracy on performance of procurement functions; evaluated the impact of supervision of previous purchasing item on procurement functions; and examined influence of cost valuation of items on performance of procurement functions. The cross sectional research design was employed. A total of 67 respondents were selected using purposively and simple randomly sampling techniques. Data were collected using questionnaire survey and in depth interview methods, while descriptive statistics and multiple linear regression techniques were used in data analysis. Findings revealed a positive significant relationship between cost estimation and performance of procurements functions ($p\text{-value} < 0.05$). The study concludes that cost estimation has great influence on the performance of procurements functions in Bahi district council. The study recommends that cost should be well estimated in any procurement process to ease the procurement processes and associated costs hence improve procurement performance.

Key words: Cost estimates, Procurement functions; Procurement functions' Performance

Introduction

In recent years, emerging economies have realized the significance of sound supervision of the cost estimation practice at all the levels of government both in developed and developing countries so as to enhance better governance and utilization of funds in the public sector (Eugene, 2018). Cost estimation is the method used by associations or open establishments in planning purchasing exercises for a specific time allocated (Eugene, 2018). Apart from the fact that helping in deciding what to buy, when and from what sources, cost estimation is also an opportunity for all stakeholders involved in the procurement processes to meet and discuss particular procurement requirements (Kibet and Njeru, 2014). In other words, it plays a great role in determining procurement performance. For example, it was also noted by Katimo (2017) that, failure to link procurement planning and financial budgeting may lead to delays in the completion of procurement contract, and hence, a lot of state financial resources remain unused at the end of the respective financial year. On the side of African Countries, poor cost estimation has been one of the major stumbling blocks to the their economic development and it has been clear that a number of African countries have not paid adequate attention to the proper management of public resources (Basheka, 2009).

In Tanzania, public procurement is facing the problem of unrealistic budgets and improper cost estimations. Audit findings claim that the allocated and approved budget being very low and fully released on time cause delay and failure to the implementation of procurement contracts (Yoshida, 2017). It is well noted that the government financial system operates under cash budgets, as a result many Public Entities (PE's) fail to undertake procurement activities based on their prepared Annual procurement Plan (URT, 2019). According to the statistics revealed by Msigwa (2018), in financial year 2016/2017, many local

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government authorities of Tanzania Bahi District inclusively, failed to complete their procurement projects as a result of inadequate funds caused by unrealistic cost estimates. Therefore, although cost estimate it has been carried out as a very important entity of procurement functions in local government authorities of Tanzania Bahi District inclusive, there is still a need to examine its effect on procurement performance.

Basically, cost estimate is the process of forecasting all of the cost associated with performance of procurement within the scope. Procuring entity should forecast its requirements for goods, services and works as accurately as is practicable with particular reference to services or activities already programmed in the annual work plan and included in the annual estimates (URT, 2013; URT, 2011). All these regulations indicate that, the government of Tanzania has put much effort on emphasizing cost estimation for the purpose of achieving better procurement performance. The importance of cost estimation is also documented by Eugene (2018) that, it enhances better governance and utilization of funds in the public sector. Despite the efforts undertaken by the government of Tanzania to improve performance of the procurement function through cost estimation, public procurement in Local government authorities of Tanzania and Bahi District in particular are still marred by inferior works, quality goods and services (Msigwa, 2018). For example, Bahi District is facing unnecessarily high operation costs, uncoordinated business activities, and failure in attracting and retaining experienced and skilled personnel in the procurement positions, hence, affecting the performance of procurement functions (PPRA, 2018, NAOT, 2019). Moreover, the Country Procurement Assessment Report (CPAR) of Tanzania highlighted some weaknesses in the operationalization of the current regulations such as poor cost estimate in most procurement entities (World Bank, 2017).

Empirically, much studies undertaken on the concept and context of cost estimate in many countries Tanzania inclusive, focused on weaknesses of cost estimate and factors contributing to poor performance of procurement functions in Local Government Authorities (World Bank, 2017; Matto, 2017; Ogwang, 2017; Msigwa, 2018). However subject related to effect of cost estimate in performance of procurements functions in local government authorities such as in Bahi District is still destabilized. Thus, this study intended to fill the existing research gap by examining the effect of cost estimation on performance of procurements functions in Bahi district council, Dodoma Region. The key notable gaps addressed included how component of cost estimation such as cost accuracy , supervision of previous purchasing and cost valuation of items influence performance of procurements functions.

Theoretical Literature Review

This study is guided by the Transaction Cost. Transaction cost theory was found by Ronald Coase in 1937. The theory is understood as alternative modes of organizing transactions (governance structures such as markets, hybrids, firms, and bureaus) that minimize transaction costs (Williamson, 1979). It posits that, the optimum organizational structure is one that achieves economic efficiency by minimizing the costs of exchange (Williamson, 1979). The theory suggests that each type of transaction produces coordination costs of monitoring, controlling, and managing transactions. It further defines transaction costs as costs of running the economic system of firms; such costs are to be distinguished from production costs and that a decision-maker can make a choice to use a firm structure or source from the market by comparing transaction costs with internal production costs (Hardt, 2009). Thus, cost is the primary determinant of such a decision.

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Transaction benefits are above and beyond those benefits of direct financial return (Watson et al. 2005). They can exist at an individual level and/or an organizational level. For example, at an individual level, a person employed by a firm gets direct benefits of a salary, health insurance, and so forth. The same person might gain transaction benefits of reputation, collegiality, intellectual challenge, skill development, and enhanced self-esteem. At an organizational level, a firm opting for a market governance structure might reap transaction benefits such as economies of scale due to specialization and flexibility (Blomqvist, Kyläheiko, and Virolainen 2002). Alternatively, the hierarchy as a governance structure might lead a firm to benefit from cumulative learning, increased economies of scope, and possible exploitation of monopoly power (Blomqvist, Kyläheiko, and Virolainen, 2002). As to the community governance structure, it is well-suited to innovation, a crucial organizational benefit in a knowledge based economy (Adler 2001). In this study, this theory is used as the model to understand efficiency of cost estimation on minimizing the costs of exchange in public procurement functions.

Methodology

Study Area

The study was conducted in Bahi District council located at Dodoma Region. The selection of Bahi District based on criteria that, according URT (2019), in financial year 2016/2017, many local government authorities Chemba Dc, Bahi District and Manyara DC failed to complete their procurement projects caused by inadequate funds resulted from unrealistic cost estimates. Additionally, the major problems facing the operations of PMU in Bahi district are inadequate working facilities, limited knowledge of procurement act and regulations and inadequate staff (URT, 2017; 2018; 2019; 2020). Therefore, Bahi District was representative to other LGA in providing clear picture and reliable information pertaining to the effect of cost estimation in performance of procurements functions.

Research Design and Sampling Procedures

Descriptive research design was used for this study. The reason that made the researcher to choose descriptive research design is due to its ability to make use a variety of research methods to investigate more than one research variables (Kothari, 2010). The study was involved 67 respondents selected using purposively and simple randomly sampling technique

Data Analysis

Quantitative data was analyzed using descriptive and inferential statistics methods by using Statistical Packages of Social Sciences (SPSS) version 23. Descriptive statistics methods were used to estimate frequency and percentage in analysis of characteristics of respondents. While inferential statistics was used to determine causal relationship between independent and dependent variables. Therefore testing the correlation between individual indicators of cost estimation and performance of procurement function, Pearson Correlation Coefficient analysis with two tailed significant test was used. Pearson correlation was used to determine whether there is a significance relationship in the two variables and it varies from -1 to +1, with 0 meaning no relationship and 1 meaning there is strong relationship.

On other hand, the relationship between the dependent and independent variables in each specific objective was determined through the analysis of a multiple linear regression analysis below because dependent variable was is continuous variable:

To examine influence of cost estimation on performance of procurements functions in Bahi district council

$$Y_3 = \alpha + \beta_{1c}X_{1c} + \beta_{2c}X_{2c} + \beta_{3c}X_{3c} + \dots \dots \dots (iii)$$

Where:-

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Y_3 = Dependent variable (Performance of procurement function)

X_{1c} = Cost accuracy

X_{2c} = Supervision of previous purchasing item

X_{3c} = Cost valuation of items

ε = Error term

Findings and Discussion

Characteristics of Respondents

Table 13 presents the gender distribution of the respondents. The respondents comprised of males who constituted the highest (55.2%) of respondents while the remained 44.8% constituted of females. This implies that procurement practices and duties in public sector are performed by both males and females as long as an individual is qualified for the position and the performance of the tasks. The finding is in line with Kuvura (2016) who found that procurement tasks and activities in Tanzania can be undertaken and commenced by anyone regardless of the gender since the key concern is merit and ability to execute the required tasks professionally.

Table 1: Characteristics of Respondents (n=67)

Variables	Frequency	Percentage
Sex		
Male	37	55.2
Female	30	44.8
Level of education		
Certificate	2	3.0
Diploma	7	10.4
Bachelor's degree	44	65.7
Master's degree	14	20.9
Age		
20-30 years	11	16.4
31-40 years	46	68.7
41-50 years	10	14.9
Working experience		
Less than 2 years	7	10.4
2-5 years.	32	47.8
5-7 years	25	37.3
Over 8 years	3	4.5

Sources: Field data, (2021)

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Respondents were asked to state their education levels and the findings are provided on Table 1. The findings revealed that 3.0% of respondents attained certificate level of education, 10.4% attained diploma, 65.7% had bachelor degree and 20.9% attained master’s degree. This implies that majority of respondents had bachelor degree, thus they are well equipped in aspect of education to implement cost estimate. This result is similar with the suggestion by Kiage (2013) found that high procurement performance is associated with the levels of education of the procurement reactionaries.

Table 1 shows the age category of the respondents. The findings indicated that, 16.4% of respondent’s age ranged from 20 to30 years, followed by 68.7% who ranged from 31 to 40, while 14.9% ranged from 41 to50. This implies that high proportions of respondents constituted an age category of 31to 40 years. The findings also corresponding to Hallikas et al (2014) who found that at the moment government entities consist of employees in the procurement sections and units with all age groups from youth to the elderly who accomplished different roles as a result of the position in place.

Findings in Table 1 indicated the respondent’s working experience. The results revealed that, 10.4% of respondents work experience was less than 2 years, 47.8% had 2 to 5 years of work experience, 37.3% had worked between 5 to 7 years, while 4.5% had over 8 years of experience. Since majority of respondents had worked in their respective position between 2 to 7 years, it implies that the study comprised of respondents who had sufficient experience to execute the procurement matters. It was likewise stated by Baxter (2012) that respondents with high working experience assist in providing reliable data on the sought problem since they have technical experience on the problem being investigated by the study.

Cost Estimation and the Performance of Procurements Functions

This section presents the findings and the discussion of the third objective which intended to examine the influence of cost estimation on performance of procurements functions. Data were analyzed using regression analysis. Before regression analysis was performed to see whether variables they are significantly associated or not, Table 2 presents summary of findings for relationship between cost estimation and performance of procurements functions.

Table 2: Relationship between cost estimation and performance of procurements functions

		Timely preparation plan	ofQuality ofplanning	Cost estimation	Performance of procurements functions
Cost estimation	Pearson Correlation	0.673**	0.647**	1	0.594**
	Sig. (2-tailed)	0.000	0.000		0.000
	N	67	67	67	67

** . Correlation is significant at the 0.01 level (2-tailed).

The results in Table 2 indicate a positive correlation between cost estimation and performance of procurements functions. There exists a strong positive correlation between cost estimation and performance of procurements functions. The results show $r = 0.594$ with a p-value less than 0.1 at 10% significance level. Implying that, any positive change in cost estimation in procurement planning process will increase performance of procurements functions in Bahi district council.

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Furthermore, Table 3 presents summary of findings for multiple linear regression analysis for cost estimation and performance of procurements functions. Result in Table 12 shows that the value of R-square is 0.555 meaning that the components of cost estimation such as cost accuracy, supervision of items and cost valuation of items is explained by 55.5% on performance of procurements functions. Moreover, findings indicated that, the F-value is 26.2 at p-value =0.000 meaning that the F value was significant (p=0.000) at 95% Confidence Interval. This implies that cost estimation is significant in predicting performance of procurements functions.

Table 3: Regression results of influence of cost estimation on performance of procurements functions

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.093	0.503		8.133	0.000
Cost accuracy	0.476	0.081	0.497	5.896	0.000
Supervision of previous purchasing item	0.194	0.112	0.170	1.730	0.019
Cost valuation of items	0.534	0.128	0.410	4.172	0.000

a. Dependent Variable: Performance of procurements functions

R-Square = 0.555 F= (26.2, p=0.000)

Findings in Table 3 show that cost accuracy has the p value of 0.000. This suggested that cost accuracy is significant component of cost estimation influencing performance of procurements functions in Bahi district council, since its p value is below the significant level of 0.05. Further, it can also be noted that cost accuracy has a positive parameter coefficient (B=0.476) which entails that one unit increase of cost accuracy during procurement planning will result into increases the performance of procurements functions in Bahi district council by 47.6%. Moreover, findings in Table 3 show that supervision of previous purchasing item has the p value of 0.019. This suggested that supervision of previous purchasing items significant component of cost estimation influencing performance of procurements functions in Bahi district council, since its p value is below the significant level of 0.05. Further, it can also be noted that supervision of previous purchasing item has a positive parameter coefficient (B=0.194) which entails that one unit increase of supervision of previous purchasing item during procurement planning will result into increases the performance of procurements functions in Bahi district council by 19.4%.

Furthermore, findings in Table 3 show that cost valuation of items has the p value of 0.000. This suggested that cost valuation of items is significant component of cost estimation influencing performance of procurements functions in Bahi district council, since its p value is below the significant level of 0.05. Further, it can also be noted that cost valuation of items has a positive parameter coefficient (B=0.534) which entails that one unit increase of cost valuation of items during procurement planning will result into increases the performance of procurements functions in Bahi district council by 53.4%. During interview with another Key informants revealed that:

“In our district council cost estimation determined by the procurement staff (PMU) to carry out a market survey, financial capacity of an organization determined with how much has been allocated in the budget to serve that particular vote and the quality of the item needed to meet the financial capacity of the budget as allocated”

The study findings supported by Onyango (2018) state that, cost estimation of the items to be procured is quite important in coming up with a procurement plan as this affects the budget. Therefore the

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procurement department should emphasize on carrying out market survey to come up with the estimated price of a commodity before the setting of procurement budget can be implemented.

Conclusion and Policy Recommendation

The study found that, there was positive and significant relationship between cost estimation and performance of procurements functions. This concluded that cost estimation had greatly influence on the performance of procurements functions in Bahi district council in terms of timely delivery of goods and cost reduction. Therefore, it was recommended that, cost should be well estimated in any procurement process to ease the procurement processes and associated costs hence improve procurement performance.

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Earning Capabilities and Financial Performance of Commercial Banks before and after Shifting Capital City from Dar es salaam to Dodoma Region: A case of Selected Commercial Banks in Tanzania

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Abstract

The study examined the influence of earning capabilities on financial performance of commercial banks before and after shifting capital city from Dar es salaam region to Dodoma region in Tanzania. A panel data research design was used. The study used ten (10) branches of NMB CRDB and TPB combined located in Dodoma Region. A number of 120 observations where observations were on obtained by taking the (quarterly) financial data for the period of ten years. The secondary data used in the study was extracted from reliable source such as Bank of Tanzania (BOT) and Dar es salaam Stock Exchange (DSE). Findings show that there is an influence of earning capabilities on financial performance of Tanzania commercial banks with P-Value of (0.004), (0.001) and (0.009) for CRDB, NMB and TPB respectively. The study concluded that there is a statistically significant association between earning capabilities and financial performance of commercial banks. The study recommends that the regulators of commercial banks such as central banks as well as management of commercial banks should enhance earning capabilities of commercial banks so as to improve financial performance of the banking sector in the country. Policymakers are also urged to review policies regarding risks that may affect earning capability of the commercial banks in the countr.

Keywords: Earning Capabilities, Financial Performance, Commercial Banks, Capital City, Dodoma, Tanzania

Introduction

Commercial banks have a strategic and essential contribution to the growth of the national economy. There is sufficient evidence that comes from research to show that the flow of money from and to individuals and institutions and institution and individuals to the financial bank (Ongore & Kusa, 2013). Through these transactions, they produce returns to finance operational activities. They also create profit from sustainable the intermediation role which they play. These suffice to say that the financial performance of commercial banks has a significant effect with the financial performance of nations (Paulino & Mwambia, 2018). Excellent financial performance encourages investors to invest not only in the financial institutions but also benefiting from credits to invest in entrepreneurship and enterprises. There is also an encouragement of extra portfolio and express concerning financial performance. However, it should be known that insufficiency banking performance causes banking breakdown and depression which has a negative effect on the financial performance (Ifeacho & Ngalawa, 2014).

Another study conducted in Malawi revealed that shifting of capital city from Zomba to Lilongwe crated many challenges including fields planning, finance, provision service, population growth and employment. These studies concluded that asset qualities is indicator that influence the financial performance of commercial banks (DGL, 2015; Onkoba, 2014; Gizaw *et al.*, 2015). Nevertheless, these studies could not suffice to explain the effect of the capital city in particular countries and, especially

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developing countries like Tanzania. There is a general understanding that the performance of banking in the SADC countries that commercial banks have their focus on generating capital, thus managers and investors are interested in profitability. Profit is also a matter of distress for managers and investors when making strategic decisions. All strategies calculated and the activities implemented are aimed at realizing this great goal. There are various ratios used to gauge the profitability of commercial banks. Performance variables can be represented by two substitute measures, namely ROA and ROE. In a study by Zribi and Boujelbene (2011), ROA, ROE and Net Interest Margin (NIM) are the main ratios measuring the profitability of commercial banks.

The research that was done in Tanzania about determinants of Non-Performing Loans (NPLs) in commercial banks found that that loan interest rate, Gross Domestic Product (GDP), bank's loan supervision capacity and economic condition influence the level of NPLs. The empirical evidence conducted about the performance of the South African banking sector in 1994 showed that asset quality has a positive effect on the measures of bank performance. This, however, depended on the previous theoretical expectations. The quality of assets revealed some signs of an amazing association with Return on Assets (ROA), while its connection with Return on Equity (ROE) is significant and positive as predictable (Ifeacho & Ngalawa, 2014). The beliefs of the public officials as reflected in the set policies are another limitation and Lilongwe is the best place to demonstrate this. A limited aptitude to provide a genuine counter-attraction to the major urban centre of Blantyre has been partially due to a short of strong administration promise to enforcing suitable policies (Deborah, 2010).

Tanzania forms another place to illustrate the effect of shifting capital city from one administrative area to another. The idea of shifting Tanzania's capital has a past going reverse to the 1973 (Kironde, 1993). But knowledge with Dodoma has revealed that the development is a hazardous one, chiefly when seen alongside the background of financial difficulties, and uncaring and unwilling administration officials (Kironde, 1993; Mubyopyo, 1975). In 2015, the fifth Government management under his excellence President managed to transfer officially the capital from Dar Es Salaam to Dodoma successfully albeit with some challenges as to that effect. This study explored the research gap that existed by examining the relationship between asset quality and financial performance of commercial banks before and after shifting capital city located to Dodoma region, Tanzania.

Since 1973, Dodoma was announced to be Tanzania's capital city but government offices and activities were still conducted in Dar Es Salaam (Kironde, 1993). The official transfer of Government activities was made in 2015. However, the nature of the transfer created a lot of questions and challenges to many sectors, both private and government offices. Bank as major stakeholders in the development sector also was affected in one way or the other (Deborah, 2010). Dodoma Region also faced some changes due to an increase in population and new offices, infrastructure, health services, new investment, new leadership styles and a lot of economic opportunities to indigenious, investors and visitors. One of the major questions which remained answered is how the banks in Dodoma fit in these new and rapid changes and how the banks helped the Government to settle in Dodoma.

The empirical evidence available revealed that banking services in Dodoma are positively impacted following the increase in customers which in turn negatively affect operations (Ifeacho & Ngalawa, 2014). Previous research observed that the number of transactions in the bank increased where there was a shift of capital city (Deborah, 2010). Different kinds of literature existed but none of them could explain the result of shifting the capital city from Dar es Salaam to Dodoma, particularly on financial performance in

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commercial banks. It is this reason that this study examined the relationship between asset quality and financial performance of commercial banks before and after shifting capital city located to Dodoma region, Tanzania, involving three (3) Tanzanian commercial banks, namely the National Microfinance Bank (NMB), Cooperative Rural Development Bank (CRDB), and Tanzania Postal Bank (TPB) in Dodoma Region.

These three (3) commercial banks in Tanzania were selected depending on three reasons. First, they have a high number of branches located at Dar es Salaam Region and Dodoma Region compared to other commercial banks. Second, these banks have many customers compared to other commercial banks in Tanzania and, finally, these banks have reliable documentation of official data because, for example, NMB and CRDB are listed at Dar es Salaam Stock Exchange (DSE) and TPB is owned by the government and, thus, its data could be obtained from the Ministry of Finance and Planning – Tanzania (MoFP). The review of the literature shows that financial performance has been widely researched as a stepping stone towards the examination of commercial banks in different countries. However, the literature on financial performance in commercial banks is scant to explain the situation before and after the shift of the capital city from Dar Es Salaam to Dodoma. Research has not been satisfactorily conducted in the area to inform the effect of shifting the capital city from Dar es Salaam to Dodoma.

Literature Review

Previous studied on financial performance in commercial banks by DGL (2015) examined the impact of financial performance to companies and stipulated that negative financial performance was typically associated with abnormal negative returns. On the other hand, positive financial performance was subjected to positive abnormal returns. Previous studies on financial performance of commercial banks; suggested that banks need to have effective management to improve the financial performance as the bank managers need to ensure bank practices practical management of risk in protecting the shareholders' interest and eventually favor the corporate ratings (Mohammed *et al.*, 2015; Adams *et al.*, 2003).

Adams *et al.* (2003) found that the Ghanaian bank performance earning was not significant to Ghanaian banks' financial performance. On the other hand, other factors like asset quality were significant to Ghanaian banks' performance (Adams *et al.*, 2003). Previous studies done on banking sector performance by using signaling, agency and efficiency theories used secondary data and panel data research design to prove the fact about the banks. Also, studies like the relationship between asset quality and financial performance of commercial banks before and after shifting capital city located to Dodoma region, Tanzania. Could not inform the impact of the move of the capital city on the financial performance of commercial banks.

Previous studies revealed some effects on industries when the capital city shifted from Dar Es Salaam to Dodoma Region. For example, they revealed the existence of increased capital demands, increased regulatory pressures, alternative competition, A Slow economy and technology Platforms (Ifeacho & Ngalawa, 2014). However, none of the studies attempted to explain the effects of the shift on financial institutions despite the known changes, including the increase in population. Other research conducted observed that the population of Dodoma City increased from 2015 to 2020 by 20% and explanatory reasons for increasing the population are due to transfer of government activities from Dar Es Salaam to Dodoma along with the increase in business opportunities.

The empirical evidence from research in America and Europe shows that shifting of capital from one region to another affects the financial performance in commercial banks. They, therefore, recommended

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that asset qualities are the predictor of financial performance of commercial banks (Ifeacho & Ngalawa, 2014; Ongore & Kusa, 2013; Deborah, 2010). There is also evidence from research conducted in Asia and Africa that reveals that shifting of capital city from one region to another influences the financial performance in commercial banks and the studies. According to Ongore and Kusa (2013), the banking industry is a very important sector in a place where population growth is increased.

Conceptual Framework; the conceptual framework for this study is adopted from the literature reviewed and modified from theories. The relationship between independent and dependent variables of this study is described in Figure 1. Independent variable in this study is the effects of shifting capital city on financial performance. These include asset qualities. Independent variable can influence financial performance to improve the profits of the banks. In the conceptual framework, earning capabilities is added as a new variable whereby empirical evidence did not emphasize how it can affect the financial performance of the banks. When the financial performance improved, the economic growth of the country was high and, consequently, improved the living standard of the people.

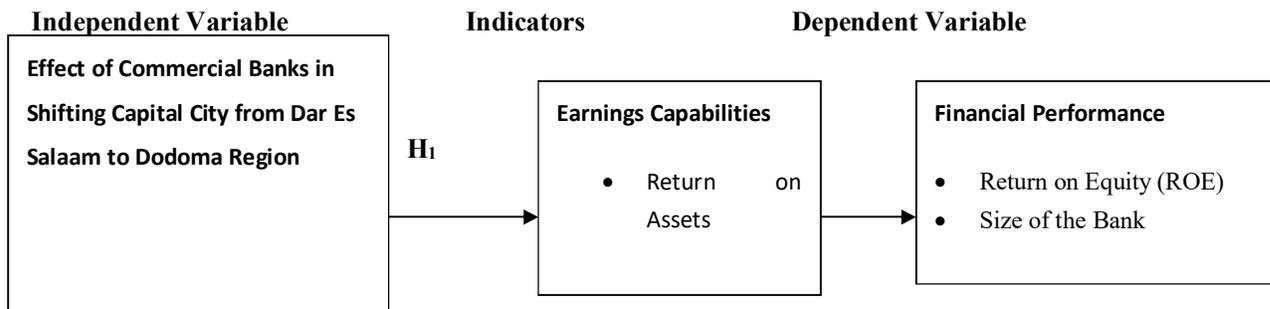


Figure 1: Conceptual Framework for the Study

Source: Constructed from Literature Reviews and Modified through Theories

Research Methodology and Material

Through a quantitative research approach coupled with panel data research design were generated through document reviews because very flexible in the collection of data through a period. Also, the study used panel data research design because the design is suitable for comparison between an entity. The research location was carried out at National Microfinance Bank Plc (NMB), Co-operative Rural Development Bank (CRDB) and Tanzania Postal Bank (TPB) located in Dodoma Region. Dodoma Region was chosen following that the Region is a rising Capital City of Tanzania with a lot of opportunities in operating business. Also, the transfer of government activities from Dar es Salaam to Dodoma was the reason for selecting NMB, CRDB, TPB which are all located in Dodoma following the size of the banks in terms of branches and high capital compared to other commercial banks. Also, these banks existed before and after the shift of the capital city to Dodoma Region. The population of this study comprised quarterly financial data from 2010-2020. A sample size of 120 observations calculated by taking the (quarterly) financial data of 10 years from three commercial banks so, three (3) commercial banks was involved namely; NMB, CRDB and TPB. The NMB, CRDB, and TPB Banks were selected purposively. The data was extracted from reliable source such as Bank of Tanzania (BOT) and Dar es Salaam Stock Exchange (DSE).

A. Econometric Model Development; Multiple Linear Regression Model (MLRM) was used to examine the relationship between asset quality and financial performance of commercial banks before and after shifting capital city located to Dodoma region, Tanzania. The reason of selecting the multiple linear

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regression model is due to the fact that the dependent variable of the study is “*continuous in nature*” so that, the MLRM is appropriate for this research. The equations are expressed as follows:

$$ROA_t = \beta_0 + \beta_1(ROE) + \beta_2(EC) + \varepsilon \dots \dots \dots (i)$$

Whereas: ROA_t = Return on Asset; β_0 = Constant Term; ROE= Return on Equity; EC=Earning Capabilities; ε = Error Term

Results and Discussion

Right Multicollinearity

The model needs defective correlation of the independent variable, which is resolute by any other explanatory variable. Stipulation multicollinearity exists; that is, the association between explanatory variables is it is extremely complicated to divide the outcome of person in explanatory variables on the forecasted result (dependent variable). Therefore, regressions examination does not succeed to disclose a true association between the dependent variable and explanatory variables. According to Deborah (2010), the right multicollinearity exists if the correlation coefficient between explanatory variables is unitary. Therefore, the findings indicate the deficiency of right multicollinearity (1 or 100%) using a correlation method.

Table 1: Correlation Matrix showing Level of Multicollinearity

Variables (In TZS)	(1)	(2)	(3)
(1) Non- Performing Loans (NPL)	1.000		
(2) Total Loans	0.260	1.000	
(3) ROE	0.917	0.238	1.000

Source: Research Findings (2021)

Non-performing loans shows to have a small correlation with total loans (0.260). This applied that the assumption concerning the lack of right multicollinearity has not been dishonored. Nevertheless, additional assumptions, counting the lack of heteroscedasticity are dishonored

Heteroscedasticity

The calculation of ROE for known values of explanatory variables becomes incompetent since the variation of the result includes the variation of both residuals and of the non-parameter estimate. Nevertheless, some scholars, like Saunders and Thornhill (2007) criticize that the assumption of homoscedasticity is often dishonored in apply. This is due to the nature of variables. For example, utilization against income, when income modify, it is clear that consumption also change. Consequently, the variation of expenditure was due to the variation of both income and residuals.

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Table 2 : Breusch-Pagan / Cook-Weisberg Results showing Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of GDP

chi2(1) = 3.20

Prob > chi2 = 0.0738

Source: Research Findings (2021)

The P-Values of Breusch-pagan (0.0738) are less than 10 level of implication (10% or 0.1). So, the null hypothesis which states that the variation for lasting is uniform and, thus, it cannot be held. This implies that the supposition has been dishonored. Therefore, even if the estimators are linear and balanced, they lack still incompetent.

Unit Root Test

Dickey and Fuller (1979) extended a method for testing whether a variable has a unit root or is proportionate that the variable pursues an unequal walk. Hamilton (1994: 528–529) portrays the four separate luggage’s to which the distended Dickey–Fuller test can be practical. The unacceptable theory is time after time that the variable has a unit root. The difference is whether the unacceptable theory incorporates a hover term and whether the deterioration used to get the test dimension incorporates a stable word and time pattern. Unit root test was thus scrutinized as obtainable Table 3.

Table 3: Dickey-Fuller Results for Unit Root Test

	Interpolated Dickey-Fuller					
	Test Statistic	1% Critical value	5% Critical value	10% Critical value		
Z(t)	-4.669	-3.75	-3	-	2.6	3
MacKinnon approximate p-value for Z(t) = 0.0001						
D.uhat	Coef.	Std.Err.	T	P>t	[95%Conf.	Interval]
Uhat						
L1.	-1.292	0.277	-4.670	0.000	-1.889	-0.694
_cons	5.65e+19	1.24e+19	4.560	0.001	2.98e+19	8.33e+19

Source: Research Findings (2021)

The null hypothesis is that the changeable contain a unit root, and the option is that the changeable was produce by a stationary process. The coefficient of the Uhat and MacKinnon are statistically important at

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all levels of consequence (5%, 10%). This implies that the null hypothesis of a unit root is rejected. Therefore, the supposition of homoscedasticity has been contented as shown in Table

Autocorrelation

Autocorrelation test carried out the universal requirement test of serial correlation in a time series suggested by MUByopyo (1975). It can be practical to a univariate time series or as a post estimation command after OLS or active variables (IV) assessment. The null hypothesis of the test is that the time series is a touching standard of known order q , which could be zero or an optimistic value. The test believes the universal alternative is that autocorrelations of the time series are nonzero at lags greater than q . As for the wad of 1 period, the designed P-Value is 0.015 (Table 4.5). This applies that the null hypothesis shapes the continuation of a serial correlation which cannot be rejected. This is applied using old least regression created invalid T-Test value and F-Test value. So, changing variables or using widespread linear was more applicable.

Table 4: Autocorrelation Results Using Breusch-Godfrey

H0: $q=0$ (serially uncorrelated)				H0: q=specified lag-1			
HA: s.c. present at range specified				HA: s.c. present at lag specified			
lags	chi2	df	p-value	lag	chi2	df	p-val
1-1	5.952	1	0.015	1	5.952	1	0.015

Cumby-Huizinga test for autocorrelation (Breusch-Godfrey)
H0: Variable is MA process up to order q
HA: Serial Correlation Present at Specified lags $>q$

Source: Source: Research Findings (2021)

Linearity

Is a regression presumption where linear practical form the response variable y should be linearly connected to the independent variables X . The assumption speaks to the functional form of the model. A regression model is linear when all words in the model are also constant or a parameter increases by an explanatory variable. Figures 2, 3, and 4 show that the linearity association exists between total nonperforming loans and financial performance and earnings capabilities with financial performance. Finally, the combined graph of the variables shows a linear association between variable and, therefore, regression assumption grip.

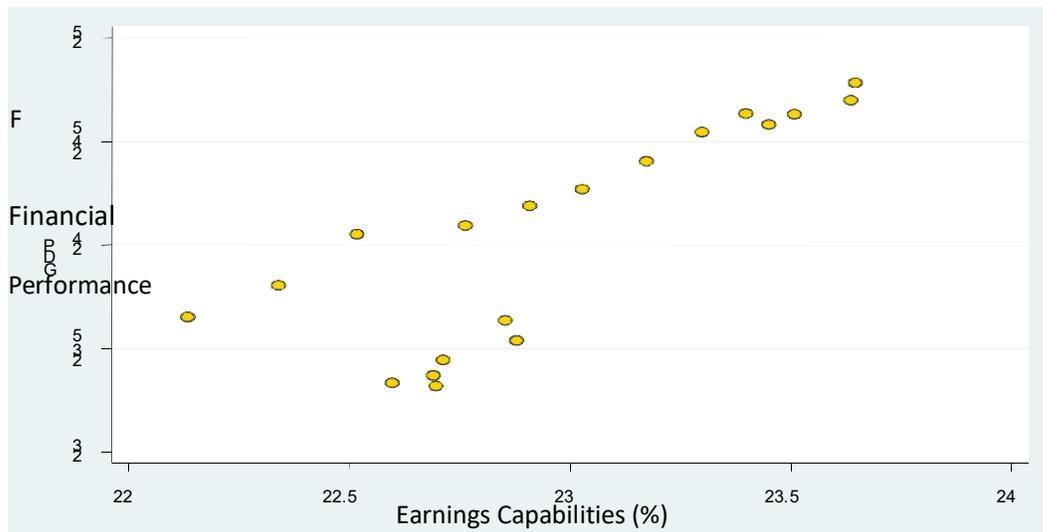


Figure 2: Linearity ROA vs Earnings capabilities Ratio

To create a suitable conclusion from researcher regression, the residuals of the regression should track a normal distribution. The residuals are basically the error term or the dissimilarity between the experiential value of the needy variable and the predicted value. Figures 3 and 4 are the k-density commands to create a kernel density scheme with the normal alternative request that a normal density is overlaid on the plot. K-density stands for kernel density estimate. Kernel density estimation (KDE) is a non-parametric method to estimate the likelihood density purpose of a random variable. Kernel density opinion is a basic data flat problem where deduction about the population is made based on a limited data sample.

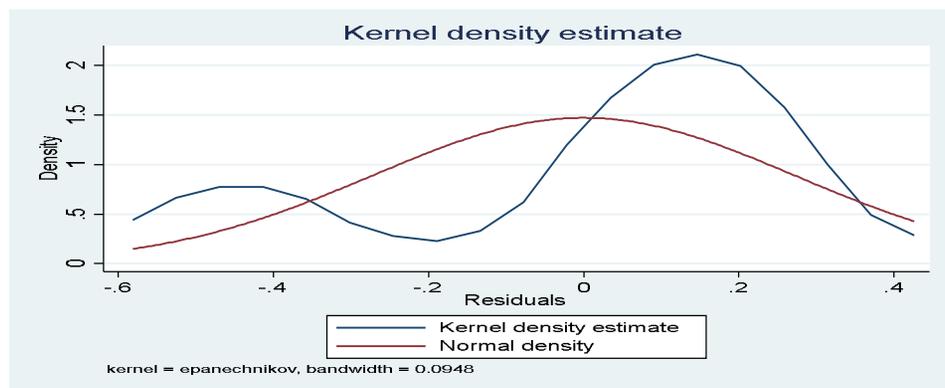


Figure 3: Kernel Normality Density Estimate

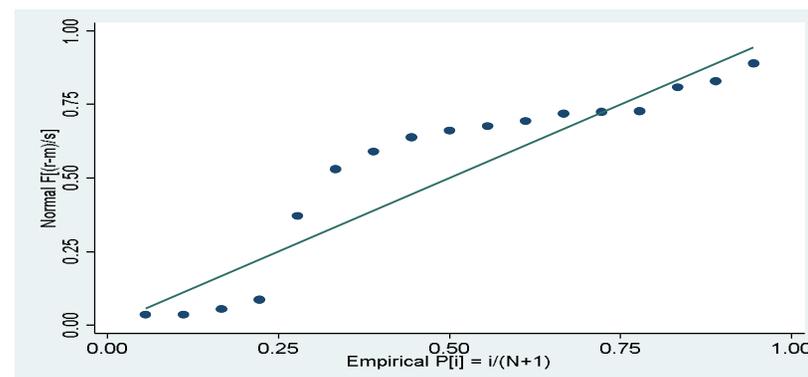


Figure 4: Normality

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mean= -7.7e-10      std.dev.= .2711      (n= 17)
median= .113      pseudo std.dev.= .1857      (IQR= .2505)
10 trim= .0294
    
```

Table 5: Outliers

	low	high
inner fences	-.4644	.5377
# mild outliers	2	0
% mild outliers	11.76%	0.00%
outer fences	-.8401	.9134
# severe outliers	0	0
% severe outliers	0.00%	0.00%

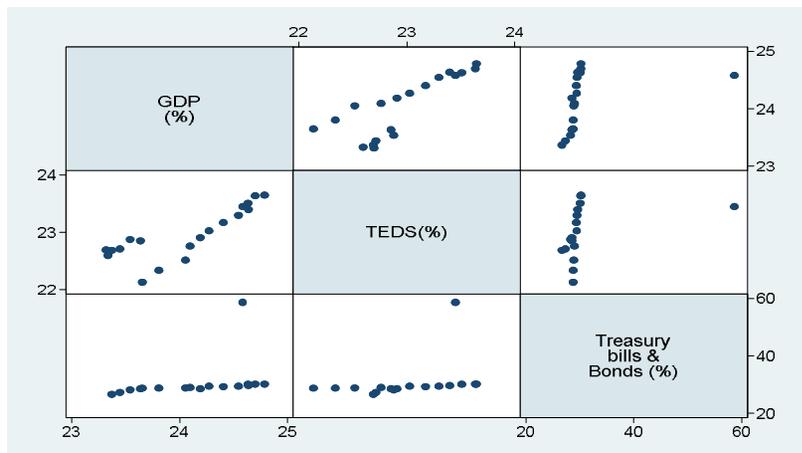


Figure 5: Shows the Influence of Variables

Source: Research Findings (2021)

Source: Research Findings (2021)

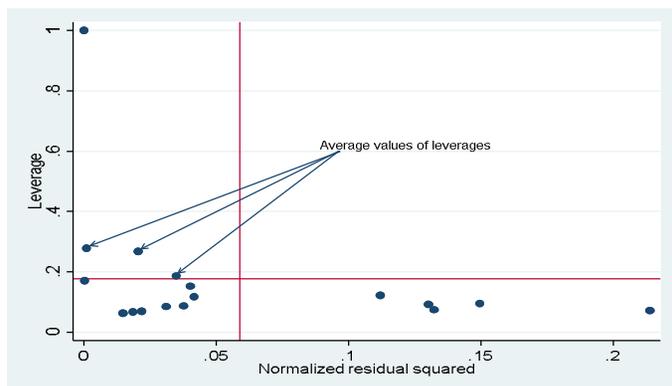


Table 6 : Normality Linktest

Source	SS	df	MS	Number of obs	=	17
Model	2.71462911	2	1.35731455	F(2, 14)	=	18.97
Residual	1.00160585	14	.071543275	Prob > F	=	0.0001
Total	3.71623496	16	.232264685	R-squared	=	0.7305
				Adj R-squared	=	0.6920
				Root MSE	=	.26748

ln_GDP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
_hat	-31.6512	20.93589	-1.51	0.153	-76.55422 13.25182
_hatsq	.6769519	.4340464	1.56	0.141	-.253985 1.607889
_cons	393.6122	252.4078	1.56	0.141	-147.7488 934.9732

Figure 3: Leverage

Table 7: Hosmer and Lameshow Goodness of Fit Test

Step	Chi-square	Df	Sig.
1	9.810	8	0.279

Source: Research Findings (2021)

The collection test of model coefficients tests whether the model is statistically significant and can be further understood. From the reality that the model has a P-Value of 0.000 (Table 8) which below 0.05 this recommends that the model is statistically significant and can additionally be used for estimations since the largely model is statistically significant; $\chi^2(3) = 59.465$, $P < 0.05$ as shown on Table 8

Table 8: Omnibus Test of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	59.465	3	0.000
	Block	59.465	3	0.000
	Model	59.465	3	0.000

Source: Research Findings, 2021

The analysis revealed that there is an association between asset quality and financial performance that were observed to exist before and after shifting the capital city from Dar Es Salaam to Dodoma (P-Value 0.006).

The Relationship between Asset Quality and Financial Performance of Commercial Banks before and after Shifting Capital City to Dodoma Region

The tests conducted through this study show that there is statistically significant relationship between earning capabilities and financial performance before and after shifting capital city from Dar Es Salaam to Dodoma city with P-Value of 0.0001. This implies that the asset quality has an association with financial performance since the P- Value was 0.0001. Other researchers said earning capabilities and financial performance has a positive association (Ifeacho and Ngalawa, 2014; Kioko *et al.*, 2017).

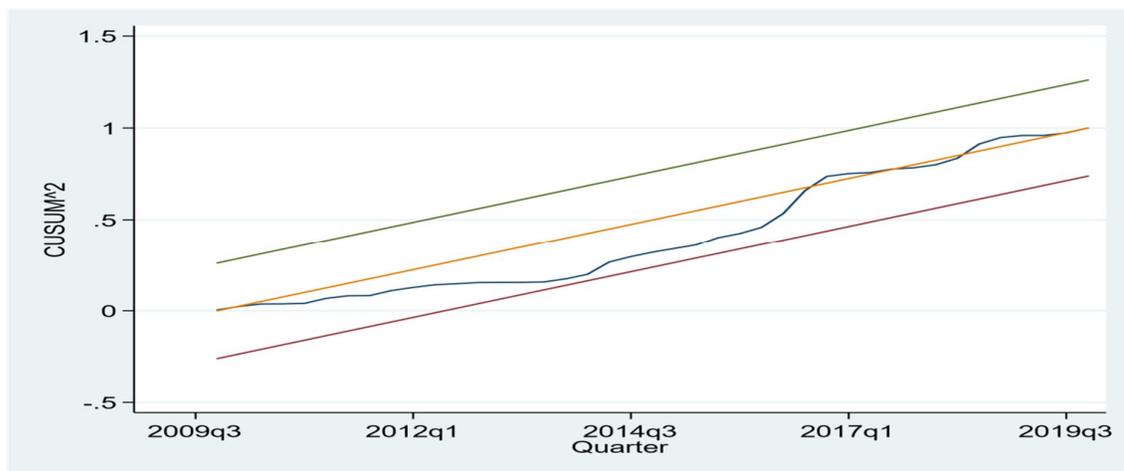


Figure 4: Model Stability (Cusum Chart)

Source: Field Data, 2021

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Conclusion

The results show that earning capabilities has a positive effect on financial performance. This finding is consistent with the observation made earlier by Hitchner (2006) who found a significant correlation in the long run and short run between earning capabilities and financial performance. Also, Grant (2003) obtained similar findings which revealed that the long run relationship exists between earning capabilities and financial performance. Another study which was made to analyze both long-term earning capabilities and short-term earning capabilities to check the effect of each on the ROA revealed that long term impacts have insignificant effects on financial performance. This is in agreement with DGL (2015) who established that a high level of earning capabilities is negatively correlated with financial performance mostly when earning capabilities are below 90%. This is supported by Onkoba (2014) who established that there was no relationship between asset quality and financial performance. In contrast, short term relationship appears to have a positive significant impact on the financial performance. Kafidipe *et al.* (2021) also revealed that earning capabilities have a significant positive relationship to economic growth.

The study recommends that the Bank of Tanzania, international financial organizations and policymakers to supervise the operations of commercial banks to increase asset quality. This may be done by monitoring and mentoring to show good directions to the commercial banks. The researchers suggest that the future researchers to expand number of observations also to add more commercial banks in order to ensure the data validity and reliability of data.

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Effect of Monitoring and Evaluation on the Performance of Contracts for Road Construction at TARURA Head Quarter in Dodoma- Tanzania

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Abstract

Contract management is a strategic issue for organizations and projects alike. Successful contract management allows projects and organizations to gain more control, be more effective, and save money. Currently, in Tanzania most of the public procurement contracts have not been able to meet the intended strategic objective expressed in the contract. Various reports have indicated great deficiencies in procurement for works by executive agencies which represent 60% in undertaking contract management to achieve the end outcome of procurement process which is measured against value for money and reflects social-economic and political development of Tanzania. In this respect, the specific objective of the current study was to assess the effect of monitoring and evaluation on procurement contract performance at TARURA. The study used a cross-sectional design because data were collected from respondents from TARURA at a single point in time. Purposive sampling techniques were used in selecting the study area and key informant. The researcher used both In-depth interview and questionnaires as major instruments for data collection. The study found that; on the effect of Monitoring and Evaluation on TARURA's procurement contract performance; it was established that 52.7% of effect of Monitoring and Evaluation on TARURA's procurement contract performance were explained by availability of technical personnel, Work Schedule, Progress report, Inspection of executed works, and Risk Management as shown by the adjusted R Square. This meant that there were other variables that were not put into consideration that accounted for 47.3% of the contribution of service level agreements on TARURA's procurement contract performance. All in all, availability of technical personnel, Work Schedule, Progress report, Inspection and Testing of executed works and Completion certificate had a positive and significant relationship with the procurement contract performance. In conclusion, procurement contract management at TARURA had a significant and favorable impact on the performance of contracts. The study recommended that; TARURA should continue to monitor tendering procedures to ensure that they are followed as strictly as possible. The procurement oversight committee of TARURA should continue to properly supervise the application of the law and regulations on procurement in order to improve the level of contractor selection, efficiency, and resource management efficiency.

Key words: Contract Management Practices, Performance of Contracts, Monitoring and Evaluation, Procurement Contract Performance

Introduction

Contract management activities that are effective and profitable are those that meet the needs of the company's stakeholders, achieve optimal conditions and value in terms of the allocation of limited tax payer's capital (best value for money) (National Audit Office, 2016). Under the public sector there is wide range of contracts which need different types of contract management and practices (Saxena, 2008). To achieve the intended outcome, proper contract management is a key to improving procurement performance in public entities (Kakwezi, 2012). World Bank (2018) insists on the need for proper key performance indicators and having a staffed and competent contract management team in relation to procurement contract management in England.

According to Ogembo, & Muturi (2019) contract management practices have had a critical positive impact on procurement performance in devolved governments in particular elements like contract automation, contract management team, strategic contract management and contract risk management. In Africa, many of the developing countries such as Uganda, Rwanda, DR. Congo, Kenya, do incur high costs of road construction and in turn these roads are completed with low quality (World Bank, 2012). This is mainly due to the fact that suppliers of construction materials and services have monopoly power

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and don't respect contract management practices which increase inefficiency and lowering quality. In Rwanda for example, Nsanzimana and Mulyungi, (2018) noted a strong and positive relationship between management techniques and contract performance of Remera-Rwandex road construction project as their results of correlation between management techniques and project performance was at 0.720. This implies that management techniques affected contract performance of projects at the level of 72% which prove a significant relationship between management techniques and contract performance of road construction project. Similarly, in Tanzania Mlinga (2008) noted that, there was ineffectiveness in procurement contract management due to lack of competent personnel armed with skills and experience to manage contracts.

In Tanzania, Public procurement expenditure account for about 75% of its development annual budget. This implies that, a lot of money is located on procurement of works and services which are contractual based activities. Thus, proper contract management could ensure the proper utilization of resources which leads to high work performance). The Public Procurement (Amendment) Act 2016 (section 3) requires, all Parastatal and public organizations to conduct procurements for procuring goods, works, services, non-consultants and disposal of public assets by tender (Ivambi, 2016). Despite of this requirement, the performance of most of contract works and services are ineffectiveness which impacts the performance of construction projects. The public sector in Tanzania has numerous instances of inefficiency and ineffectiveness that have been recorded to exist (Mwakyelu, 2019). These could have been originated from inefficient procurement contract management which could not ensure the timely and within budget projects completion (Nshemereirwe, 2015).

Moreover, the Auditing Report of PPRA (2018/2019) reported that about 58% from 19 audited Procuring Entity (PE) including Tanzania Rural and Urban Road Agency (TARURA) indicated various notable weaknesses which include progress reports on contract implementation issues not prepared by the project supervisors on time. A number of amended contracts also, which exceeded 15% of the contract value did not get approvals from the budget approving authorities? This is contrary to Regulation 64 (4) of Public Regulation 2013, consultant engaged by PE's did not submit some of the deliverables stated in their contracts. Moreover, the same report noted that, some projects were executed beyond their contractual period and there were no evidence of their extension and payments were made to the executed works without measurement and inspection.

The CAG report (2021) further revealed that, Public Institution in Tanzania paid over TZS 29 billion out of their spending plan implying poor contract management. The institutions involved in the overpayments included; Tanzania Road Agency (TANROAD), Tanzania Wildlife Authority (TAWA), Tanzania Institute of Accountancy (TIA), Ministry of Health (MoH), Ministry of Works (MoW), Prime Minister's Office and Tanzania Rural and Urban Road Agency (TARURA) (CAG, 2021). To cement the situation, previous studies conducted on procurement contract management, such as of Kimundu and Moronge (2019), Mulyungi (2018), few to mention, have not provided enough literature to address the existing problem of poor procurement contract management practices, and there have been few studies conducted in the Tanzanian context. This absence of literature hinders the understanding on what is the effect of monitoring and evaluation on procurement contract performance at TARURA. It is from this context that, this study sought to fill this knowledge-gap by investigating the effect of monitoring and evaluation on procurement contract performance at TARURA as a pilot area.

Literature Review

Definition of Contract Management

Contract management is the activity of ensuring that both interested parties of the contract fulfill their respective obligations competently and successfully in order to meet the contract's operational goals and, more importantly, to deliver value for money. As a result, forming and managing contracts is a skill that public agency units require in order to control the majority of their activities. However, contract management, according to Saxena (2008), is not an objective in itself, and it is critical that all contractual decisions and actions focus on the outcomes that units are aiming for. Since the late 1980s, the 're-inventing government' movement has sparked increased interest in contract management in government (Osbourne and Gaebler, 1992). This drive was part of the New Public Management (NPM) movement,

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which saw changes to public institutions, a trend toward decentralization, and the introduction of a business atmosphere into government operations.

Contract Performance

The term 'Performance of contract' means that both, the promisor and the promisee have fulfilled their respective obligations which the contract placed upon them. For instance, A visits a stationery shop to buy a calculator. The shopkeeper delivers the calculator and pays the price. The contract is said to have been discharged by mutual performance. Section 27 of Indian contract Act says that, The parties to a contract must either perform, or offer to perform, their respective promises, unless such performance is dispensed with or excused under the provisions of this Act, or any other law. Promises bind the representatives of the promisor in case of the death of the latter before performance, unless a contrary intention appears in the contract. Thus, it is the primary duty of each contracting party to either perform or offer to perform its promise. For performance to be effective, the courts expect it to be exact and complete, i.e., the same must match the contractual obligations. However, where under the provisions of the Contract Act or any other law, the performance can be dispensed with or excused; a party is absolved from such a responsibility (accountlearning.com, 2021).

The Empirical Review on the Effect of Monitoring and Evaluation on Procurement Contract Performance

Nsanzimana and Mulyungi (2018) noted a strong and positive relationship between management techniques and contract performance of Remera-Rwandex road construction project as their results of correlation between management techniques and project performance was at 0.720 meaning that management techniques affected contract performance of projects at the level of 72%. This result proves a significant relationship between management techniques and contract performance of Rwandex-Remera road construction project. Kihuha (2012) examined Monitoring and Evaluation routine at United Nations Environment Program Global Environment Facility Projects in Kenya and its effect on Project Performance. Associations between M & E practice and project performance were measured using logistic regression model, with estimated odds ratios (ORs) at 95% confidence intervals (CIs) with a $P < 0.05$ regarded to be statistically significant to establish influence of M & E practice on performance. The study established adaptability of planning process and technical expertise on allocation of funds for M & E, development of clear M & E plans/tools, regular collection and analysis of M & E information, training of M & E staffs and attracting skilled M & E staffs with average flexibility on M & E needs assessment. The project though reported low staff awareness on M & E planning process, lack of control mechanisms to keep track of project progress, lack of utilization of M & E to support decision making during project implementation, lack of developed comprehensive strategic operational plans for regular monitoring and evaluation. The study concluded that planning process and technical experts practices applied optimally while stakeholder involvement and management participation had low-level application.

Amour (2014) investigated the role of procurement contract management in the effectiveness of project management for the telecommunication companies focusing the TIGO Tanzania. It was observed that suppliers' compliance with terms and conditions, suppliers' technical capability and close monitoring of suppliers during project implementation are crucial in procurement contract management. Despite the fact that the study linked the contribution of procurement contract management to project performance, yet it considered private organization instead of public institution projects. Hence there is a need to investigate this topic with regard to the public institutions project performance. Additionally, if the study conducted was relevant, yet given period of time the study was conducted to date respondents would be have responded differently. Hence this calls for a new study to be conducted in this topic but with the focus on project performance among public institutions in Tanzania.

Kingoto, & Ismail, (2021) aimed at determining the role of procurement contract management on performance of commercial state corporations in Nairobi County. The specific objectives included: to determine the role of contract structure on firm Performance, to evaluate the effect of contract monitoring on firm Performance. The study concluded that contract structure has a positive and significant influence on performance of commercial state corporations in Nairobi City County. In addition, the study concludes

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that contract monitoring has a positive and significant influence on performance of commercial state corporations in Nairobi City County. In line with the study results, it is recommended that the management of the commercial state corporations should ensure better contract terms and contract negotiations to improving organization performance and should also formulate and implement better contract inspection methods, contract dispute resolution, and ensure contract adherence to improve organization performance.

Hubert and Mulyungi (2018), looked at the influence of Monitoring and Evaluation Planning on Project Performance in Rwanda and noted that M&E activities have significant impact on the success of the projects because the regular reporting on the project allows opportunities to measure project performance against the project plans. Mgawe and Masanja (2019) investigated the influence of procurement practices on the performance of construction projects in NHC in Tanzania. It was found that best suppliers selected were associated with reduction conflict of interest between the suppliers and management of the organization which in turn influence productivity of the staff. It was further noted that contract monitoring and control reduce had effect of reduction of risks and triggered solutions acquisition. This study did not incorporate the contract aspect in its topic hence it was biased. Additionally, the selection of one public entity that is NHC narrowed the scope such that other public institutions were ignored. The researcher is in opinion that, there is a need to investigate the contribution of procurement contract management in project performance at Public Institution.

Research Methodology

Study Area

The study was conducted TARURA headquarters in Dodoma City. The institution was selected due to the fact that, it was amongst of institutions which were reported in the Audited Reports of Controller and Auditor General (CAG) and Public Procurement Regulatory Authority (PPRA) to have continually indicated failure in contract management in implementing projects due noncompliance with laws and regulations in tender processes for road projects.

Research Design and Sampling Procedures

This study used a cross-sectional design because data were collected from respondents from TARURA at a single point in time. A cross-sectional research design was used to explore the effect of procurement contract management on contract performance at TARURA at a certain moment in time and it was thought to be cheaper and less time-consuming allowing the researcher to easily collect data that was used as a basis for further research. Both purposive and stratified sampling techniques were used in selecting respondents at the study area. The purposive sampling was used in selecting the institution and key informants, this is because the selected public institution is among of the big procuring entities and involved in many contracts in accordance with their mandate as per its establishment. On the other hand, the stratified sampling was used in selecting 98 respondents at TARURA emanating from the selected departments and units. The stratification was based on departmental professionals involving all departments that deal with contract management. Seven strum based on department were formed and from each department a proportion random sampling was employed in selecting the respondents.

Data Collection and Analysis

Structured and semi- structured questionnaires were administered in gathering primary data. The administered questionnaires were both open and close-ended which were prepared and distributed to respondents of choice. Some of the survey questions existed as category questions and others numeric rating questions. Data from this source were analyzed, and used in presenting results. In-depth interview was used to generate qualitative data from four (4) Directors and Head of Unit of TARURA whereby the interview guide having opened ended questions were used. These questions were used to capture information from the participants on the effect of procurement contract management at TARURA. In regard to data analysis, content analysis was used for analyzing qualitative data collected through interview and for quantitative data; both descriptive and inferential analysis was employed in analyzing the corrected data. The Multiple Regression Model was used to assess the effect of contract management practice on contract performance measured by time of completion of the project contract. The Model was

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selected because the dependent (contract performance) is a continuous measure in completion time and the multiple regression model.

Model Specification

The Multiple Regression Model was used to assess the contribution of Monitoring and Evaluation on TARURA’s procurement contract performance. The model was presented by equation as expressed below: -

$$\text{Contract Performance (Y)} = \beta_0 + \beta_1\text{TE} + \beta_2\text{RiMa} + \beta_3\text{Ws} + \beta_4\text{PR} + \beta_5\text{IT} + \epsilon$$

TE = Availability of technical personnel

RiMa = Risk Management

WS = Work schedule

PR = Progress report and

IT = Inspection and testing of executed works

Results and Discussion

Descriptive Results

The study considers the importance of analyzing the characteristics of a study population as it helps in data interpretation. The analysed demographic characteristics include; age, sex, marital status, and education as indicated in Table 1.

Table 5: Demographic characteristics of the respondents

Variable	Response	Frequency	Percentage (%)
Gender	Male	57	60.0
	Female	41	40.0
	Total	98	100.0
Respondent’s Age	20- 29years	16	16.3
	30-39 years	28	28.6
	40- 49 years	38	38.8
	50 and above	16	16.3
	Total	98	100.0
Marital Status	Single	28	28.6
	Married	59	60.2
	Widowed	9	9.2
	Divorced	2	2.0
	Total	98	100.0
Education Level	Secondary education	5	5.1
	Certificate	13	13.3
	Diploma	22	22.4
	Degree	51	52.0
	Masters and other professional course	7	7.2
	Total	98	100.0

Source: Field data (2021)

Gender of Respondents

The findings presented in Table 1 revealed that, majority (60%) of the respondents were male while only 40% were female. This implies that, majority of employees at TARURA were male. This could be due to the nature of their activities which are field based. These results are in line with that of Karungani, (2015) who noted that, by including respondents of diverse gender high quality research findings were obtained since gender balance in any research undertaking is essential to ensure that variations related to gender are captured into the study. The findings are also in line with those of Sabiti and Mulyungi (2018) who noted, 61.2% of the respondents were male while only 38.8% of the respondents were female. This response

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indicates that there is to some extent equal distribution of gender. In addition, it shows that both genders were well involved in this study and thus the finding of the study did not suffer from gender bias.

Age Groups of Respondents

Results in Table 1 indicates that, majority of the respondents (38.8%) were between the age group of 40-49 years followed by respondents with the age groups of 30-39 years that constituted of (28.6%) of the total number of respondents, 50 years and above and finally 20 to 29 years at (16.3%), and (16.3) respectively. Generally, majority of the employees at TARURA were generally aged at 30 years and above. This implies that, TARURA mainly had middle-aged staff presenting active age groups which can suitable performing field works. This result is similar to the findings of Anyango, and Gichure (2017) who noted that, all respondents were drawn from all the age groups thus provided reliable data for the study

Marital Status of Respondents

Results as presented in Table 1 above shows that, the married respondents constituted the highest percentage (60.2%) in terms of marital status, while divorced respondents constituted the least percentage (2.0%) and widowed respondent (9.2%). The findings imply that, marital status was one of the key factors that were considered by employees at TARURA due to family needs and demands.

Education Level of Respondents

Results from Table 1 further indicated that, majority (52.0%) of employees at TARURA were degree holders, followed by diploma (22.4%). Certificate (13.3%), masters and other professional course were (7.2%). The least number (5.1%) of employees at TARURA had attained secondary education. Generally, most of the employees at TARURA were degree holders implying that employees were literate so they had clear understanding of the effect of procurement contract management on contract performance. These study findings concur with Karungani (2015) who noted that the respondents had master degree, bachelor degree, diploma, and certificate respectively. This shows that all the respondents had requisite education level to read and comprehend the questionnaire and give relevant answer. The findings are also in line with Akampurira (2018) that noted that only highly educated people with high expertise were employed. This also helped the researcher to quickly collect data since the respondents were able to read, write and easily interpret the questionnaires.

The Effect of Monitoring and Evaluation on TARURA’s Procurement Contract Performance

Here the study looked at the contribution of monitoring and evaluation on procurement contract performance at TARURA. From the findings in Table 2, it was established that 52.7% of effect of Monitoring and Evaluation on TARURA’s procurement contract performance were explained by availability of technical personnel, Work Schedule, Progress report, Inspection of executed works, and Risk Management as shown by the adjusted R Square. This meant that there were other variables that were not put into consideration that accounted for 47.3% of the contribution of service level agreements on TARURA’s procurement contract performance.

Table 6: The effect of Monitoring and Evaluation on TARURA’s procurement contract performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	0.017	.354		1.954	0.642
Availability of technical personnel	0.452	.123	0.447	3.634	0.011
Work Schedule	0.354	.154	0.346	2.247	0.004

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Progress report	0.375	.112	0.368	3.286	0.031
Inspection of executed works	0.258	.145	0.248	1.710	0.085
Risk Management	0.281	.554	0.275	0.496	1.412
R ²	0.527				

a. Dependent Variable: Dependent Variable: procurement contract performance timely delivery

Source: Primary data, 2021

Table 2 shows that, availability of technical personnel had a positive and significant relationship with the procurement contract performance as indicated with a P-Value of 0.011 which is less than 0.05. A coefficient of 0.447 was obtained indicating that leaving other factors constant, a unit change in Availability of technical personnel would on average lead to an increase in the procurement contract performance by 44.7%. This indicates that having more skilled and knowledgeable staff in the respective fields count enhances the completion of the contract. This finding is in line with those of Kiura (2017) and Gorgens & Kusek (2010) who noted that Monitoring and Evaluation practices cannot function effectively without the presence of skilled people who successfully execute the M&E tasks for which they are responsible. Therefore, officials or consultants who are highly skilled should ensure an effective practice of Monitoring and Evaluation and performance of the company.

The findings in Table 2 further show that, Work Schedule had a positive and significant relationship with the procurement contract performance as indicated with a P-Value of 0.004 which is less than 0.05. A coefficient of 0.346 was obtained as well implying that leaving other factors constant, a unit change in abiding the Work Schedule would on average lead to an increase in the procurement contract performance by 34.6%. This is in line with Kihuha (2012) who noted that Monitoring and evaluation are mostly important practices to any project stage, it allows for an on-going review of the project performance.

The findings also show that, progress report had a positive and significant relationship with the procurement contract performance as indicated with a P-Value of 0.031 which is less than 0.05. A coefficient of 0.368 was obtained as well implying that leaving other factors constant, a unit change in progress report would on average lead to an increase in the procurement contract performance by 36.8%. This is supported by SIDA (2014), who stated that although, reports submission and sharing of M&E information is an important practice during project implementation, only few studies focused on this manner. However, in this study, the researcher was keen to explore the effect of M&E reports in project performance based on the RBM theory. In a survey by KPMG (2014), stated that there is a need for stronger and more timely feedback loops to synthesize and act on lessons learned, explaining this further that reports produced which are not in timely manner misses the opportunity to share the results and obtain the lessons learned. This was also explained by Hubert and Mulyungi (2018) that M&E activities have significant impact on the success of the projects because the regular reporting on the project allows opportunities to measure project performance against the project plans.

The findings in Table 2 above shows that Inspection of executed works had a positive and significant relationship with the procurement contract performance as indicated with a P-Value of 0.085 which is less than 0.05. A coefficient of 0.248 was obtained as well implying that leaving other factors constant, a unit change in Inspection of executed works would on average lead to an increase in the procurement contract performance by 24.8%. This is in line with Dayson (2010) who noted that the importance of M&E technical activities was confirmed by defining monitoring as the collection along the analysis of information regarding a given program or intervention, while evaluation is an assessment whose focus is to answer the questions related to program or intervention. These general activities of M&E support keeping all the work on track and can let the management know whether things are not running as expected. The technical activities of M&E support project managers and staff undertaking whether the projects are processing as predetermined (Houston, 2008). In addition, Shenhar (2011) pointed that M&E technical activities should bring a resonate way of considering achievements, as this overtime will help

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meeting the community needs which indicate good performance of the project, leading towards successful projects.

The findings show that Risk Management had a positive and significant relationship with the procurement contract performance as indicated with a P-Value of 0.041 which is less than 0.05. A coefficient of 0.275 was obtained as well implying that leaving other factors constant, a unit change in Risk Management would on average lead to an increase in the procurement contract performance by 27.5%. This is in line with NORAD, (2013) who noted that Monitoring and evaluation enhance the efficient and effectiveness of organization assistance by establishing Clear links between past, present and future interventions and results.

The findings are also supported by interviews carried out, where interviewee 1 (Director of Urban Roads) stated that,

“At TARURA, Availability of technical personnel ensures that all aspects of contractor responsibility are addressed”.

Interviewee 2 (Head of Procurement) stated that,

“Well here at TARURA, Work Schedule has had great effect on procurement contract performance”.

Interview 3 (Director of Rural Roads) stated that,

“For us at TARURA, Inspection and testing of executed works is ongoing and it affects procurement contract performance”

Interview 4 (Head of Internal Audit) stated that,

“Identification of project risks and its mitigation executed works has influence on the procurement contract performance”

Conclusion and Recommendations

Based on the findings the study concluded that, Availability of technical personnel, Work Schedule, Progress report, Inspection of executed works and Risk Management they were having a positive and significant relationship with the procurement contract performance. This implies that, Monitoring and Evaluation practices at TARURA have a significant and favorable impact on the performance of contracts. Generally, proper Monitoring and Evaluation practices, when carried out in accordance with established procedures and in good faith, results in increased procurement contract performance levels at TARURA. Moreover, effective monitoring and evaluation of projects results in favorable procurement contract performance. In view of the conclusions and observations reported herein, the following recommendations are presented; TARURA should continue to monitor tendering procedures to ensure that they are followed as strictly as possible in compliance with all applicable laws and regulation including relevant issued guidelines. The procurement oversight committee of TARURA should continue to properly supervise the application of the law and regulations on procurement in order to improve the level of Contractor selection, project efficiency, and resource management. TARURA should also continue to give contractors with appropriate and clear avenues through which to convey their clear requirements/ Bill of Quantities (BOQ).

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The Effect of Contract Management Practices on the Procurement Performance in Public Procuring Entities in Tanzania: A Case of Ministry of Finance and Planning

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Abstract

The Public Procurement Regulatory Authority report of 2018 revealed that 33% of procurement contract in 30 PEs including Ministry of Finance and Planning were delayed in implementation. Most of the delays are due to lack of effective communication, inaccurate information and lack of individual capacity to supervise and manage contracts. This study aimed at examining the effect of contract management practices on the procurement performance. Specifically, the study, intended to examine the effect of contract administration on procurement performance at the Ministry of Finance and Planning. The study employed a sample of 81 respondents from the Ministry of Finance and Planning. Methods used in Data collection included interview and questionnaire. Qualitative data were analyzed using thematic analysis while quantitative data analysis was done using descriptive statistics and multiple regression analysis. Findings revealed that, contract administration were positively and significant related to procurement performance. Therefore, the implication of this study directed the Ministry of Finance and Planning to improve contract administration practices, such as controls and manages contract changes, timely contractor payment, adherence to contract terms, updating records of contract implementation and professional consideration when appointing contract supervisors so as to boost their procurement performance.

Key words: Contract, management, contract administration, procurement, performance, public procurement entities, Ministry of Finance and Planning

Introduction

Public Procurement is increasingly drawing attention among governments and public funded entities towards acquisition of good and services on behalf of governments (Czarnitzki Hünermund & Moshgbar, 2020). Globally, Public procurement contract comprises more than 20 percent of government expenditure. In most of the developing countries, public procurement is more devastated, for example Tanzania government comprises high proportion of expenditure that amounted to 30.1 percent of collected revenue during the financial year 2017/2018. This indicates that public procurement is vital government function that worth to be controlled for the affair of the economy (Dello, & Yoshida, 2017). Effective and efficient execution in the supply of products and services contracted out is a need for contract management. An organization may achieve VFM (value for money) while providing services to a specified population by using this method (Delmon, 2017). Contract management focuses on the operations that take place following the award of the contract throughout its implementation. Procurement management efficiency relies on the actions carried out at the choice of contract type and contractor selection stage (World Bank, 2018). Contract management is helpful in procuring since it is concerned with delivering high-quality services while also saving money and allowing suppliers to be more flexible (Cho and Pucick, 2015).

For the public sector to succeed in contracts entered the framework guidelines for the procurement policy should be in place. The specific attempt in the public to manage its procurement activity is to establish efficient contract management. In Tanzania contract management stage was regarded as the separate process to procurement functions performed by non-procurement professionals. This is the decision reached in the procurement laws towards awarding contract to bidders (Basheka, 2017). The performance report for the year 2018/19 specifically reviewed the concerns of contract implementation. The reports from 19 Procuring entities (PEs) including Ministry of Finance and Planning which is equal to 58% of the PEs that presented the internal audit reports indicated assorted weaknesses which include; contract implementation reports were not prepared by the contract supervisors, some of the contracts amended exceeded 15% of contracts amount without getting approvals of the respective budget approving authorities which is contrary to Regulation 61 (4) that directs that each contract amendments above 15% should obtain approval of the respective budget approving authority (URT, 2019). It is important to

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undertake this study to address the effect of contract management practices on the procurement performance in public procuring entities in Tanzania.

Statement of the Problem

Contract management is necessary in attaining value for money by ensuring fair procurement participation and adopting a competitive method in the use of public resource. The allocation of resources for the public affairs has to consider the efficient and effective process to assure achievement of value for money during contract management (Schooner, 2017). Based on effective contracts management which ensured procurement performance in public sector, the government of Tanzania under the Public Procurement Act (PPA) 2011 requires each procuring entity to adhere to contract terms and conditions by ensuring that the duties and obligations imposed by the contract are fully adhered to (Mchopa, 2015). Most PEs in Tanzania have a concern in managing contracts towards award of contract. According to PPRA report (2018), it was revealed that 33% of procurement contract found that 30 PEs including Ministry of Finance and Planning were delayed in the implementation as per the terms of the contract due to lack of effective communication, inaccurate information and lack of individual capacity to process large information as grounded in the transaction cost theory (Mrope, 2018).

Similarly, in Ministry of Finance and Planning as reported in PPRA report of financial year 2019/2020 revealed that due to improper contract management in the financial year 2019/20 contracts amounting to TZS 2.1 billion and 421 million were delayed to be implemented and terminated respectively (URT,2020). Different research has been conducted and published on Tanzanian public entity procurement function performance, hence most public entities have poor and inefficient procurement function performance (Kechibi, 2012). According to Mwakyelu (2019), despite the fact that contract management is a key concern in the public procurement process, it has gotten relatively little attention from PPA and procurement scholars. Therefore, in this regard, the study aims to address the effect of contract management practice specifically on contract administration on the procurement performance in public procuring entities in Tanzania using Ministry of Finance and Planning as relevance case.

Relevant Studies

Study on Factors Affecting Contract Management in Construction Industry was done by Kanchana et al (2018). If the contract monitoring components are properly handled, the chances of company success and successful service delivery are greatly increased, according to the findings of the research study. The research focused on characteristics that impact contract management, but it did not make a connection between these aspects and procurement performance. In addition, the research was concentrated on the building business. Sarkar (2015) did a study on Contract Management Practice based on the acquisition of goods in Bangladesh and discovered that the overall Contract Management practice lacks a commitment to achieving the greatest value for money. Despite that, there was no connection made between contract management and public procurement performance in this study.

Using data from a study done by Mchopa (2015), the author discovered that efficient contract management procedures are essential to achieving value for money in Tanzanian contracts for procurement of products, services and works. Tanzania public procurement, on the other hand, does not clearly identify the methods of contract management used. The study conducted at MIC-Tanzania on the procurement contract management's role in improving the efficiency of project management by Amour (2014). the findings revealed that, contractors must comply with contract terms and conditions, have technical competency, and be monitored under contract to ensure project management is carried out as agreed. Conclusions drawn by the author include the following: inadequate contractor management staff, disputes resulting from late deliveries by suppliers, poor quality of work/services, vague specifications, technical incapability of suppliers, and a lack of focus on making the contract readily available to other stakeholders. Lack of effective technical review and KPI monitoring was also cited. After the project was completed, a supplier delivery performance report was prepared, and a case firm should develop an automated contract management system. These were some of the recommendations made by the research. This research was done in Tanzania by the private sector, not the government.

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Methodology

Research Design

The study used cross-sectional research design. This was appropriated for the study because it enabled the researcher to collect data in one point of time to draw a conclusion.

Population of the Study

The population of this study was 102 members' deals with contract managements these are procurement management unit, Tender Board, Legal Department, project managers, heads of user departments and Accounts and Finance unit from the Ministry of Finance and Planning responsible for supervision of various contracts entered at the Ministry.

Sampling Procedure

This study adopted purposive sampling procedure to select relevant respondents. Since contract management practices on the procurement performance in public procuring entities is a technical issue, purposive sampling helped in selecting procurement officers, representative of financial information management system, representative from administration and human resource management, representative from government budget division and representative from information and Communication Technology, with technical knowledge and experience on tender documents quality, contractors' selection process, contract management plan and the level of performance in Ministry of Finance and Planning. The respondents here were selected purposively to meet the need for this study.

Stratified proportional sampling technique was used in selecting supplies officers from each department/unit. These sampling techniques respondents were divided into strata such as departments or units and in each department the supplies officer were selected.

Sample Size

The sample size for this study was determined by the formulae given by Krejcie and Dell (2002) as presented below

$$N = \frac{N}{1 + N(e)^2}$$

Whereby:

n = Sample size

N = Total Population

e = Precision error which equals to 5%

$$n = 102$$

Therefore, the $\frac{n}{1 + 102(0.05)^2}$ 81 respondents. To determine sample size of respondent in each department proportional sample size was applied (See Table 1)

Table 7: Proportional Sample Size Determination

Departments/unit	Population	Proportionate Sample	Sample size per Departments
Procurement Management Unit	17	17/102 × 81	13
Legal unit	12	12/102 × 81	10
Tender board	7	7/102 × 81	6
Project manager	15	15/102 × 81	12
User department	21	21/102 × 81	17
Accounts and Finance	30	30/102 x 81	23

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Departments/unit	Population	Proportionate Sample	Sample size per Departments
Total	102		81

Data Analysis Technique

The study collected both qualitative and quantitative data. The qualitative data were analyzed using content analysis. During analysis data was summarized and transcribed into themes to get useful information. The developed theme was compared with the relevant theories and literature to get a well narrated statement.

Quantitative data was analyzed by using descriptive and inferential statistics methods. Descriptive statistics methods were involved in computations of frequency, percentage, mean and standard deviations. Inferential statistics methods were used in relation to correlation analysis and multiple linear regression analysis to test the relationship between the five independent variables and the dependent variable. The model was treated contract management measured by contract administration as independent variable and procurement performance was dependent variables. The Multiple Linear Regression Equation is presented below:

$$Y = B_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \dots\dots\dots (1)$$

B_0 = constant coefficient

Y = Procurement performance (Timely Service Delivery)

X_1 = Contract changes are controlled and managed by the organization

X_2 = The organization guarantees that the contractor is paid on time

X_3 = The organization has assured that the contract terms and provisions are followed

X_4 = The organization keeps up-to-date records of contract implementation

X_5 = Contract supervisors with relevant qualifications, knowledge, and skills are appointed by the organization

ε = Error term

Results and Discussion

The Effect of Contract Administration on Procurement Performance

The study used multiple linear regression analysis to obtain the Procurement Performance and five Contract Administration such as Contract changes are controlled and managed by the organization, the organization guarantees that the contractor is paid on time, the organization has assured that the contract terms and provisions are followed, the organization keeps up-to-date records of contract implementation, contract supervisors with relevant qualifications, knowledge, and skills are appointed by the organization.

Model Summary

The regression analysis was carried out the coefficient R, the value of R is .871 which show there is a strong relationship between variables studied.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.871	0.759	0.743	.07910

Table 2 showed the adjusted coefficient of determination R^2 is 0.759 which depicted existence of variation of 75.9% in the procurement performance due to Contract Administration practise by ensuring that Contract changes are controlled and managed by the organization, the organization guarantees that the contractor is paid on time, the organization has assured that the contract terms and provisions are followed, the organization keeps up-to-date records of contract implementation, contract supervisors with relevant qualifications, knowledge, and skills are appointed by the organization. This show the explanatory power or the goodness of fit of the research model where most of the variance is indicated leaving only a small percentage unexplained. In Table 2 about 75.9% of the variance in procurement performance is explained. This evidence was enough in supporting a relationship between variables.

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Analysis of Variance

The analysis of variance, for the purpose of showing the effect of contract administration on Procurement Performance

Table 3: Analysis of Variance

Model		Sum Squares	df	Mean Square	F	Sig.
1	Regression	1.481	5	0.296	47.345	0.000
	Residual	0.469	75	0.006		
	Total	1.951	80			

Findings in Table 3 showed the significant level is .000^a. This implies that regression model is significant in predicting the effect of contract administration on Procurement Performance. By using the relevant F-test, the tabulated value for F (5,5% and 75) which is less than 47.345, meaning that the model was statistically significant in predicting the effect of contract administration on procurement performance.

Table 4: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.204	0.058		3.489	0.001
	Contract changes are controlled and managed by the organization	-0.046	0.024	-0.140	-1.894	0.062
	The organization guarantees that the contractor is paid on time	0.498	0.058	0.606	8.616	.000
	The organization has assured that the contract terms and provisions are followed	0.244	0.056	0.341	4.364	0.000
	The organization keeps up-to-date records of contract implementation	0.033	0.021	0.105	1.569	0.121
	Contract supervisors with relevant qualifications, knowledge, and skills are appointed by the organization	0.052	0.036	0.118	1.415	0.161

Dependent Variable: Procurement Performance (Timely Service Delivery)

From the equation taking the organization guarantees that the contractor is paid on time and the organization has assured that the contract terms and provisions are followed constant at zero are significant at .000 and .000 respectively, this shows that paying contractors in time and adherence to contract terms can positively predict procurement performance.

The above results indicating that majority of the respondents agreed on contract administration having an impact on procurement performance. The findings agree with Kinyanjui *et al.*, (2015) that using contract administration strategy as contract management practice is a smart step that can reduce expenses significantly. Similarly, the study findings relate Rotich (2014) who argue that appropriate contract administration comprises keeping an up-to-date form of the contract; controlling and managing contract

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variations; paying the contractor on time; generating reports on a regular basis, and properly managing assets.

Finding supported by one Key Informants who add the following information about the steps taken in contract administration;

“...*The contract administration in our organization involve contract supervisor appointment, control and manage changes associated with the contract and defect detection....*” (In depth interview, respondents from PMU department, 18th May, 2021).

Conclusions, Implication and the Area for Further Research

Conclusion

Contract administration is found to have a considerable effect on procurement performance, according to the study's findings. This indicated that contract administration was a critical component of contract management practice in terms of procurement performance. As a result, boosting contract administration levels would improve procurement performance at the Ministry of Finance and Planning.

Implication

The study has implication to public organizations on improvement of contract administration by ensuring that contractors are timely paid, appointment of contract supervisors with relevant qualifications, skills and knowledge, contract terms are adhered to and changes regarding the contract are done in line with the prescribed guidelines. Also public sectors are advised to establish and maintain positive relationships with contractors and suppliers in order to preserve contract management and mutual confidence between the contractor, suppliers, and public entities. There is a need to improve frequent contact with the contractor as well as the prompt handling of any contract issues.

Area for Further Research

The findings in this study are based on the information collected on one public entity i.e Ministry of Finance and Planning. There are other public entities in Tanzania that have not been covered in this study. Therefore, this study provides opportunities to potential researchers and scholars to explore more in the contract management practices to get a full picture of contract management in the uncovered areas.

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Influence of Human Resource Factor on Timely Implementation of Force Account Method in Construction Works in Tanzania

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Abstract

The aim of this study was to assess the influence of Human Resource factor on timely completion of Force Account projects in selected LGAs: The study focused on three Human Resource variables namely: staff expertise, job experience and organizational commitment to examine their influence on timely implementation of Force account method. The study employed a cross sectional research design and used two sampling techniques (simple random and purposive sampling) to gather information from respondents. Both primary and secondary data were gathered through questionnaires, interview guide and documentary review. Data were analysed using Descriptive analysis and multiple linear regression analysis. The study findings revealed that there is significant relationship between independent variables (staff expertise, working experience, organizational commitment) and dependent variable (timely completion of Force Account projects). Therefore, the study concludes that, expertise, experience and commitment were an important factors influencing timely completion of Force Account projects in selected LGAs. Basing on the study findings it has been recommended that the practitioners (procurement committee) should be well trained and experienced enough in construction activities also stakeholders (construction committee, receiving and inspection committee and any other involved person) should be very committed in implementation of FA projects to achieve value for money.

Key words: Human Resource, Force Account, Time.

Introduction

The use of Force Account (FA) has greatly increased recently in public organizations in Tanzania particularly in the Local Government Authorities (LGAs) after the amendment of the Public Procurement Act, 2016. The amendments positioned in the 7th Schedule provide room for FA to be used as a method for construction works is defined under section 64 of PPA 2016 as a process whereby works are carried out by a public or semi-public department or agencies by using its personnel and equipment in collaboration with another public or private entity

Furthermore, in Jamaica -The Ministry of Finance and Public Service Guideline (2007) defines, Force Account method as a procurement method whereby a government implements rehabilitative or development work by utilizing its internal resources rather than contracting the work to an external entity. In such instances, the government entity may be required to procure raw materials and/or engage temporary labor to carry out the work. Again the United States of America (USA) under code of federal regulations title 23, part 112 and CFR 635. 104(b), allow federal aid construction to be completed under Force Account method.

Other countries in Africa have also used Force Account method in procurement of construction works whereby organizations aim at having value for money by getting services from the contractor at right quality at right time and at right price. Studies have realized that in most cases this aim is not met because delay and cost overrun in project execution has been a major problem in construction industry (Oladinrin, 2013). Therefore a number of factors have to be taken into account in determining best strategies for a specific project so as to ensure that value for money is obtained.

The Government of Uganda made a policy and provision of guidelines to use Force Account method in road maintenance works in Local Governments following the acquisition of a fleet of 1,425 pieces of new equipment distributed to Local Governments (Mbabazi, & Mugurusi, 2018). The implementation of the FAM requires that the procuring organization use their own equipment to execute works and also the method allows equipment sharing among procuring organizations.

FA has been used for a long time in construction works in some of the public institutions in Tanzania. For example, Tanzania Electric Supply Company Limited (TANESCO) is among the biggest public

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institutions where FA method has greatly been practiced in electricity distribution projects (Mlinga, 2018). However, one thing learnt from TANESCO is that, TANESCO has adequate workforce which include sufficient manpower and special trucks and equipment for implementing such works and regular initiatives are made to empower those workforces. In spite the success of FA method at TANESCO, other public entities have been facing the challenge of inadequate resources being used in implementation of FA method in construction projects. Therefore, before implementing FA method, public entities must assess themselves on possibility of using such a method and meet their goal. This is an important consideration as is the basis for knowing the level of efficiency to be obtained in implementing construction project under FA method. France (2019) pointed out that the use of FA method increases greater opportunity for government to yield benefits in terms of cost, quality, staff capacity, internal confidentiality and security assurance. But in order to yield the said benefits adequate project assessment in terms of what to be done, why to be done, how to be done, when to be done and who to do it must be considered. The assessment should focus on scope, cost estimates, timeline, role and responsibilities, internal and external resources available as well as risks ahead in implementing FA method.

Despite the benefits obtained under use of FA in construction projects, still research studies have reported some weakness in the implementation of FA projects which reduces efficiency and effectiveness of the required work. An audit report of Public Procurement Regulatory Authority (2017) identified some weaknesses in projects implemented through FA method such as lack of technical specifications and improper bills of materials which were observed at construction project of Patandi Special Needs School in Arusha. In addition, CAG report for the financial year 2019/2020 showed that projects implemented through FA were characterized with improper management of materials, non- completion and delays in completion of the projects. Delay of construction activities has got several consequences in the organization including depriving people in enjoying the services from the expected constructed structures as well as constructing the structures at inflated cost caused by price variations. This jeopardizes the achievement of value for money during implementation of construction projects under Force Account method.

According to Mahamid (2016), poor performance of any project is attributed by several factors such as financial resources, quality, time and poor supervision of the project. Proper implementation of Force Account method requires the fulfillment of important aspect that would enable completion of the project in time. Mlinga, (2018) stated that many building construction projects from the government agencies have failed or perform minimal in their performance, particularly in maintenance of buildings. The criticism against their performance has attracted the government attention forcing it to come up with performance contract and even settling the authority to oversee the contractor's performance". In addition, road contractor's performance problem appears in many aspects, ranging from fail in time performance and cost performance. In order to ensure effective implementation of FA, the government decided to introduce some guidelines which require public entities to form three committees namely: construction committee, procurement committee and receiving and inspection committee. These three committees are independent and were formed to ensure accountability and as well as value for money in implementing FA projects. Although the guidelines stipulate on achievement of value for money in implementation of FA projects, still the problem of delay has been reported in construction activities in Tanzania (URT, 2018). According to Mbabazi and Mugurusi (2018), the failure to timely completion of the project of any building projects is mainly caused by factors associated with poor resource management such as minimal financial resources, low levels of technology, lack of knowledgeable and skilled personnel as well as political interference that make the whole exercise be performed below standard.

PPRA procurement audit report, (2018) revealed that some of the constructed projects were subjected into cost overrun due to delay in completion. For example, Ministry of Education Science and Technology (MOEST) was provided with Tshs301, 328,804.70 for construction of two dormitories, two classrooms and five -hole toilet block but up to completion of the projects there was an excess of TZS 83, 442,195.30. This was contrary to the requirements of regulation 114 of GN No. 446 of 2013 which requires the public entity to perform and manage the projects in time. According to Tekka, (2019), Force Account method has led to the economic empowerment of local skilled labors and hence causing great

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changes to their life as a result of capital increase and knowledge gain. As from the study, the method has to a great extent contributed to the economic empowerment of local skilled labors. Many of local fundi were noted to have the significant changes financially leading them to great changes on their real life. In sum, the method was revealed to have a positive impact to project participants.

According to Maina, (2015), lack of project management experience, can adversely affect timely completion of the projects. That is, lack of working experience in construction works leads into poor supervision hence causing late completion and delivery of poor quality works. Muguruzi (2018) argued that inspection and workmanship standards are quite important to achieve quality. Oladinrin, (2013) state that to achieve the pre-determined project objectives, the construction site manager should have a significant influence over cost, time, scope and quality which make it paramount for the manager to have ability of exercising authoritative and absolute control.

A study conducted by Mchopa, (2020) revealed that there is poor performance which was contributed by the absence of a standardized FA guideline applicable throughout the country by the respective procuring entities; incompliance that defeats the good intentions of using FA since without compliance it was very likely that there were loopholes for transgressions with implications on cost and efficiency. The findings also revealed that prior to decisions on choosing FA the procuring entity has to make cost and benefit analysis in order to determine whether it is cheaper to use FA than to execute the works by contracting out.

Mayani, (2019) conducted a study on FA method and found that the method has got several benefits such as reduced costs of construction, ensured quality of buildings, skills enhancement on construction to local fundi, motivated community participation, saving of public money, increased sense of ownership of the constructed project, improved income of local fundi, speedy construction etc. Similarly, some respondents perceived and acknowledged that Force Account influence achievement of VFM but with some reservations that it has its impediments which included political interference, inadequate fund, unqualified local fundis, lack of accountability for poor quality of work, lack of supervision, inadequate transport, lack of capital by local fundi to initiate construction, disappearance of local fundi unexpectedly, incapacity of project supervisors, inadequate engineers and technicians whereby these factors in one way or another may affect implementation of construction projects. Shengeza, (2017) pointed out that construction projects under FA are still facing major challenges in completing the construction projects within the estimated budget and time as follows: misunderstanding of the coverage of the budget for each activity to be performed, problem of determining labour cost before implementation, misunderstanding of the provided technical drawings, unskilled people to interpret the provided drawings, poor specification of materials, lack of some items required for implementation especially on service oriented activities like plumbing and electrical installations.

Some few studies on the concept of FA have been done; there is no evidence on the existence of studies which have been done to assess specifically the influence of human resource factor on timely implementation of FA in construction projects particularly in local governments in Tanzania. As a result, it is not clearly known as to whether FA is effectively implemented and completed on planned time by LGA. Other scholars have addressed some weaknesses in implementation of FAM but they don't give sufficient statistical information on the influence of human resource factor on timely completion of FA buildings projects in selected LGAs. Therefore this study assesses the influence of human resource factor on timely implementation of Force Account method in construction works in selected Local Government Authorities.

Theoretical Literature Review

Resource Based Theory

Resource Based Theory (RBT) is based on assumption that the performance of any organization depends more on resource availability (Grant, 1991). RBT is concentrated on the resources and capabilities owned and controlled by the organization, which can increase competitive advantages of the organization in terms of cost, time and quality. Implementation of FA on timely completion of buildings projects depends on the resources available within the organization such as human resources, financial resources, capital resources as well as intangible resources for effective implementation of its strategies and plans.

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Therefore, adequate availability of resources including human resource can enable effective implementation of FA and thus achieving organizational objective as described below:

Job Expertise

In today's life, knowledgeable workers have to perform in highly dynamic environments where knowledge generation is the key to organizational performance. In this environment, knowledge characteristics are an essential aspect of work and work design because they reflect the inclusion of a major change in the nature of work, referred to as proactive perspectives. "Proactive perspectives capture the growing importance of employees taking initiative to anticipate and create changes in how work is performed, based on increases in uncertainty and dynamism" (Grant & Parker, 2009). Knowledge characteristics reflect the type of knowledge, skills, and abilities an individual has in order to do the job. These characteristics include: job complexity, information processing, problem solving, skill variety, and specialization (Grant *et al*, 2010).

The effective management of knowledge to workers is crucial for organizational success because these workers are generally responsible for a higher level of productivity in their organizations (O'Boyle *et al*, 2017). These workers are likely to leave organizations if they find that their competences or interests do not match their jobs. To retain these workers, management has moved from external to internal motivation by focusing on training in personal variables such as knowledge, skills, abilities and values (Cappelli & Keller, 2014). Knowledgeable workers are the key to generating valuable innovations that will lead to financial success and environmental and social outputs. Therefore, in order to retain these workers, it is crucial to pay attention to the precious and scarce resource of the psychological environment (Di Fabio & Rosen, 2018). They are more likely to have more complex jobs, solve more problems, process more information, and need more skills to perform their tasks well. That is, knowledgeable workers are interested in harmonic jobs in which they can fulfill their values and achieve higher satisfaction and better performance. Following this rationale, it is postulated that the expertise given to staff in the organization is positively related to better job performance.

Hypothesis (Ho 1): Expertise of staff does not influence timely completion of Force Account projects

(Ha 1): Expertise of staff influences timely completion of Force Account projects

Work Experience

Company that wants to be developed must be able to improve the efficiency and productivity of their entire resources and able to compete with other similar companies. One of example on competition is how to get a workforce (human resources) that is reliable and agile, that can serve and satisfy all consumers. Human resources are important indicators to increase organizational performance effectively and efficiently and thus achieve organizational goals. Performance can be seen from the achievement of targets from employees in an organization. Organization is a place of gathering and working together to achieve certain goals and one of the success standards of an organization depends on individual behavior. Organization should treat each individual as human being by providing long working tenure to employees so as to make them acquire sufficient skills to master their job well (Kertiriasih, Sujana, & Suardika, 2018). Within the adequate of work experiences, employees can add the ability to complete the quantity and quality of work. Taking these values into account, it is expected that long tenure work engagement enables employees to acquire skills and competences which are important personal qualities for improving performance in the organization.

Hypothesis (Ho 2): Working experience of staff does not influence timely completion of Force Account projects

(Ha 2): Working experience of staff influences timely completion of Force Account projects

Organizational Commitment

Organizational commitment which consists of trust in the values and goals of the organization must be improved so that organizational performance is improved. The organization must guarantee any protection, security check and avoid heavy pressure at work given the opportunity to interact for

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employees on making decisions, giving awards and opportunities to develop their potential. Organizations must therefore try to invest resources into programs to improve job satisfaction and employee performance. Despite the existence of diverse theories on organizational commitment, fundamentally there are three forms of organizational commitment: (a) affective commitment, referring to the emotional attachment of an employee with the organization, (b) normative commitment, emphasizing the importance of obligations, and (c) continuous commitment, referring to employees' awareness of the consequences of leaving the organization (Allen & Meyer, 1990). Job satisfaction is a variable to measure employees' positive or negative feelings of their job or work experience (Locke, 1976). It reflects an employee's self-rating of his fit to the job. The term job satisfaction refers to the attitude and feelings people have about their work. Positive and favorable attitudes towards the job indicate job satisfaction (Armstrong, 2006). Job satisfaction represents a feeling that appears as a result of the perception that jobs enable the material and psychological needs (Aziri, 2011). Most studies found a positive relation between organizational commitment and job performance, with higher commitment leads to enhanced performance (Rashid *et al.*, 2003). When employees are satisfied with payment, fairness at work, promotion opportunities and manager's support, they are more likely to be committed to their organization (Anh & Dao, 2013). In this view, it is observed that high level of commitment on part of employees enhances good job performance in the organization.

Hypothesis (H₀ 3): Organizational commitment does not influence timely completion of Force Account projects

(H_a 3): Organizational commitment influences timely completion of Force Account projects

Methodology

The study has adopted cross sectional research design because the design allows collection of data at a single point of time (Bryman, 2008). The population of this study involved all staff involved in the implementation of construction projects under force account in the selected LGAs which amounted to 141 people. The study has used two techniques in the sampling procedure which included simple randomly sampling and purposive sampling. Simple random sampling was used to select respondents who filled questionnaires to get the quantitative data in relation to the implementation of construction project under use of Force Account. The preference of simple random sampling technique is based on the fact that the technique avoids biasness as any respondent has equal chance to participate in the study (Bryman, 2008). In this case, respondents in the sample frame included Construction Committee Members, Inspection and Receiving Committee Members, PMU staff, staff from User Departments, Internal Auditors, Ward Development Committee Members, Tender Board Members and Health Top Management Team. On the other side, purposive sampling technique was used to select key informants to gather qualitative data through interview and included Heads of Departments. The key informants were involved because they had enough knowledge and experience regarding the construction activities under the use of FA.

Following establishment of the population, this study used the Yamane formula (1967) to determine the sample size as applied by Hamed, (2017). In order to effect data collection, two methods were applied which included questionnaires and interview. The questionnaire consisted of structured questions and the questions were designed in form of Five- Likert scale (1= Strongly Agree, 2=Agree, 3= Neutral, 4= Disagree, 5=Strongly Disagree). In the Interview, an Interview Guide was used so as to enable key informants be free to express and give detailed information on the problem under study. After establishment of the data collection tools, the researcher collected data at three LGAs namely Bahi DC, Dodoma city and Chamwino DC as study areas. These study areas were preferred because they are among LGAs with high volume of procurement under FA method (PPRA, 2020). In data analysis, the study used descriptive statistics and inferential statistics; descriptive statistics was used because it provided simple summaries about the sample and the measures that assist in the comparison of the response on variables and gives clear indication of responses frequencies, percentages, mean, and standard deviation and variance results. On the other side, inferential statistics through the use of multiple regression analysis was used to predict the value of a variable and to measure the existing relationship between independent and dependent variable. SPSS computer software version 21 was used in the computation of data. Furthermore, qualitative data were analyzed by using content analysis whereby the researcher closely examined the data to identify common themes – topics, ideas and patterns of meaning that come up

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repeatedly (Baxter & Jack, 2008). In this case, the qualitative data were used to augment evidence in relation to quantitative data.

Results and Discussion

Influence of Human Resources on Timely Work Completion under Force Account Approach

The regression analysis was carried out to define how the independent variable (Human Resource) influenced the dependent variable (Timely Completion of Work). With regard to model fitness, the F-test was used to define the validity of the model while R squared was used as the measure of the model goodness of fit.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.623 ^a	.489	.367	.3830

The results in Table 1 indicate that the R square is 0.489 which supports that the use of Regression Model was appropriate to assess the influence of Human Resource on Timely Implementation of FA.

Table 2:ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22.023	3	7.341	18.018	.000 ^b
	Residual	34.631	85	.407		
	Total	56.654	101			

Table 3: Results of Regression Model

Variable	Unstandardized Beta Coefficient	Standard Error	Standardized Beta Coefficient	t-value	Sig
(constant)	1.787	0.226	0.345	7.893	0.000
Expertise	0.183	0.061	0.090	1.355	0.028
Experience	0.229	0.059	0.387	3.877	0.000
Commitment	0.178	0.059	0.240	2.998	0.003

$$\text{From } Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

$$\text{Then } Y = .345 + .090X_1 + .387X_2 + .240X_3 + .226$$

Where by Y= Timely completion of the project, β_0 = Constant, $(\beta_1, \beta_2, \beta_3)$ = Regression coefficient of independent variables, ε = Error term, X_1 = Expertise, X_2 = Experience, X_3 = Commitment

The results in Table 3 indicate how independent variables (ie expertise, experience and commitment) influence the dependent variable (Timely Completion of FA Projects). With regard to the element of expertise the results show that the beta coefficient is 0.09 meaning that a unit change in terms of expertise will cause a positive change of 9% in timely completion of FA project. The p- value is 0.028 ($p < 0.05$) meaning that there is a significant relationships between expertise and timely completion of FA projects. According to Pallant (2011) if the p-value is less than .05, then the variable is making a significant unique contribution to the prediction of the dependent variable. Following significant relationships, an alternative hypothesis was accepted in a view that possession of expertise by people involved in implementation of Force Account projects plays a significant role in ensuring timely completion of construction works. This

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observation is also supported by Shengeza (2017) who disclosed that unqualified local fundis may fail to interpret the construction architectural drawings and specifications thus affecting quality in implementation of FA projects.

The issue of expertise in construction activities is essential; for example, the Engineers are the ones who prepares bill of quantities (BOQ) if Engineers are not qualified they may prepare unrealistic BOQs hence leading into delay of FA projects. In spite of engineers' role in preparing BOQ, there must be sufficient number of registered engineers in each District Council for effective implementation of FA projects. This view is also supported by key informant AB from Chamwino District Council who asserted that; *"There is a shortage of Engineers in many LGAs; for example, one District Council may have 20 Wards but there is only one Engineer which makes difficult to manage all FA projects in the district. Also, in some Districts there are no Engineers instead there are technicians and local Fundis who have low qualifications; lack of expertise in construction works may affect quality, cost and time in FA projects"*.

This implies that organization without having experts or skilled personnel to implement the force account building projects it could be difficult therefore the organization should build capacity of personnel for the better implementation of force account building projects.

With regard to the element of experience the results indicate that the beta coefficient is 0.387 meaning that a unit change in terms of working experience will trigger a positive change of 38.7% in timely completion of FA projects. In addition, the p-value is 0.000 ($p < 0.05$) meaning that there is a significant relationships between working experience and timely completion of FA projects. According to Maina (2015), lack of project management experience can adversely affect timely completion of FA projects. That is, lack of experience may lead into poor supervision of construction projects thus causing delay and delivery of poor quality works. Following the results, an alternative hypothesis was accepted in a view that working experience has a significant relationship with timely completion of FA projects. This implies that organization without having experienced personnel could find difficult to implement the Force Account construction projects in the organization. Furthermore, key informants X from Bahi district council and T from Chamwino district council added that; *"Availability of skilled and experienced technicians is very important for effective implementation of FA projects in our district; lack of skilled and experienced people including engineers has led to poor quality construction of buildings and in some cases causing demolition of the constructed structures due to substandard thus causing unnecessary delay of FA project"*

Most of public organizations have no experienced specialist such as engineers to implement Force account in case of construction project, the specialists in the organization are very few but also the organization does not intervene by conducting training to specialist and create proficiency for better implementation of Force Account projects hence creating a difficult condition for implementing construction projects in public organization. The study findings generally indicate that organization without specialized and experienced staffs it makes the implementation of Force Account to become difficult. According to Tekka, (2018), Force Account method has led to the economic empowerment of local skilled labors and hence causing great changes to their life as a result of capital increase and knowledge gain. As from the study, the method has to a great extent contributed to the economic empowerment of local skilled labors.

With regard to the element of organizational commitment, results in Table 3 show that the beta coefficient is 0.24 meaning that any unit change in commitment will cause a positive change of 24% in saving time under FA construction projects. The p-value is 0.003 ($p < 0.05$) meaning that there is a significant relationships between organizational commitment and timely completion of FA projects. Following the results, an alternative hypothesis was accepted in a view that the more the staff are commitment to do the job the more timely completion of FA projects. Furthermore, respondent X from Bahi district argued that; *"In most LGAs the level of organizational commitment is very low due to insufficient motivation to staffs towards attainment of good performance on Force Account projects also personal interest and negative perception of FA projects has caused poor and late implementation of FA projects in most LGAs"*.

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Other key informants Y, A and T from Chamwino district commented that;

“Sometime organization fail to accommodate all the required equipment’s for performing Force Account method of procurement as the fact that in order to implement FA the organization should have its own resources such as materials, essential equipment, sufficient specialist together with available fund for facilitating the implementation of FA projectsbut most public organization have no sufficient equipment for performing activities, also specialist are not enough”

The obtained results were similar with the results obtained by other scholars. For example, a study conducted by Mchopa, (2020) revealed that there is poor performance which was contributed by the absence of a standardized FA guideline applicable throughout the country by the respective procuring entities thus causing unnecessary delay of construction projects. In addition, the results concur with the study of Ndyanabo (2020) who found that there is a positive relationship between human resource and effective implementation of Force Account projects. Other countries in Africa have used Force Account method in execution of construction projects and achieved value for money via a quality structure delivered on time and within budget by a contractor. For Tanzania to get similar results on FA projects, staff within the organization must be committed to ensure that cost is saved, time is saved and quality is improved under FA implementation.

Conclusion

The study came into conclusion basing on the results obtained from the field in relation to three variables of human resource (i.e. expertise, experience and commitment). First, the study concluded that there is a significant relationship between expertise and timely completion of FA projects. Therefore policy makers should put enough budgets for training to empower staff. Second, the study concluded that there is a significant relationship between working experience and timely completion of FA projects. The committees involved in implementation of FA should possess enough experience to achieve value for money. Third, the study concluded that there is a significant relationship between staff commitment and timely completion of FA projects. Therefore, human resource factor plays a significant role in saving time in the implementation of FA projects.

Recommendation

This study gives recommendations to the following parties: Practitioners – the procurement committees should be well trained, and experienced enough in construction activities. This will make them be acquitted with the guidelines of FA as well as complying with TanePs requirements. Stakeholders – stakeholders involved in implementation of FA projects such as construction committee, procurement committee, receiving and inspection committee should be very committed in implementing FA. This will help to foresee the challenges and enable members to handle Force Account activities in a timely manner.

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The Effect of Force Account on the Performance of Public Building Contracts in Bahi and Chamwino District Councils in Dodoma Region, Tanzania

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Abstract

This study assessed the effect of force account on the performance of public buildings works contracts in Bahi and Chamwino District Councils in the Dodoma region. The study achieved the intended specific objective of assessing the effect of the allocated budget on the performance of public building work contracts under Force account. The study employed a cross-sectional research design in collecting data from 119 respondents who were selected using stratified sampling techniques. The Data were collected using questionnaires, documentary reviews and personal interviews. The Multiple Regression Model was employed in analyzing the effect of allocated budget on the performance of public buildings works contracts. The findings revealed that the amount of funds allocated for the project influence positively the performance of public building works contracts ($p\text{-value} < 0.05$). On the other hand, frequency of disbursement affected negatively works contract performance. The study concluded that the delay of performance of public building work contracts under force account resulted from insufficient allocated budget. Therefore, the study recommended that the Ministry of Finance and Planning and Presidents Office - Regional Administration and Local Government Authorities to allocate and release sufficient funds to the works contracts under FA to BDC and CDC and consider the nature of the locality under the implementation of projects instead of issuing flat rate to different districts.

Key words: Force account, performance of public building contracts.

Introduction

Globally, effective procurement methods have been used as means of achieving multiple interests and objectives which contribute to enhancing the operational performance of the organization. This is because comprehensively designed contracts documents are used which cover all risks during and after implementation of the project (Tekka, 2019). To achieve efficient performance, procuring entities use the open competitive tendering method taken as the default method of procurement to enhance competition among suppliers or service providers (URT, 2011). Although tendering is the popular procurement method, it is noted that some works project in both developed and developing countries face challenges of cost overrun of the project due to faults found in the tendering process, political instability, delayed progress payment and poor project management (Almaktari *et al.*, 2017. Currently, The Government of Tanzania has been emphasizing the use of FA as the most appropriate method of contracting works project while searching for cost reduction and facilitating the performance of works contracts and provision of employment opportunities to the local community (Tekka, 2018). Similarly, in Uganda road construction at the Local Government were carried under FA according to directives issued by the Government despite the challenges faced including lack of qualified personnel, insufficient fund and equipment to undertake the projects (PPDA, 2015).

Despite the benefits of providing employment opportunities to the local community and reducing the cost of the project, the implementation of FA is facilitated with the effective budget allocation process by the procuring entity in order to ascertain the exact cost and value of the projects (Mbabazi & Mugurusi, 2018, Shengeza, 2018). This is because the Guidelines issued by the Governments of Tanzania for carrying out works under FA is still difficult to apply especially at the District Councils at which most of the construction projects are implemented. Moreover, there has been a lack of clear criteria for the selection of a project implementation team and directives on how to engage the surrounding community and special groups in the implementation of works contracts (PPRA, 2020). This raises questions on the effectiveness of FA which needs an academic inquiry.

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Furthermore, the government of Tanzania emphasized the use of force accounts as one of the notable approaches in governing and improving the performance of works contracts in Public Institutions (URT 2013; PPRA 2020). The adoption of force account practices has enabled the government to implement many projects all over the country with minimal cost. Also, the practice enabled temporary employment for many people within the locality where the project is implemented, as well as improved community ownership of the project (URT, 2020). Despite the success in implementation, statistics show that even with the use of force accounts still, projects may be delayed. For example, projects such as the construction of distribution network systems at DUWASA in Dodoma; renovation of Arusha Technical College in Arusha City; renovation of Dodoma airport were delayed in completion (PPRA 2019; DUWASA 2020). Also, the construction of Uhuru Hospital in Chamwino District was reported to be delayed by six months (URT, 2020).

This indicates that there could be some factors and challenges on the implementation of works contract under force account which may affect the performance of works contract in terms of the time of completion. The challenges in FA can only be minimized by considering the resource-based theory of Barney 1991 which narrates that “Force Account contracts requires the availability of in-house resources in implementing works contract since the contract depends much on internal resources rather than contracting out”. Previous studies conducted on the determinants of effective force accounts in achieving value for money on projects, concentrated only on the crucial elements of FA but not on the performance of the projects in terms of the time of start and completion. This study would bridge the knowledge gap by assessing the effect of force account on the performance of public buildings work contract under force account

Literature review

Definition of Key terms

Force Account is the procedure whereby works are carried out under the supervision of a public or semipublic department by using its personnel and equipment's or in collaboration with any other public or private (URT, 2013). FA method is applicable by any procuring entity if circumstances such as availability of technical personnel, capital equipment's and financial resources are met. Furthermore, Performance of public building contract is undertaking the contract for construction of public building such as school's infrastructure, dispensaries, hospitals and offices to be completed at the specified time and the place agreed upon according to the quality described in the contract at the agreed cost (Hen *et.al.*, 2004).

Theoretical Review

This study is guided by two theories namely the Transaction cost theory and Resource-based theory.

Transaction cost theory

The transactional cost theory asserts that various works contracts are costly, hence requiring negotiation to have comprehensive terms and conditions of contracts that facilitate its performance (Wiley, 2002). This theory is relevant and guiding this study because force account intends to reduce transaction costs that may be incurred in other procurement methods such as advertising costs for tenders and stationery costs (Ibid). Therefore, the fundamental item that should be considered in the FA application is the transaction cost relative to other contracting methods because the higher the transaction cost the higher the cost of possessing the project and hence impact the performance of the works contract.

Resource-based theory

Resources are given the major role of assisting companies in achieving higher organizational performance and competitive advantage in the resource-based theory (Barney, 1991). Therefore, organizations blessed in resources could easily implement FA and achieve high project performance. This theory is relevant to this study because procuring entity uses its personnel and equipment or hired labour and financial resources for construction work and achieves good performance if it has sufficient internal resources. Hence FA requires the availability of in-house resources in implementing works contract is supported with resource-based theory as it depends on internal resources rather than contracting out.

The Effect of Allocating Budget under Force Account Public Building Contract

The findings from the study conducted by France (2019) revealed that the existence of significant intrinsic stock-out risks in most African countries, with particularly high levels in East Africa is due to the unpredictability of fund disbursements. Findings from the study by Mbabazi and Mugurusi (2018) revealed that governments can save money when procuring organizations use their equipment and personnel rather than an estimate which is calculated to include the overheads and profits of an external provider. The study by Mayani (2019), reported increased results from respondents as others said, FA influences value for money and some respondents perceive FA as saving time as it does not involve tendering process while others perceive it as time-consuming because it does not follow a program of work and involve the challenge of insufficiency technical personnel. This implies the clear knowledge on the effects of FA on contract work performance is missing.

PPRA reports have shown that the objectives of undertaking projects under FA sometimes are not achieved as most works' contracts take a long time than the set-up schedule and some are completed with doubtful quality of the project (PPRA, 2019). Moreover, Lusupi (2020) found that in Tanzania, there are basic elements that have a direct impact on the performance of FA projects such as human and financial resources. The same author also found that the proper regulatory framework influences the effectiveness of FA as it reduces conflict among project committees and fastens decision making.

Research Methodology

Study Area

The study was conducted at Chamwino and Bahi District Council. The selection of the area under study was influenced by the number of projects performed under the force account method in the area and the fact that some of the projects were delayed in completion (PPRA.2019; URT, 2020).

Research design and Sampling Procedures

This study used a cross-sectional design because data were collected from respondents at a single point in time. A cross-sectional research design was used to explore the effect of force account on the performance of public buildings works contract at TARURA at Chamwino and Bahi District Council. This study used the purposive and stratified sampling techniques in selecting respondents at the study area. The purposive technique was used to select the districts and key informants while the stratified sampling technique was used for selecting 134 respondents from different departments or committee members. The stratification was used to group departmental professionalism and roles played by the committee in implementing the FA works contract. Eleven strata were formed whereby respondents from each stratum were proportionally selected using a random sampling technique.

Data Collection and Analysis

Questionnaires were administered to 134 respondents by providing a questionnaire to the respondent to fill, and after filling, the researcher collected them back from each respondent. Whereas, the interview was admitted to 6 key informants that are accounting officer, a district engineer and the head of PMU from each district for the clarification of what was given by respondents. Also the secondary data were collected through documentary review from the available official documents for public use. The multiple regression model was used for data analysis because the dependent variable (performance of public building contracts) is a continuous variable which was measured by time of completion. The multiple regression equations for budget allocation were expressed in equation below;

$$Y = (\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon)$$

Whereby: Y- Performance of public building contracts

X_1 - Amount for each activity, X_2 - Frequency of disbursement, X_3 - Payment procedures, β_0 -Constant of the model, β_n - Stand for regression coefficient of the variable, ϵ -Stands for the model significance level

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Results and Discussion

Descriptive Results

The study considers the importance of analyzing the characteristics of a study population as it helps in data interpretation. This study presents demographic information such as gender, occupation, education level and working experience of respondents as presented in Table 1.

Table1: Demographic Characteristics of respondents

Demographic Characteristics	Description	Frequency	Per cent
Gender of respondents	Female	48	40.3
	Male	71	59.7
Occupation of respondents	Construction committee members	32	26.9
	Planning & monitoring department staffs	10	8.4
	Procurement committee	20	16.8
	Health department	15	12.6
	Work department staffs	4	3.4
	Finance & accounts department staffs	8	6.7
	Receiving and inspection members	13	10.9
	Secondary education Administration department staffs	6	5.0
	PMU staffs	6	5.0
	Level of education	Secondary Education	14
Certificate		24	20.2
Diploma		34	28.6
Degree or above		47	39.5
Working experience of respondents	Below 1 year	25	21.0
	(2 years)	23	19.3
	(3 years)	34	28.6
	(4 years)	13	10.9
	(5 years and above)	24	20.2
Total		119	100.0

Source: Field Data (2021)

Gender of Respondents

The findings in Table 1 indicate that 59.7% of respondents involved in the construction projects were male. Only 40.3% were female. The results imply that construction works under FA are done by both sexes, although the majority of workers who participated under the use of implementation Force Account works contract in Tanzania are males.

Respondents' Occupation

Presented findings (Table 1) indicate that majority (26.9%) of respondents involved in this study were construction committee members followed by the procurement committee who were 16.8% of the total respondents. Only a few (3.4%) respondents involved in this study were staffs from the works department who are the supervisors of works contracts due to their availability in the district. These results imply that the selection of construction committee members and procurement officers were given priority in the study. They could have provided relevant information on the effect of FA on the routine functions of construction works rather than other occupations because they are the key personnel involved in the

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implementation of works contract especially in the acquisition of materials and general supervision of the performance of FA works contract.

Level of Respondents' Education

The presentation of findings (Table 1) indicated that the majority of respondents (39.5%) had bachelor degrees and above followed by 28.6% who had a diploma level of education. Only a few respondents (20.2% and 11.8%) had certificate and secondary education respectively. These results imply that the majority of respondents were knowledgeable and have enough information on the project implemented in their respective area and therefore, they were able to provide relevant information on this study based on their ability.

Work Experience of Respondents

Respondent's working experience was one of the variables determined by the researcher. Findings from Table 1 indicate that above 28.6% of respondents were having 3 years of working experience followed by 21% who were having below 1 year. The findings further indicate that 20% had 5 years and above of working experience, 19 have served in 2 years and 11% have served in 4 years. These results imply that workers in the districts who serve in construction works, under force account, were well experienced in their occupations, so they were more useful not only on the side of their occupations but also, in this study by giving the correct information during the study.

The Effect of Allocated Budget on the Performance of Public Building Contracts

The researcher assessed the effect of the allocated budget on the performance of public building works contract under force account in Bahi and Chamwino District Councils by considering three variables which were; Frequency of force account contracts fund disbursement; Payment procedures under force account work contracts; and Fund allocated and disbursed in each force account activity. The effects of the allocated budget on performance were assessed using a multiple regression model and results were presented in Table 2. From the findings, it was determined that 55% of the effect of the allocated budget on the performance of public buildings work contract were explained by the frequency of disbursement, payment procedures and amount of fund allocated as shown by R Square. Therefore, the model was fit to determine the relationship of the variables as shown in Table 2 and discussed below.

Table 2. Multiple regression results of the effect of the allocated budget

Variables	B	Std. Error	Beta	T	Sig
(Constant)	.748	.346		2.160	.033
Frequency of disbursement	-.308	.134	-.270	-2.297	.023
Payment procedures	.535	.116	.455	4.619	.000
Fund allocated in FA works	.333	.130	.264	2.567	.012
R ² = .553					
F-value = 4.38 (for α 0.05)					

Dependent variable: Performance of public building contracts

Source: Field Data (2021)

The presented findings in Table 2 showed that the frequency of disbursement is statistically significant ($p = 0.23$) with a coefficient value of -0.308. This result indicates that a unit increase in the frequency of disbursement of implementation fund could decrease the performance in contract works under FA by 31%. These results were also supported by qualitative findings from key informants who argued that, decreasing in frequencies of disbursement will increase the performance of work contracts because when the current amount allocated is disbursed once, will help to procure materials in bulk from manufacturers and timely payment to labourers will be facilitated and hence improvement in the performance of works contract. On the other hand, if the frequency of payment is increased may affect the performance of the works contract which may lead to failure to complete the project on the given schedule. These results are

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in harmony with those of France (2019) who revealed that the existence of significant intrinsic stock-out risks in most African countries, with particularly high levels in East Africa, was due to the unpredictability of fund disbursements and the frequency of grant performance monitoring performed by Global Fund.

Also, the study findings as presented in Table 2 revealed that payment procedures were statistically significant ($p = 0.001$) and had a coefficient of 0.54. That indicates that for every 1 unit increase in payment procedure, the performance of work contracts under force account will increase by 54%. This indicates that the effectiveness and correctives of payment procedures will enhance the performance of work contracts under force account. This is because quick delivery of financial transactions will lead to early purchasing of materials and payment of labourers, as a result, this will have an impact on the performance of works contract particularly the time of project completion. The findings are supported by Wiley (2002) theory on the transactional cost which states that “contractual agreements are costly yet costs have to be borne to negotiate and write the terms of agreements to monitor the performance of the contracting party and to enhance the performance of contracts” Therefore, effective payment procedures must adhere to contract terms and conditions and laid down procedures to minimize costs that might be incurred without the use of force account.

Furthermore, the study findings as presented in Table 2 show that fund allocated and disbursed in public force account works is statistically significant ($p = 0.012$) having a coefficient of 0.333 suggesting that for every 1 unit increase in fund disbursement in force account implemented projects, the performance of public building work contracts under force account will increase by 33%. These results suggest that the increase of the amount in each project carried out under force account will boost the performance of the implementation of public buildings work contracts. These results are supported by qualitative findings which show that “An increase of the amount of each activity will increase the performance of work contracts because when the amount allocated is sufficient the implementation of the project completes early without delaying. Furthermore, the findings indicate that the allocated fund is not sufficient to complete the project in time”. The findings through interviews show that construction and renovation of health facilities, dispensaries and construction of district hospitals as well as the study rooms, hostels and public schools were conducted by using the force account method. It was found that the mentioned project had an estimated completion time from the Central Government which was not realistic for instance, in the construction of district hospitals, it took more than 2 years while the scheduled time was six months. Furthermore, some of the buildings under the force account method were still not completed because of unrealistic budgets issued by the central government. This was found at Bahi DC whereby the construction of hostel and dining hall at Nondwa and Mwitikira Secondary School respectively remains uncompleted after using 80 million shillings disbursed for each hostel, received from the government two years ago.

It was also found at Chamwino DC that the construction of the hostel at Mvumi Secondary School was not completed due to insufficient funds from the government amounting to 80 million shillings for the construction. The projects were supposed to be completed within three months according to the directives from the government following disbursement of funds to respective LGA's but from the findings, the project took more than two years and was still not completed due to lack of funds for completion of the projects. This will lead to an increase in the cost of the project because the market price for both materials and labourers changes according to time hence it will have an impact on the performance of the works contract. The findings agreed with Lusupi (2020) who conducted a study on the determinants for effective implementation of FA in construction projects in Tanzania which revealed that financial resource is a very important element and availability of the required budget for execution of works contract would facilitate early completion of the project.

Conclusion and Recommendations

The study found that, there a significant relationship between budget allocated and performance of public building contracts. It was shown that, allocated budget has to influence the performance of works contract under FA such that a unit increase in the frequency of disbursement of implementation fund could

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decrease the performance of works contract by 31%, 1 unit increase in payment procedure will increase the performance of work contracts by 54% and 1 unit increase in the amount of fund allocated for each implemented project will increase the performance of public building work contracts by 33%. This concluded that, positive effect of payment procedures and amount of funds allocated for each public building project towards the performance shows that the delays in the completion of performance of work contracts under force accounts resulted from the insufficient fund.

On the other hand, frequencies of disbursement of the fund also affect the performance of the works contract. Therefore, it was recommended that, Ministry of Finance and Planning and President' Office for Regional Administration and Local Government Authorities should monitor the amount of funds planned and released to the Force account works contracts depending on the locality instead of issuing flat rates to different districts, this will enable the completion of the intended projects in time and quality infrastructures. This study provides room for further studies on the effectiveness of contract supervision on achieving quality in construction projects under FA at the Local Government Authority.

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The Impact of Youth Economic Empowerment Project on Employability of Youth in Tanzania: A Case Study of Ilala Municipality

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Abstract

The study assessed the impact of a youth economic empowerment project on youth employability in Ilala Municipal in Dar es Salaam region-Tanzania. The specific objectives of the study were to examine the role of training, the contribution of savings and credit facilities and start-up tools provision on the employability of youth. The study used a stratified and random sampling technique to select 121 youths for a survey. The data were analyzed using descriptive and multiple regression analysis. The findings showed a significant and positive relationship between the role of training, the contribution of savings and credit facilities, and the role of start-up tools provision on youth employability in Ilala municipality. The study, therefore, recommends that, for promoting youth employability in Tanzania, the government, NGOs and projects should provide training and start-up tools to youth. Furthermore, the stakeholders should facilitate capital access to youth by empowering the savings and credits groups.

Keywords: Youth employability, vocational training, savings and credits, startup tools, Tanzania

Introduction

The role of youth empowerment

ILO (2020) figured that youth are three times unemployed than elders. The worldwide youth unemployment rate is 13.6% while it is 9% and 30% in Northern America and Africa respectively. Unemployment persists more among young women than men in most regions. Most young people are unemployed in the formal job markets because they lack the work experience demanded by most employers.

Investing in youth fosters the development of any nation (Odoh & Eme, 2014). The youth investment comprises the different initiatives to empower them economically, politically and socially. A variety of stakeholders such as government ministries, non-governmental organizations, agencies, faith-based organisations, and development partners participates in empowering youth (Cheng, 2010). The empowerment initiatives address various challenges including market access, increasing productivity, employment and decision making (Hope, 2012). Youth employability is a premeditated action to make youth employed or employ themselves (Lindsay, Stinson, Stergiou-Kita & Leck, 2017).

Role of youth capacity building

OECD (2013) recommended that various stakeholders such as industry groups, colleges, schools, universities, employment agencies, trade unions, local community groups and social economy organisations may train youths on vocational skills to promote their employability.

The capacity building in terms of training might improve financing and marketing access and hence promote the employability of youth (Arai, Ichimura & Kawaguchi, 2015). VETA (2019) proclaimed that Tanzanian youth face employment challenges like their colleagues in developing countries because they lack adequate vocational training.

Youth Economic Empowerment (YEE) Project

Youth Economic Empowerment (YEE) project operated in three years from 2015 to 2018. The project utilized Tanzanian Shillings (TZS) 9.42 billion and was funded by European Union. Vocational Education and Training Authority (VETA), Comprehensive Community-Based Rehabilitation (CCBRT), Plan International and Volunteer Services Overseas (VSO) partnered to implement the project. The project aimed to overcome the challenges of youth unemployment in Tanzania (VETA, 2019).

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To achieve its mission the project trained youth aged 15 to 35 in Mtwara, Dar es Salaam, Lindi, Morogoro and Coast VETA centres. The project served 10,132 youth in Tanzania. The percentages of girls and boys participants were 52% and 47% respectively. The project also served 10% of disabled youth. In Ilala municipal the project was implemented in Kitunda, Kivule, Chanika, Majohe, Msongola, Kiwalani, Vingunguti, and Kipawa wards. YEE project targeted to achieve three objectives which were: increasing youth's employability through cultivating their entrepreneurship skills, imparting leadership skills to promote youth community engagement and improving youth health. However, the scope of this study is based on the first objective. To facilitate youth employability, the YEE project facilitated youth training in VETA colleges. The vocational training covered the fields of driving, tailoring, catering, decoration, motor vehicle mechanics, welding and electrical installation.

YEE also encouraged youth to join Youth Savings and Loans Group (YSLA), which operated as Village Community Banks (VICOPA) groups to facilitate capital access and then the project provided the startup working tools to youth (VETA 2019). The YEE project encouraged 10-15 youth to form a YSLA group where they saved monthly. Youth clients of the YSLA group borrowed the microcredit which was used as capital to operate the economic activities. At the end of the year, they distributed the savings and interest accrued. The startup tools were given to a group of 5-10 youth. The tools included a welding machine, drilling machine, gas cooker, oven, vehicle tools box, sewing machine, decorating cloth, and electrical installation tools kit. This study assessed how the training, participation in savings and credits activities and provision of startup tools promoted youth employment in the project area, particularly Dar es salaam region.

The Concept of Youth Economic Empowerment

Hope (2012) articulated that youth empowerment is the deliberate actions that lead to improved livelihood of youth economically. Chinedu and Yunusa (2014) perceived youth empowerment as measures that circumvent poverty to youth. These measures improve better access, utilization and management of the factors of production.

The Concept of Vocational Education Training

According to Forster, Bol, and van de Werfhorst (2016), vocational training is based on practical workplace knowledge which influences individual entrepreneurial undertakings. Hoeckel (2008) asserted that vocational training enables trainees to apply the skills to seek employment opportunities. In this case, vocational training promotes the employability of the trainees. Studies manifest that vocational training promotes the employability of youth in various countries. For instance, Biavaschi et al. (2012) in South and Sub-Saharan Africa, Hirshleifer, McKenzie, Almeida and Ridao-Cano (2014) in Turkey, Batchuluun, Dalkhjav, Batbekh, Sanjmyatav and Baldandorj (2017) in Mongolia and **Barrera-Osorio, Kugler and Silliman** (2020) in Colombia. Microfinance institutions (MFIs) are the essential catalyst of youth employment (Asadullah, Shreya and Wahha, 2021; Datta and Sahu, 2021; Oladapo, 2021). Despite few studies such as Nade (2021); Fox and Gandhi (2021) and Hope (2012) have acknowledged the role of startup tools in youth employment in Sub-Saharan Africa, no detailed analysis has been provided.

Scholars emphasize that vocational training promotes the employability of youth in various countries. For instance, Biavaschi et al. (2012) in South and Sub-Saharan Africa, Hirshleifer, McKenzie, Almeida and Ridao-Cano (2014) in Turkey, Batchuluun, Dalkhjav, Batbekh, Sanjmyatav and Baldandorj (2017) in Mongolia and **Barrera-Osorio, Kugler and Silliman** (2020) in Colombia. Despite few studies such as Nade (2021), Fox and Gandhi (2021) and Hope (2012) have acknowledged the role of startup tools in youth employment, no detailed analysis has been provided. Moreover, none of the previous studies has assessed how the three variables influenced the employment of youth altogether. Therefore, this study was conducted to assess the role of training, the contribution of savings and credit facilities and the role of start-up tools provision on the employability of youth in Ilala Municipal council, Dar es salaam, Tanzania.

Literature Review

The literature review consists of theoretical and empirical literature reviews. The combination of the theoretical and practical studies reveals gaps that are covered by the current study.

Human Capital Theory

Backer (1964) initiated the human capital theory in 1964. According to Backer (1964), human capital promotes production. Investment in human capital is done through training. Firms invest in humans with an expectation that they will benefit in future from what is invested. An individual invest in training in exchange for pay which he will receive as wages or salary after being employed. The assumption of the human capital theory is that: the more the skills and knowledge acquired from training, the more the pay (Blair, 2012).

Therefore, training should target the employability of the trainees and not only for gaining competencies (Wuttaphan, 2017). Fe'nyes and Moha'cs (2020) asserted that motivating the talented secondary schools about higher pay premiums upon completing their studies might motivate them to join higher degrees and study hard. In this study, the human capital theory is correlated with the training role on the employability of youth. Indeed, the youth attended the training organized by the YEE project because they anticipated that upon completion of their training they can employ themselves and earn income. They also predicted that the income earned will improve their livelihoods. Various studies have added variables to human capital theory. For example, Aliu and Aigbavboa, (2019) analyzed how the human capital theory benefited the employer of construction industries. El Shoubaki, Laguir, and den Besten (2020) studied how reasons to start a business mediated human capital and SME growth in France. Gruzina, Firsova and Strielkowski (2021) examined how human capital theory fosters innovation.

Resource-Based View Theory

Barney (1991) established the resource-based view (RBV) theory by arguing that capabilities and resources promote the sustainable competitive advantage of the firm. Barney (1991) asserted that for resources to create sustainable competition should be rare, valuable, inimitable and not substitutable. The RBV theory focuses on tangible and intangible resources. Wanjiku and Deya (2021) and Karugu, Muturi and Muathe (2021) regarded competitive strategies, interest rate and financial leverage as resources to promote the performance of MFIs in Kenya. Turyakira, Kasimu, Turyatunga and Kimuli (2019) articulated how access to financial resources accelerated the performance of Ugandan small businesses.

Donnellan and Rutledge (2019) perceived effective lending as a strategic resource for the banking industry. various studies articulate that access to financial services may act as a strategic resource for the performance of the business firm or a project. This is linked with the role of savings and credits in enabling the employability of youth who participated in the YEE project. Zahra (2021) examined how resource management is important for startup firms. Kellermanns, Walter, Crook, Kemmerer and Narayanan (2016) perceived the creation of new products and services as resources in the RBV theory. The literature shows that the provision of startup tools to promote youth employment have not been considered as a strategic resource by the previous authors. Therefore, this study used RBV theory to analyze how the financial capital from YSLA and startup tools provided to youths acted as essential resources which promoted youth development in Ilala Municipality in the Dar es Salaam region, Tanzania.

Empirical Literature Review

Vocational training and employment

ILO (2020) figured that youth are three times unemployed than elders. The worldwide youth unemployment rate is 13.6% while it is 9% and 30% for Northern America and sub-Saharan Africa and Northern Africa respectively. Unemployment persists more among young women than men in most regions. Most young people are unemployed in the formal job markets because they lack the work experience demanded by most employers. However, possession of vocational training makes young people be employed in automatable jobs (ILO, 2020).

Vitali (2018) argued that possession of vocational trainees made poor youth in Uganda seek diverse opportunities in the labour market. Hence, apprenticeships and vocational training have promoted the availability of employment opportunities for the poor youth. Batchuluun et al. (2017) reported that the youth training programs in Mongolia positively promoted the increase of earning and employment in short and medium terms. Biavaschi et al. (2012) asserted that in South and Sub-Saharan Africa, as a

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strategy to curb youth unemployment challenges, local networks and NGOs conduct informal apprentice training to familiarize the trainee with new technologies and facilitates easier credit access and acquiring of modern working equipment. Hirshleifer et al. (2014) demonstrated that the private sector vocational training positively and significantly influenced the employment of youth in Turkey. However, the impact was realized after the second year of training. **Barrera-Osorio, Kugler and Silliman** (2020) disclosed the positive effect of vocational training on wages and employment in Colombia.

Doerr and Rafael (2020) revealed that the beneficiaries of the Formacion para el Trabajo (FOTRAB) programme in Chile improved their income in the short term. The programme trained vulnerable men and women aged 18 to 65. The study further found that combining training project participants in the classroom and provision of technical assistance improve self-employment probability. However, training was more useful for males than females and the quality of training determined the labour outcomes. The empirical studies indicate that there is a gap for studies that assess how vocational training influence the employability of youths aged 15-35 years in developing countries such as Tanzania.

The role of MFIs in promoting employment

Shiferaw (2020) found that despite been trained, the pastoral project beneficiaries in Afar, Eastern, and Southern clusters of Ethiopia were unemployed because they lacked financial support and poor industry employers' linkage. Alam and Azad (2021) similarly unveiled that MFIs in Ethiopia increased women clients' income and level of employment. Adamolekun, Obadeyi, Ogbeide and Akande (2021) found that MFIs in Nigeria led to the survival of Micro and Small Enterprises (MSEs) and hence they created wealth, employment and mitigate poverty.

Asadullah et al. (2021) articulated that access to Microfinance Institutions (MFIs) services promoted women clients employability in Bangladesh. The study disclosed that MFIs financial services made women more independent; more financially and healthily satisfied and hence gained general happiness. Datta and Sahu (2021) exposed that in West Bengal, India, the credits from MFIs made borrowers increase their levels of employment and hence livelihoods. Chandrashekhar and Sultani (2021) unveiled that MFIs in Afghanistan, through the provision of loans to entrepreneurs, improved their savings, income, and promoted employment opportunities. Oladapo (2021) contended that one purpose of the Microfinance Institutions in Nigeria is employment creation. When doing this task, the MFIs also reduce poverty, empower disadvantaged groups such as women, and foster the growth of new or existing businesses. The study revealed that the credits provided by the specialized banks were not effective enough to reduce poverty in Nigeria because they targeted the clients who were not extremely poor. This study necessitated to include the contribution of informal savings and credits on employability of poor marginalized youth in Tanzania who were 15 to 35 years. Previous studies did not concentrate on young youth who were coordinated by a specific project. Therefore, the study peculiarly assessed the effectiveness of the YEE's coordinated Youth Savings and Loans Group scheme in promoting the employability of youth in the Ilala district.

Startup tools and employment

Fox and Gandhi (2021) argued that youth employment is caused by their inability to acquire inputs, land and tools in Sub-Saharan Africa. The working tools include raw materials required to make goods like craft furniture, food or hairdressing tools. Shiferaw (2020) recommended the provision of working equipment to facilitate the employability of youth in Ethiopia. Hope (2012) recommended that for effective training of employable youth, technical and vocational education and training (TVET) institutions in Kenya must ensuring that they possess the required training facilities, tools and infrastructures. However, the study did not focus on vocational short term training. Moreover, this was not an empirical finding rather it was a recommendation. Nade (2021) stated that the Indian government offered a variety of non-financial support for SMEs startups such as machines and workshops attending grants but these grants are limited in the Tanzanian context.

The literature indicates that there are scanty studies that have assessed the role of start-up tools in promoting the employability of youth. Moreover, despite, the previous few studies such as Fox and Gandhi (2021), Nade (2021) and Shiferaw (2020) and Hope (2012) recommended that the startup tools

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are vital for enhancing the employability of youth, they have not assessed the extent the provision of the tools promote youth' employability. Furthermore, to the best of the authors' knowledge, none of the studies has combined the roles vocational training, savings and credits and start-up tools.

Methodology

Population and sample size

The study used an explanatory design and involved 1,202 youth from Kitunda, Kivule, Chanika, Majohe, Msongola, Kiwalani, Vingunguti and Kipawa Wards of the Ilala district in Dar es Salaam region in Tanzania. The participants were vocational education and training graduates from the project area in Ilala municipal as indicated in Table 1a.

Table 1a: Youth Population in Projects Wards

S/N	Area	Male	Female	Total
1	Kipawa	132	143	275
2	Vingunguti			
3	Majohe	80	90	170
4	Chanika			
5	Kivule	112	156	268
6	Kitunda	63	89	152
7	Kiwalani	99	108	207
8	Msongola	67	63	130
	Total	553	649	1,202

Source: VETA (2018)

Sample Size

This study considered 10% of the youth population in the project area. Bullen (2014) asserted a sample size worth 10% can be drawn from the population if the total sample does not exceed 1,000 objects/individuals. Therefore, 55 males and 65 females were drawn for the survey from a population of 1,202 youth.

Sampling Technique

The study used the stratified sampling technique to group the male and female youth and then systematic random sampling was used to select the individual male and female youth for the survey.

Data Collection Method, Validity and Reliability

Data were collected using the structured questionnaire. The questionnaire was pretested to 12 youth before administering it to a large number of respondents. The validity of the variables was confirmed from the empirical literature. The reliability was tested using the Cronbach Alpha, which recorded the mean value of 0.741 (Table 1b), indicating that the data were reliable. The youth consent was sought before the administration of the questionnaire. Furthermore, we cited all used references and we ensured the confidentiality of the collected information. Before analysis, data were screened and coded and then were entered in SPSS software version 21.

Data Analysis

Data were analyzed using descriptive and multiple regression analysis. We tested the multiple regression assumptions and we found that the model does not exhibit the problems of heteroscedasticity, multicollinearity and autocorrelation. The test also showed data were normally distributed.

The multiple regression model is written as follow;

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \epsilon_t$$

where β_0 = intercept, β_1 , β_2 and β_3 = represents estimated coefficient X_1 , X_2 and X_3 respectively at time t

X_1 represents the role of training

X_2 represents the contribution of credits and savings

X_3 represents the role of start-up tool

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ε_t represents error terms

The ordinary least square (OLS) technique was used to estimate the relationship between the independent and dependent variables

Table 1b: Cronbach alpha Reliability Statistics

Variables	Number of sub-variables	Cronbach Alpha
Demographic variables	5	0.769
Vocational training	6	0.719
Savings and credits	3	0.710
Startup tools	3	0.765
	Mean	0.741

Results and Discussion

Demographic variables

Gender, age, education level, category of youth beneficiaries and major activities are demographic variables that are related to the specific objectives of the study.

Gender of youth

Both men and women were involved to avoid biases. The males involved were 56 (46.3%), and females were 65 (53.7%), as shown in Table 2. The data shows that majority of respondents were females. This is because according to VETA (2019), 52% of the total project beneficiaries were females. Since the female youth are classified as disadvantaged, the project aimed to promote their economic empowerment (Mwaipopo & Dauda, 2019).

Age of youth

The findings from Table 2 indicate that majority (58%) were having the age of 17-25 years. The age rank sat by the project was 15-35 years. However, it seems the project included youth with relatively young age to accommodate their marginalities such as orphans and single parents. The project targeted the young youth because they cannot access employment opportunities easily on their own. ILO (2020) reported that youth face unemployment challenges three times than elders.

Education Level of youth

The findings from Table 2 show that the majority (83.5%) of youth were having primary and secondary education while 4.1% possessed no formal education. The data suggest that majority of youth were having a low level of education and hence lacked an opportunity to be employed in the formal job market. Therefore, training, joining in savings and credits groups and provision of startup tools promoted their self-employment. Fe'nyes and Moha'cs (2020) contended that higher education promotes the employability of youth than the lower level of education.

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Table 2: Demographic information of youth

Respondent Gender	Frequency	Percent
Male	56	46.3
Female	65	53.7
Respondent Age		
17-25	70	58
25-38	51	42
Respondent Education Level		
None	5	4.1
Primary	60	49.6
Secondary	41	33.9
Certificate	10	8.3
Diploma and above	5	4.1
Category of Beneficiaries		
Young mother	17	14.0
Working in a risk environment	56	46.3
Orphan	10	8.3
Single parent	38	31.4
Respondents by Activities		
Business	31	25.6
Self-employed	80	66.1
Unemployed	10	8.3
Total	121	100.0

Category of Youth Beneficiaries

The finding from Table 2 reveals that youth project beneficiaries were coming from the marginal groups of the population. The findings show that the project beneficiaries were either young mothers, those working in a risk environment, orphans or single parents. The data shows that majority of them were those working in the risk environment. The findings indicate that the project aimed to empower economically the most disadvantaged groups. Oladapo (2021) asserted that MFIs aims to empower the disadvantaged group. Vocational training also performs this essential role (Vitali, 2018).

Youth Major Activities

The findings from Table 2 show that the majority of youth (66.1%) were self-employed while 25.6 % started businesses and 8.3% remains unemployed. The data shows that majority of youth established economic activities after being trained and being facilitated with startup tools and capital access from the savings and credits groups. The economic activities based on the training provided were driving, tailoring, catering, decoration, motor vehicle mechanics, welding and electrical installation. However, 8.3% of the youth were not eager and innovative enough and hence failed to utilize the startup tools which were given in a group of 5-10 youth. Wuttaphan (2017) argued that the competencies gained from vocational training will be useful only when the trainee use such competence to foster his employability. The findings from this study disclose that the vocational trained organized by YEE achieved the desired results because 91.7% of the trained youth were employed in different economic activities.

Factors that Promoted the Employability of Youth

Findings from Table 3 shows how the role of vocational training, savings and credits and startup tools facilitated the employment of youth in Ilala municipal in Dar es laam region-Tanzania.

Role of Training on Employability of Youth

The results indicate that 90% of the youth agreed that the training contents facilitated their employability. The vocational training centres usually train participants on both theoretical and practical aspects. The practical aspect catalyzes the application of skills in an employability context. That is why the majority agreed that the training contents facilitated their employability. Forster et al. (2016) affirmed that the practical contents of the training facilitated the entrepreneurship undertaking, and in this case fosters

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employment creation. The findings further display that the training environment facilitated the employability of youth as confirmed by 89% of the respondents. The conducive training environment makes the trainee grasp what is trained and provides room to turn the trained skills and knowledge into practice.

For the training to be successful, the presence of training facilities and materials is vital. The VETA trainers provided adequate training handouts for each course that was trained. This was witnessed by 94% of the trainees who accepted that the provision of adequate training materials facilitated their employability. Training materials were used as a reference when undertaking the economic activity. A large percentage (99%) of youth also agreed that the training evaluation facilitated their employment. Training evaluation usually is done to trace if the trainee applies what was being taught in the class. YEE project evaluated the trainee regularly and assisted youth in difficult areas. Aboyassin and Sultan (2017) asserted analysis of training needs, designing a training program, duration of training and training evaluation influenced employee service quality, productivity, and job satisfaction in Jordan.

Contributions of Savings and Credit

The findings further revealed that 95% of youth agreed the capital obtained from the savings and credits facilitated their employment. The credits obtained from the savings and credits group was used to purchase the additional working tools and covering the operating expenses. Capital is very vital to promote employment. The finding further revealed that 61% of youth acknowledged that increased savings promoted their employability. The role of insurance services in promoting the employability of youth scored 61%. The findings indicate that some of the youth were not covered by the health insurance services and this threatened the continuity of economic activities if they became seriously ill. Chandrashekar and Sultani (2021) revealed that the provision of loans to entrepreneurs by MFIs in Afghanistan improved their savings, income, and promoted employment opportunities. Adamolekun et al. (2021) found that in Nigeria MFIs promoted the Survival of Micro and Small Enterprises (MSEs) and hence they created wealth, employment and mitigate poverty.

Role of Start-up Tools

YEE project provided the following start-up tools: welding machine, drilling machine, gas cooker, oven, vehicle tools box, sewing machine, decorating cloth, and electrical installation tools. The findings indicate that 92% of youths agreed that the availability of start-up tools facilitated their employability. About 91% of the youth agreed that the start-up tools were efficient. The findings indicate that the provided startup tools were both available and efficient. The two parameters promoted the employability of youth.

Fox and Gandhi (2021) asserted that the ability to acquire inputs, land and tools promotes the employability of youth. The findings further indicate that the adequacy of the startup tools promoted the employability of youths. This is true because the YEE project provided the complete sets of startup tools. Nade (2021) revealed that the provision of start-up tools promoted the growth of SMEs in India. Shiferaw (2020) and Hope (2012) asserted that the provision of the working equipment facilitates the employability of youth. However, none of the studies examined how the startup tools promoted the employability of the youth.

Table 3: Factors that promoted the employability of youth

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Variable(s)	Frequency	Percent
Role of Vocational Training on employability of youth		
The training contents facilitated employability	116	96
The training environment facilitated employability	108	89
The training facilities and materials facilitated employability	114	94
The trainers' evaluation facilitated employability	120	99
Contributions of Savings and Credit (CSC)		
The business capital facilitated employment	115	95
Increased savings facilitated employability	74	61
Insurance services facilitated my employability	73	60
Role of Start-up Tools		
Availability of start-up tools has assured employability	111	92
The efficiency of start-up tools facilitated employability	110	91
The adequacy of startup tool facilitated employability	110	91

Result of Regression Analysis

The multiple regression analysis through OLS was carried out to assess the relationship between the vocational training, savings and credits groups, start-up tools and employability of youth in Ilala Municipal council. The regression model equation after analysis can be written as: $Y = 55.1 + 0.059 X_1 + 0.56 X_2 + 3.83 X_3 + \epsilon$. The results from Table 4 show that R^2 is 0.6712 and $F=20.4$, indicating that the relationship between independent and dependent variables is well specified. The B-values shows that the startup tools, x_3 contributes largely to the model than other variables (x_1 =vocational training and x_2 =savings and credits). The findings from Table 4 show that the vocational training, savings and credits and startup tools contributed to the employability of youths positively and significantly. The findings correlate with **Barrera-Osorio** et al. (2020), Batchuluun et al. (2017) and Hirshleifer et al. (2014) in Colombia, Malaysia and Turkey respectively. However, Doerr and Rafael (2020) revealed that training influenced the employment of youth in Chile in short term.

Table 4: Results of Multiple Regression Model

Explanatory Variables	Coefficient	Std. Error	P> t
Role of training	0.059738	0.0603928	0.017
Role of Savings and credits	2.843288	0.6761642	0.000
Role of Start-up Tools	0.066195	0.0717177	0.0366
Constant	55.01	9.84697	0.000
$R^2 = 0.6712$ $F = 20.473, \text{Prob} > 0.0001$			

Conclusion and Recommendations

The study concludes that vocational training, savings and credit facilities and provision of start-up promoted the employability of youth in Ilala Municipal council in Dar es salaam region in Tanzania. The study recommends that vocational training continue to train youth on practical employability skills. The government and NGOs should also establish projects which will provide training, strengthen savings and credits and provide startup tools to promote the employability of youths in different locations in Tanzania. This study was limited by small coverage and the use of descriptive and regression analysis. Therefore, we recommend future studies to widen the coverage, use advanced data analysis methodology and mixed methods designs. The study contributes to the body of knowledge by integrating the three variables in one study, which were not considered by previous authors. This motivated the authors to use the human capital and resource-based view theories to address the variables covered by this study. The study contributes to the human capital theory by articulating that well-designed vocation training promotes the application of knowledge and hence facilitates the employability of youth. Also, the study contributes to the resource-based view theory by arguing that the training, savings and credits resources and startup tools should be used in combination to promote the employability of youth. Furthermore, this study

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included the role of start-up tools on the employability of youth in the human capital theory, which was not considered by previous scholars.

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The Second Business and Economic Development Conference (BEDC, 2021), Held on 16th - 17th November, 2021 in Dodoma, Tanzania

Participation of Special Groups on Tendering Process to Public Institutions in Dodoma City

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Abstract

This study was conducted to assess the participation of special group on tendering process in Dodoma City. A cross-section research design was used, respondents were 71 obtained through purposive sampling on which 61 were members of special groups and 10 were head and senior officers of procurement in procuring Entities in Dodoma City. Data collection methods included questionnaire and interview and were analyzed using descriptive statistics and correlation analysis. It was found that the special groups have inadequate awareness of scheme hence unsatisfactory participation in procurement opportunities. Furthermore, it was found that there is a negative relationship between awareness of special groups and participation in tendering process. The less awareness within special group lead to decrease opportunity for them to participate in the tendering process. Therefore, awareness of special group preference scheme is important aspects that influence the special group to participate in the tendering process in public institutions.

Keywords: Special group preferences scheme, special groups, participation, awareness, Procurement

Introduction

Small and medium enterprises (SMEs) benefit from public procurement because it provides a market for their products and services (Israel and Kazungu, 2019). The World Bank (2015) defines public procurement as the purchase of goods, services, and works with public funds by a purchasing institution. Other than for merely economic motives, public procurement has been utilized to achieve socio economic objectives (Cravero, 2017). Numerous social goals, such as fostering employment and equal opportunities, inclusiveness, and accessibility, can be addressed through public procurement. Governments are utilizing procurement as a tool for policymaking and adopting preference programs to safeguard local suppliers and manufacturers. When acquiring commodities, works, and services in a public procurement procedure, a preference plan gives local bidders an edge (URT, 2011). Local enterprises and businesses owned by disadvantaged groups receive access to procurement opportunities through the preference system. Public procurement is seen as a lever of industrial strategy, especially local development, in many nations, and not simply during times of economic distress (Cravero, 2017).

Several domestic legislative frameworks have established particular preferential programs that favor marginalized and other socioeconomically disadvantaged socioeconomic operators engaging in tender processes (Cravero, 2017). Procurement preferences have been used in various regions of the globe with the goal of achieving social objectives. Government and public sector firms in India are required to buy a minimum of 20% of their yearly value of products or services from micro and small businesses (Dawar & Oh, 2017). Certain basic elements in Brazilian law are intended to offer domestic preferences in public procurement. When hiring staff, rules have been established to ensure that afro-descendants, women, and handicapped people are included. They created the Program of Affirmative Action, which stated that enterprises who can demonstrate that they have implemented positive action policies toward disadvantaged groups should be given precedence in procurement.

Public procurement in the Republic of Korea is strategically focused on attaining economic efficiency and value for money. To achieve these goals, the government emphasizes social value-oriented public procurement, which entails making it easier for small and medium businesses to enter the market and expanding market opportunities for other socially disadvantaged businesses such as social enterprises and businesses owned by women and the disabled, as well as supporting other socially disadvantaged businesses such as social enterprises and businesses owned by women and the disabled (Dawar and Oh, 2017). The European Union (EU) is a group of countries in Europe that make up the European Union and is very much concerned on procurement with inclusion (2014). Because disabled and disadvantaged

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persons, such as the unemployed, members of disadvantaged minorities, or other socially marginalized groups which also form important part of European population may not be able to obtain contracts under normal competition conditions, the European Union directs member states to reserve the right to participate in procurement to them.

Tanzania uses a national preference scheme and a special group preference scheme to achieve social goals. When competing with international enterprises, local firms or associations of local and foreign firms are offered national preference schemes. Women, the elderly, youth, and those with impairments are among the special groups. Following amendments to the Public Procurement Act of 2011, the Special Group Preferences Scheme was implemented in 2016. This program serves as a stepping stone for special groups in Tanzania. However, when it comes to the capacity of special groups to participate in the tendering process, there is an opportunity gap. As a result, the purpose of this study is to examine the participation of special groups in the bidding process in public institutions.

Statement of the Problem

A special group preference plan is a system in which a particular percentage of procurement is set aside for special groups when acquiring products, works, and services through a public procurement procedure. In Tanzania, this preference program compels procuring bodies to provide 30% of their yearly purchase of products, works, and services to privileged groups (URT, 2016).

Special group supporting entities provide registration and training to special group to participate in tender opportunities advertised. Before commencement of procurement, Procuring Entities ensure commitment of funds and are required to pay the special group awarded contracts on time to ensure their sustainability. The procuring entities that fail to meet this exclusive preference have to give reasons for their failure and the accounting officer shall be liable for administrative actions (URT, 2016).

Tanzania Government and various organizations have been sensitizing special group through training and creating enabled environment for engaging in the preference scheme. The Public Procurement Regulatory Authority (PPRA), the National Economic Empowerment Council (NEEC), and the Tanzania Women Chamber of Commerce (TWCC) have all held seminars to allow specific groups to engage in tendering opportunities (PPRA, 2018). Tender security is not required for their participation in tendering, and the purchasing organization may breakdown procurements as needed to make them reasonable to recognized special groups.

As an affirmative action the Tanzania Government reformed public procurement Act in 2016 by ensuring that special groups are given opportunity to participate in public procurement through special group preference scheme. Regardless of the effort by government to create special group preferences still there is little response on the preference opportunities. The number of registered special groups for preference scheme in Tanzania by 2021 is 105 (Registration Roll, 2021) which have access to set aside 30 percent of annual procurement volume from 718 procuring entities. Little has been done in researches to understand the level of participation of the special groups as a response to this economic opportunity. In response to this gap this study is aimed at assessing the participation of special group in tendering process.

Relevant Studies

Special Group

Special group include people with the same characteristics who are deprived of opportunity in a particular undertaking, as for procurement it is made by group of Women, group of elderly, group of youth and people with disabilities classified under applicable laws and regulations (URT, 2011).

Special Group Preference Scheme

A special group preference plan is a system in which a particular percentage of procurement is set aside for special groups when acquiring works, products, and services through a public procurement procedure (PPRA, 2020).

Participation

Participation is the process through which individuals, either individually or collectively, in groups and

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organizations become involved in, or have the chance to become actively involved in, a project or program of activity (Your dictionary, 2021).

Awareness of Special Groups on Preferential Scheme in Tendering

The implementation of special group preferential schemes begins with procurement bodies allocating funds (PPRA, 2019). The special group is unaware of such chances since not everyone has access to publications or the Internet or is able to stroll into government offices. Additionally, there is a dearth of information that pushes the parties to move forward; additional information is unavailable (Hivos, 2017). The Access to Government Procurement Opportunities (AGPO) does not provide feedback to failed tenderers on their failures, which might assist them in identifying their areas of weakness and thereby improve their performance in future opportunities. This indicates they are unable to enhance their bidding abilities, while the remaining candidates cited a lack of openness in the tendering process as the primary reason for their rejection. Due to a lack of expertise, the majority of these special groups are uninterested in paperwork, which is required by bidding requirements (Hivos, 2020).

In Kenya, where special groups include women, youth, and persons with disabilities, Gatere and Shale (2014) demonstrated that a lack of training prevents procurement employees from improving their skills and special groups from being familiar with the reform system's needs. Public bodies will get training and capacity building to guarantee compliance with the instruction to be delivered. Gatere and Shale (2014) stated that training enhances the talents and capabilities of disabled individuals, women, and adolescents to participate in government procurement opportunities (AGPO). The AGPO Program's objective is to enable youth, women, and individuals with disabilities-owned businesses to participate in government procurement. PPRA (2020) Registration of special groups to participate in the special group preference scheme remains low; according to the PPRA register roll, only 105 special groups had registered by June, 2021. Registration is accomplished through the submission of registration documents to a nearby Special Group Registration Entity. In Kenya, special groups are registered online, allowing for simple access to more special groups (Hivos, 2020).

Methodology

Research Design

This study adopted cross section research design since cross-sectional design, with this design researcher was able to collect data once at a specific point in time.

Population of the study

The study population of this study was 85 members of special groups in Dodoma City and senior procurement staff from three procuring entities in Dodoma City.

Sampling procedure

This study used purposive sampling. Purposive sampling technique was used to collect data from leaders and members of special groups and to collect data from Head and senior procurement officers from procuring entities since they were key informants with knowledge on procurement and tendering processes.

Sample size

The sample size for this study was determined using Yamane (1967) formula for sample size calculation. Therefore, the sample size was selected from 85 members from four selected special groups and senior procuring officers for three procuring entities were involved.

selected special groups and officers for three procuring entities were involved.

$$n = \frac{N}{1 + N * (e)^2}$$

Where: n = the sample size

N = the population size

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e = the level of precision (5%)

$$n = 85 / 1 + 85(0.05)^2 = 71$$

The sample size included 71 respondents.

Table 8: Distribution of sample size in each group

S/No.	Name of Special Group	Population	Computation	Sample size
1.	Sawa group	25	25/85*71	21
	Jofenai Investment	19	19/85*71	16
2.	Group			
	Tanzania Paradise	16	16/85*71	13
3.	Bamboo			
	Dodoma Hygine	13	13/85*71	11
4.	Association			
	Government Senior	12	11/85*71	10
5.	Officers			
	Total	85		71

Data Analysis Technique

In this study, inferential and descriptive statistics were used in quantitative data analysis. Completed questionnaires were coded and entered into SPSS 20.0 software version to aid the analysis. Descriptive statistics analysis employed mean, frequency and standard deviations. To establish the relationship of variables inferential statistics were used using correlation analysis to help establishing relationships between variables and assess the strength of the relationship between variables. Qualitative data obtained through the interview content analysis was used in analysis.

Results and Discussion

Awareness of Special groups' in Participation in Tendering Process

The study intended to examine the respondent's views related to the awareness of special groups' participation in tendering process. A five-point Likert scale was employed from 1-5 where by 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5=Strongly Agree. While mean score was used to measure central tendency and standard deviation (SD) was used to measure the variation of responses. The responses were shown in Table 2.

Table 2: Awareness of special groups' participation in tendering process (n=61)

Statements	Mean	SD
Special group preference scheme is well promoted	2.22	0.74
Special group have knowledge on special group preference scheme	2.28	0.82
Special group are given training on special group preference scheme.	2.39	0.13
Procuring entity provide enough opportunity for special group to tender	1.51	0.96

Source: Field data (2021)

Special Group Preference Scheme is Well Promoted

The results in Table 2 show that respondents disagree that, special group preference scheme is well promoted with a mean score of 2.22. This supported by respondent during interview who add the following during interview:

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“...Special group preference scheme is not well promoted; many people do not have knowledge on this scheme. Low rate of registration show that the scheme is not well promoted”

Special Group Have Knowledge on Special Group Preference Scheme

Moreover, the results show that respondents disagree that special groups know the special group preference scheme with a mean score of 2.28. This finding supported by eighth respondent who add the following during interview:

“...I don't think the special groups have knowledge on the special group preference scheme, the existence of the scheme low because there is lack of communication of the procurement officers and community officer who have direct contact with the community where special groups originate. Even the community officer does not have enough knowledge of the procurement and the scheme itself...”

Special Group are Given Training on Special Group Preference Scheme.

Likewise, respondents disagree that, the special group is given training on special group preference scheme with a mean score of 2.39. This finding supported by respondent who add the following during interview:

“...Training is important elements for special group, training is not given to special groups concerning the special group preference scheme...”

Procuring Entity Provide Enough Opportunity for Special Group to Tender

Furthermore, respondents disagree with the statement that, procuring entity provides enough opportunity for a special group to tender with a mean score of 1.51. This finding supported by respondent who add the following during interview:

“...I don't think the Procuring entities are giving enough opportunity to tender because number of Procuring entities setting aside 30% for special groups is very low...”

These Findings concurs to those of Amadi (2015) who found that limited information on public procurement opportunities, complex tendering procedures, cumbersome technical and financial qualification requirements, and so on, have accounted for the low participation of female-owned businesses in public procurement contracts. Mohammed (2019) in his study found that although the 30% of procurement opportunities were reserved as an affirmative action policy to empower the disadvantaged group, it has been identified that payment delays, limited training and sensitization, ineffective procurement officers, difficulty accessing government financing mechanisms as well as a huge and costly application process as needing urgent attention to maximize special group preference scheme benefits.

A similar study carried by International Trade Centre (2014) came up with result that support findings that in Developed and Developing economies in Government procurement women and youth, lack of information about tender opportunities, complex and burdensome tender procedures, and failure by those agencies to promptly pay women-based businesses influenced uptake of special group preference scheme by the targeted groups. Nganga (2017) concur with findings by arguing that major challenges facing those special group not registered by in preference scheme and hence no registration (i) lack of awareness of special group preference scheme initiative; (ii) lack of information of how to register a business and for an preference scheme; (iii) perception of corruption in government; and (iv) fear of suffering loss due to delayed payments. Gatere and Shale (2014) supported the findings by revealing that awareness is improved by training and hence improves skills and ability of women, youth and the persons with disabilities to participate in special group preference scheme.

Relationship between Awareness of Special Groups and Participation in Tendering Process

The study then sought to find out whether there is any significant relationship between awareness of special groups and participation in tendering process. The Pearson correlation coefficient (r) was employed to establish the relationship between awareness of special groups and participation in tendering process. The findings presented in Table 3 show that there is a negative relationship between awareness of special groups and participation in tendering process ($r = -0.412$, $p\text{-value} = 0.024$). This implies that

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less awareness within special group lead to decrease opportunity for them to participate in the tendering process

Table 3: Correlation between the legal capacity of special groups and participation in the tendering process

		Awareness of special groups	Participation in tendering process
Awareness of special groups	Pearson Correlation	1	-0.412**
	Sig. (2-tailed)		0.024
	N	61	61
Participation in tendering process	Pearson Correlation	-0.412**	1
	Sig. (2-tailed)	0.024	
	N	61	61

**Correlation is significance at the 0.01 level of significance (2- tailed)

Source: Field data (2021)

Conclusions, Implication and the Area for Further Research

Conclusion

The study found that awareness of special groups has a statistically significant influence on the special groups to participate in tendering process negatively. This implies that less awareness in terms of promotion of special group preference scheme within the special group, knowledge of preference scheme, training on special group preference scheme and procuring entity provide enough opportunity for a special group to tender lead to decrease the opportunity for them to participate in tendering process. Hence the less the awareness on preference scheme the less the participation of special group in the special group preference scheme.

Implication

The study shows that awareness of special group preference scheme is import aspect that affect participation of special group. The findings show awareness has statistically significant influence on the special groups to participate in tendering process negatively. Therefore, various stakeholders in public procuring entities, Special group supporting Entities and non-government organizations should fulfill their duties and facilitate seminars and training that will ensure the special groups are aware on the preference scheme itself, knowledgeable on regulations, media at which the tenders are advertised, conditions and criteria for selection of the tenderer. Procuring entities have to be open to the tenders that have been set aside for special group in general procurement notice so that the special group can be aware and be able to evaluate the requirements of special groups so that they can be able to participate to the tenders. Special group supporting entity especially the Community Officers should be equipped with procurement knowledge specifically on special group preference scheme so as to disseminate and publicize the scheme. All procuring Entities should ensure that they set aside 30% of their annual procurement plan value for special groups. Since not all registered special group had chance to participate on tender due to inadequate information of the tenders, there should be proper way of ensuring the tenders for special groups are well advertised using the mechanisms which are accessible by many special groups.

Area for Further Research

Further studies should be carried out in another region in Tanzania to determine the participation of the special groups in the tendering process. Since this study is confined only to the Dodoma City. The study has concentrated generally on all special groups but youth, women, elderly and people with disabilities differ in capability hence it is recommended to conduct studies on each factors affecting each group separately. Further studies could be done also assessing competence of procurement staff in implementation of special group preference scheme due to the fact they fail to set aside the 30% of the Procuring entity for special groups.

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Challenges Encountered by Women Second-Hand Clothes Informal Cross Border Traders at Namanga One Stop Border Post.

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Abstract

This study's goal is to learn about challenges encountered by women second-hand clothes informal cross border traders at Namanga One Stop Border Post. The study's specific goals were to understand the obstacles faced by women in the informal second-hand clothing company in Namanga, and finally, examine resilience measures for minimizing obstacles and hinderances faced by women carrying out informal second-hand clothing business in Namanga. Quantitative plus qualitative approaches in a descriptive cross-section research design were used. Data collection was done via interviewing respondents and issuing those questionnaires to fill and analysis of data through content examination on top of SPSS. The study discovered that women dealing in the informal second-hand clothing business at Namanga were at risk of being sexually violated, harassed, on top of being exploited, that includes being verbally sexually harassed and being raped. Frequently officials at the border asserted a lot of pressure to them, as well as the risk of contracting the corona virus (COVID-19) and the ongoing political standoff between Kenya and Tanzania. Limited capacity to diversify the range of items, delays at the border, variable exchange rates, and unstable market pricing are some of the challenges women face when dealing with second-hand clothes informally at Namanga. In addition, there are resilience tactics for reducing these obstacles in the study area, such as carrying little stock, renting one room for housing and storing items, and moving in groups to help them negotiate if they are apprehended by the authorities. According to the findings, the government and financial stakeholders should provide financial services to ICBDT in order to help them overcome their low capacity to diversify their business.

Keywords: Informal Cross-Border Trade, Women Informal Cross-Border Trader

Introduction

Informal cross-border commerce between adjacent states involves risks, limited funds, and unregistered operations. In most cases, proximity commerce refers to the flow of commodities between marketplaces that are close to each other. Informal refers to a trader's position (unregistered), not to the trade itself (caught or unrecorded by official customs processes) (Parshotam, & Balongo, 2020). In Africa, notably Tanzania, up to 70% of businesses are unregistered, with women accounting for the majority of informal cross-border (ICB) merchants, and they are the face of ICBT on the continent (Koroma, Nimarkoh, You, Ogallo, & Owino, 2017).

The existence of unclear and excessive taxes that businessmen are required to pay is a characteristic leading establishment of trade that is informal across the border. Existence of bureaucratic procedures that are difficult for businessmen to follow is related to the fact that some of them buys and sell on the spot (Little, 2010; Titeca & Kimanuka, 2012; Brenton et al., 2013). Informally done businesses have the advantage of not having formal prices while still allowing for transactions at lower prices. The nature of tariffs involved in this type of trade is likewise informal; businesspeople are expected to pay to the leaders at all times (Mitaritonna et al., 2017).

Trade carried out informally across the border is considered illegal as a result bulk of merchants involved in this type of trade use unintegrated or unauthorized routes. Their business strategy is to skirt around the agreed-upon norms and procedures that must be followed by all businesspeople in the country (Ama, Mangadi, Okurut & Ama, 2013; Nakhumwa & Minde, 1998).

Women who conduct business with people from other nations in an unregistered manner are known as informal cross-border women traders. They rely on markets that are near to borders and deal with the transportation of commodities from one part of the country to another. Informally carried out a cross

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the border by women are involved in businesses that benefit the impoverished. They are battling for the interests of their families, creating businesses with modest money and then using the revenues to run their everyday lives; in some nations, they control 70 percent to 80 percent of the commercial market (UNCTAD, 2020).

Furthermore, women who work in small enterprises across the border are said to account for 85 percent of all businesspeople in the area. They engage in small business more than males since some African families are compelled to live in poverty, hence they choose to join unregistered businesses (Brenton, Bucekuderhwa, Hossein, Nagaki, & Ntagoma, 2011). Clothing, both new and used, new and used shoes, vegetables and fresh fruits, beverages, fish and meat, and any other food items found in a specific area are all part of the boarder business. There are a few businesses that deal with electrical items, handicrafts, and furnishings. Businessmen are concentrating on things that are in great demand by people who are relocating from one country to another (Brenton, Bucekuderhwa, Hossein, Nagaki, & Ntagoma, 2011, 2013; Higgins, 2012; Women Watch, 2011).

Women from South Asia who conduct commerce across borders also manufacture tiny units of things that do not necessitate high-tech production. Consumers receive high-quality, fresh items that are manufactured very fast after they crossing the borderpoints. They appear to be more likely to present or demonstrate a high level of originality since they produce based on the needs of their clients. They invest little capitals/costs while earning profits to operate their daily lives, and some of them are successful in investing in other small projects (Kathuria, 2018). Women's informal crossroads are said to contribute to the country's growth because they provide employment to others as the business grows. They assist the government in reducing the number of poor people in the country, increase domestic revenues, and expand the scope of company growth by attracting even larger suppliers to supply these small business investors (UNCTAD, 2020).

Women can benefit from informal cross-border trade, which can evolve into a huge corporation. Some of them grow to be major corporations, while others start their own firms, whether they deal with the same type of businesses or not. They modify the system of doing business here, moving from not paying taxes to becoming a registered business that must follow the laws of doing business (EASSI, 2012). Furthermore, most women who have worked for themselves or started a business with government or family backing have been recognized to make significant contributions to community development, as they generate fresh ideas that benefit the community and the country as a whole (UN Women, 2010).

Coming to the issues of a cross the border trade carried out informally in other African countries, Manjokoto and Ranga (2017) stressed that deindustrialization in Zimbabwe is the main source of small business introduction, particularly across borders. Many women have passports in order to make it easier to conduct business across international borders. They have the freedom to go from one country to another, which encourages them to engage in a wide range of industries. The problem arises when they are asked to pay regular little taxes by their local governments, and when they are labeled as illegal businessmen, they face resistance from various authorities. Some female entrepreneurs despise this trait, therefore they choose to shut down their businesses or relocate to other places with more opportunities.

EASSI, (2012) also emphasized the barriers that women face when conducting small business across the Zimbabwean border. They are constrained by transportation expenses since they convey small amounts of goods, and by high taxes because they are sometimes treated as major corporations. Furthermore, they face fierce competition from larger suppliers and traders who are focused on selling a huge number of units at a low price, limiting their purchasing power and forcing them to compete in the market.

Berhanu (2016) points out that a cross the border livestock trading carried out informally across Ethiopia and Kenya is often carried out under harsh conditions of external interference, such as army raids, confiscations, harassments, and other forms of abuse, despite the fact its being an important income generation source on top of generation job opportunities for very many people.

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Furthermore, Blumberg, et al (2016) recognized the presence of violence perpetrated by unethical community members as a key hinderance to women conducting cross-border commerce. Thieves are the first to stifle the growth of these small business owners. Women in business are frequently harassed by unethical people, which limit their ability to grow their business to a great scale.

There are obstacles identified by UNIFEM from 2007 to 2009 as limiting border businessmen, particularly women, who are deemed weak by the community. They are hampered by unsafe environments, and their health is jeopardized by shoddy and unmanaged infrastructure. Due to the difficulty of conducting business over the border, some women are at danger of contracting HIV because they are unable to meet their basic necessities (Blumberg, Meyers and Malaba, 2016).

In East Africa, informal cross-border trade is estimated to account for up to 60% of all intra-regional trade, with women accounting for up to 80% of all informal cross-border traders (EASSI, 2012). Despite the widespread use of ICBTs, WICBTs face a number of obstacles, including delays at borders, lengthy hours of travel, time away from home, and fierce competition from other dealers. The lack of gender mainstreaming activities in African trade policy, as well as the necessity to include gender-related sensitivities in issues linked to infrastructure development and construction, have resulted in these obstacles.

The challenges that women informal cross-border traders confront in Tanzania in general, and Namanga One Stop Border Post in particular, are unclear. This is due to the challenges that women informal cross-border traders encounter in their day-to-day operations in Namanga. In Tanzania and adjacent Kenya, women entrepreneurs confront problems such as insufficient livelihood, poor income, and low skill levels. As a result, this study intends to fill a research gap by investigating the problems experienced by Women ICBT at Namanga, as well as the hurdles, resilience methods, and long-term mitigations.

Methodology

Research Design

The study used a descriptive cross-section research technique, integrating qualitative and quantitative approaches, to make conclusions on the issues encountered by women who operate as informal cross-border dealers of used apparel. Because this study was conducted at a single moment in time, the researcher used a cross-sectional research approach, which allowed him to examine various aspects at the same time. It examined the characteristics of a certain population and provides information on what is happening among women secondhand apparel informal cross-border sellers at Namanga One Stop Border Post. The approach of the cross-sectional study provided a picture of the problems that women informal cross-border merchants experience at Namanga one-stop border station at any given time.

Participant (Subject) Characteristics

Women secondhand clothing informal cross-border dealers at Namanga One Stop Border Post were among the study's target demographic. Adult women who sell used clothes informally across the border at Namanga were the focus of the study. They were chosen and utilized as an example because they are familiar with the difficulties that women informal cross-border traders dealing in clothing face at Namanga. Limited capacity to diversify the range of items they deal in, poor children rearing severe competition from fellow merchants, unpredictable currency rates and uncertain market pricing, exposure to both physical and psychological aggression, and a lack of collateral are some of the issues they face. Respondents were those who had been doing informal cross-border trading at Namanga One Stop Border Post over the previous year.

Sampling Procedures

A sampling approach is a technique for collecting samples from a big group of individuals. It refers to the method or approach through which the researcher selects sample items. The sample design structure can also influence the quantity of goods included in the sample. The sample design is chosen before any data is collected (Kothari, 2004). This study's participants will be picked using a simple and intentional random sampling procedure.

The sample for the study was picked at random by the researcher. It is a probability sampling strategy in which each member of the population has an equal chance of being picked for a sample, according to Kothari (2004). The researcher adopted this sampling approach because it provided each participant an equal chance of being picked and prevented biased replies. Similarly, when we purposefully chose women working in the secondhand cloth trades at Namanga One Stop Border Post as key informants for the study, we looked for women with experience and a wealth of knowledge about the problem that this study is attempting to solve, as well as their convincing reliability in providing reliable information.

Sample Size

The sample size, according to Kothari (2012), should fulfill the characteristics of efficiency, representativeness, reliability, and adaptability. Case studies are most typically used when researchers wish to understand more in depth about a small group of people, an issue, or a circumstance. Respondents were women who had been practicing informal cross-border commerce for the last year at Namanga One Stop Border Post. As a result, the study's sample size was 96 people. This was an appropriate number of individuals who possessed all of the criteria of the target population.

Measures and Covariates

Data analysis was preceded by data coding. Coding prepares data for easy entry and analysis. Each question was coded to obtain variables with the corresponding values. After coding, data was entered into SPSS software for analysis. Statistical data was interpreted and inferences drawn. In qualitative data analysis, data was arranged, organized, coded and validated. The data was then be presented in a systematic manner through a report. The quantitative data was coded and summarized before entering to SPSS. Frequency tables were used during the analysis of data. The rationale for using both methods is relevant since it provides more complete and accurate information. For inferential statistics, a Likert scale analysis was used to measure perception. Qualitative analysis was carried out whereby the qualitative methods were used to analyze the in-depth interviews. Through content analysis qualitative data was analysed. Statistical data was interpreted and inferences drawn. frequencies plus percentages were the descriptive statistics used and they were in tabular form. Qualitative data analysis was done by; applying codes that have been developed, followed by themes identification, developing relationships and where necessary lastly summarizing the data.

Table 1: Data analysis plan

Objective number	Nature of data required	Data analysis technique
1	Qualitative and quantitative data	Content analysis, frequencies, percentages
2	Qualitative and quantitative data	Content analysis, frequencies, percentages

Source: Estimations by the Researcher (2021)

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Results

The Challenges Encountered by Women Second Hand Clothes Informal Cross Border Traders at Namanga One Stop Border Post.

For the functioning of any business within organizations and individual firms there are ups and downs towards success and achievements. The objective of this study aimed to find out different challenges encountered by women second hand clothes informal cross border traders at Namanga one stop border post. The table 2 shows different challenges which have been mentioned by different respondents in terms of means and standard deviation.

Table 2 The challenges encountered by women second hand clothes informal cross border traders

Variables	N	Min	Max	Mean	Std. Deviation
Limited capacity to diversify the set of goods they trade in	90	1	5	3.84	.982
Poor children rearing since there is little time left for children hence missing their mothers' attention control and love	90	2	5	4.02	.636
High competition from fellow traders	90	1	5	3.86	.966
Unstable exchange rates and unstable prices from the market.	90	1	5	3.97	.942
Exposure to acts of both physical and psychological violence (e.g., stigmatization, harassment both physical and sexual, retention of goods (confiscation of goods at the border)	90	1	5	4.00	.807
Forced to pay bribe the police/custom officers	90	1	5	3.82	1.118
Frequent border crossings are inefficient as they raise operational costs	90	1	5	3.89	.999
Exposure to undue exploitation	90	1	5	3.64	1.135
lack of collateral as many women neither have land nor houses hence limiting their access to formal sources of finance	90	1	5	3.68	1.225
Valid N (listwise)	90				

Source: Study findings (2021)

The study findings show that to a large extent women second hand clothes informal cross border trader at Namanga one stop border post faced the challenge of limited capacity to diversify the set of goods they trade in (mean=3.84, Std. Deviation=.982). These findings imply that women are not familiar with business expansion strategies, they fail to branch out their business from one type to another and spread their products and goods in different areas of trading in order to maximize their income. The reason due to this is the absence of manpower, enough capital and also insufficient in business and entrepreneurship skills.

To a large extent the challenge of poor child rearing since there is little time left for children hence missing their mothers' attention, control and love was encountered by women second hand clothes informal cross border traders at Namanga one stop border post (mean=4.02, Std. Deviation=.636). These

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findings reveal that most of women at Namanga are not able to manage well their business due to family issues. Having children at home who need parental care becomes an obstacle toward achieving their goals.

Likewise, there is a challenge on high competition from fellow traders which is encountered by women second hand clothes informal cross border traders at Namanga one stop border post as indicated by (mean=3.86, Std. Deviation=.966). These findings mean that second hand business women are challenged by other large business practitioners who have high capital, quality clothes and products. This competition makes them fail to sell their products at high rate thus failing to achieve their potential goals. This is supported by Muluvi *et al.*, (2012) that stressed that Women Informal Cross Border Traders in the East African Community were faced with a number of other challenges more so competition from big companies and lack of information on markets respectively.

However, to a large extent the challenge of delays at the boarder was encountered by women second hand clothes informal cross border traders at Namanga one stop border post (mean=3.97, Std. Deviation=.827). Transport and Transportation of goods and people become more challenge to people in developing countries were people spend more time to move from one point to another and goods spend more time to reach owners. This affects the functioning of small business women who depend on daily cloth selling.

Moreover, unstable exchange rates and unstable prices from the market are challenges encountered by women second hand clothes informal cross border traders at Namanga one stop border post (mean=3.97, Std. Deviation=.942). This means that women fail to perform their business due to exchange costs which affect their business. The increase and decrease of money value, product value affects them is performing their functions as these rates decrease their revenue.

Through the interview that conducted by the researcher to one among the women's leader, she said that; *"Women's are facing a lot of challenges which include unfair treatment by business officials, high running cost, lack of friendly infrastructures to conduct the business, unstable exchange rate and unstable markets from the source in cross border trade, and poor business policies which affect customs charges.*

Nevertheless, women conducting second hand business cross border traders at Namanga one stop border face challenges of exposure to acts of both physical and psychological violence including stigmatization, harassment both physical and sexual, retention of goods (confiscation of goods at the border) as shown by (mean=4.00, Std. Deviation=.807). The findings imply that absence of conducive working environment facilitates the occurrence of violences which hinder people to deal with their daily activities.

Corruption and bribery are other challenges hindering women dealing with second hand clothes at Namanga. Being forced to pay bribe the police/custom officers was encountered by women second hand clothes informal cross border traders at Namanga one stop border post (mean=3.82, Std. Deviation=1.118). These findings indicate the presence of unfair treatment and judgment to activities thus women are required to pay bribe for ensuring business continuity in order manner.

Study findings have indicated a challenge of operational cost which are encountered by women second hand clothes informal cross border traders at Namanga one stop border post due to frequent border crossings as indicated by (mean=3.89, Std. Deviation=.999). This makes business to become inefficient as most of their revenue is used in transport and border crossing expenditures.

Challenge of Exposure to undue exploitation was encountered by women second hand clothes informal cross border traders at Namanga one stop border post (mean=3.64, Std. Deviation=1.135). Unnecessary overworking, exploiting women becomes a challenge in trading. Women fail to perform their responsibilities as required because they are being treated in unfair manner.

The findings of this study also indicated a challenge of lack of collateral as many women neither have land nor houses hence limiting their access to formal sources of finance was encountered by women second hand clothes informal cross border traders at Namanga one stop border post (mean=3.68, Std.

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Deviation=1.225). This different bank expects collateral security from the loan applicants, it is however unfortunate that the majority of women trading with second hand business operators lack assets that can be accepted by banks as collateral. To the majority of small business traders this is as a result of poverty.

Through the interview, one respondent argued that, *“We conduct businesses in a difficult way as we don’t have enough funds for running business and coping with the current trade. We fail to find loans from banks and other micro financial institutions because we lack assets which can be used as a standing or the loan. Thus, we fail to advance more we conduct trade in order to avail food, shelter, education and clothing of our household, means for consumptions”*

The Resilience Strategies for Mitigating of the Challenges Facing Women Second Hand Clothes Informal Cross Border Traders at Namanga One Stop Border Post.

The study objective aimed at assessing the resilience strategies adopted by women second hand clothes informal cross border traders at Namanga one stop border post.

Table 3: The resilience strategies adopted by women

The resilience strategies adopted by women	Frequency	Percent of Cases
Carry little stock	84	93.3
Rent one room for accommodation and store goods	74	82.2
Move in groups and this helps them to negotiate in case they are caught by the police, they are in a better position to negotiate	82	91.1
Pay bribery	90	100.0
WICBTs do clear their own goods through customs which reduces costs	70	77.8
Women informal cross border traders source capital from women’s organizations and revolving savings groups	86	95.6

Source: Study findings (2021)

The findings display 84 (93.3%) of the study respondents carried little stock, 74 (82.2%) of the respondents in this study rented one room for accommodation and store goods, 82 (91.1%) of study participants moved in groups which helped them to negotiate in case they are caught by the police, 90 (100%) of the total number of respondents paid bribery for conducting their business easily while 70 (77.8%) of the women informal cross border traders do clear their own goods through customs which reduces costs and 86 (95.5%) of women traders who informally carryout trade across the border source funds to support their business from various organizations and groups of women plus different groups encouraging saving and investment. These findings imply that second hand traders use different strategies or technics which help them to thrive in the course of their trading activity. Most of respondents apply technics which are not safe for their business because of poor life standard. The reason is to help them to cross border trader to access low interest loans from national banks. On the resilience strategies adopted by women second hand clothes informal cross border traders at Namanga one stop border post, interviewees stated that, bribing, holding manageable stock, acquiring nearby accommodation, cost sharing through renting with members, moving with colleagues, and borrowing in group were some of the strategies. This is supported by Raimundo, & Chikanda (2017) who looked at informal Entrepreneurship and Cross-Border Trade in Maputo, Mozambique and noted that clearly the traders are dissatisfied with the time it takes them to clear customs at the border and there is evidence to suggest that paying bribes can help speed up the process for them.

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Discussion

After presenting the results, you are in a position to evaluate and interpret their implications, especially with Women were not familiar with business expansion strategies, they fail to branch out their business from one type to another and spread their products and goods in different areas of trading in order to maximize their income. The reason due to this is the absence of manpower, enough capital and also insufficient in business and entrepreneurship skills. This is argued by the study of Ndala and Moto (2019) who explained that business people had challenges manifested in terms of limited variation into new products or expansion of existing initiatives. Diversification entails associate the women to acquire new skills and information, capital for trading and development of marketing tactics.

These findings reveal that most of women at Namanga are not able to manage well their business due to family issues. Having children at home who need parental care becomes an obstacle toward achieving their goals. These findings are in line with Njikam, & Tchouassi (2011) who looked at; the opportunities offered through informal cross-border trade-ICBT, and noted that the negative aspects of ICBT included violence-both physical and psychological and poor childrearing. Thus, concluded that parents should engage themselves in opportunities which will offer them time to stay with their children in order to avoid psychological problems with their children.

These findings mean that second hand business women are challenged by other large business practitioners who have high capital, quality clothes and products. This completion makes them fail to sell their products at high rate thus failing to achieve their potential goals. This is supported by Muluvi *et al.*, (2012) that stressed that Women Informal Cross Border Traders in the East African Community were faced with a number of other challenges more so competition from big companies and lack of information on markets respectively.

Transport and Transportation of goods and people become more challenge to people in developing countries were people spend more time to move from one point to another and goods spend more time to reach owners. This affects the functioning of small business women who depend on daily cloth selling. This relates with Raimundo, & Chikanda (2017) who looked at Informal Entrepreneurship and Cross-Border Trade in Maputo, Mozambique and noted that congestion and delays at the border are often experienced by 82% of the cross-border traders. also supported by Parshotam, & Balongo, (2020) who noted that numerous challenges still face WICBTs as they delay at the borders, long hours of travel, time away from their homes and stiff completion with other traders and these are as a result of; absence of gender mainstreaming initiatives in trade policies in African countries and the need to incorporate gender-related sensitivities in issues related to infrastructure development and construction.

These findings indicate the presence of unfair treatment and judgment to activities thus women are required to pay bribe for ensuring business continuity in order manner. This is supported by the study of Situ, (2019) that noted that Informal Cross Border Traders (ICBT) faces significant constraints when doing business that include; stigmatization, violence, harassment, poor working conditions and lack of recognition of their economic contribution. Some of the challenges identified by the UNIFEM 2007–2009 research include cumbersome border processes, bribery and corruption at border posts, lack of policy recognition of ICBTs at national and regional levels, weak organization of ICBTs at national and regional levels, poor dissemination of information on the SADC trade protocol and other customs rules and regulations, poor infrastructure at border posts, ranging from lack of clean toilets to lack of storage space; import restrictions, sexual coercion in some places, vulnerability to HIV and AIDS, inability to meet certain health, sanitary, and environmental requirements, harassment of women ICBTs, including unwarranted impounding of goods and humiliating body searches, and excessive, arbitrary, or inconsistent customs charges, often as part of bribe-seeking. There is also the danger entailed in using risky informal border crossing points, including wild animal corridors, as found by researchers in Botswana.

Study findings have indicated a challenge of operational cost which are encountered by women second hand clothes informal cross border traders at Namanga one stop border post due to frequent border crossings. This makes business to become inefficient as most of their revenue is used in transport and

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border crossing expenditures. This is supported by Manjokoto, & Ranga, (2017) who noted that a delay in obtaining the passport which costs US\$51 and issued within six months was the women's first challenge. The study findings are also supported by EASSI, (2012) who stressed that Women Informal Cross Border Traders in the East African Community were faced with a number of challenges including high taxes, transportation costs, competition from big companies and lack of information on markets respectively.

Challenge of Exposure to undue exploitation was encountered by women second hand clothes informal cross border traders at Namanga one stop border post. Unnecessary overworking, exploiting women becomes a challenge in trading. Women fail to perform their responsibilities as required because they are being treated in unfair manner. Blumberg, et al (2016) argues that Informal Cross Border Traders (ICBT) faces significant constraints when doing business that include; stigmatization, violence, exploitation by law enforcers, harassment, poor working conditions and lack of recognition of their economic contribution. This is supported by Raimundo & Chikanda (2017) who noted that the most important border or customs-related problem cited by the cross-border traders was corruption, experienced often or sometimes by 86% of the respondents. Others claimed that the duties they pay at the border are too high (85%), while long queues, congestion and delays at the border are often experienced by 82% of the cross-border traders. Some use intermediaries who know how to deal with customs officials to avoid paying the high duties.

Second hand traders use different strategies or techniques which help them to thrive in the course of their trading activity. Most of respondents apply techniques which are not safe for their business because of poor life standard. The reason is to help them to cross border trader to access low interest loans from national banks. The findings are supported by UNCTAD (2020) that noted that informal cross border women traders are traders who carry out trade between neighboring countries conducted by vulnerable, small, unregistered women traders. Since Informal cross border trade is flexible, women require small startup capital and always hold little stock, and the earning opportunities it offers in border areas where no other alternative is available, women make up the largest share of informal traders, representing 70% to 80% in some countries.

These findings imply that second hand traders use different strategies or techniques which help them to thrive in the course of their trading activity. Most of respondents apply techniques which are not safe for their business because of poor life standard. The reason is to help them to cross border trader to access low interest loans from national banks. On the resilience strategies adopted by women second hand clothes informal cross border traders at Namanga one stop border post, interviewees stated that, bribing, holding manageable stock, acquiring nearby accommodation, cost sharing through renting with members, moving with colleagues, and borrowing in group were some of the strategies. This is supported by Raimundo, & Chikanda (2017) who looked at informal Entrepreneurship and Cross-Border Trade in Maputo, Mozambique and noted that clearly the traders are dissatisfied with the time it takes them to clear customs at the border and there is evidence to suggest that paying bribes can help speed up the process for them.

Conclusion, Implications, and the area for further Research

There are various hazards that women engaged with the informal business of second-hand clothing in Namanga must face. According to this study, women secondhand clothing informal traders who cross the border at Namanga One Stop Border Post face numerous challenges on border posts, including limited capacity to diversify the set of goods they trade in, high competition from fellow traders, unstable exchange rates, and unstable market prices, to name a few, all of which have an impact on their informal cross-border transactions. Despite this, there are a number of resilience tactics for overcoming the hurdles that women informal cross-border merchants face at Namanga One Stop Border Post. Because this study's findings are based solely on women secondhand clothes informal cross-border traders at the Namanga one-stop border post, more empirical research is needed to better understand the challenges that women secondhand clothes informal cross-border traders face in Tanzania, such as at Mutukula, Rusumo, Kigoma, and Tunduma. By doing so, Tanzania's informal cross-border trade would improve, benefiting both the people and the country as a whole.

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Assessment of Mutual Funds Performance: A Study of Selected Diversified Equity Fund in Tanzania

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Abstract

Mutual fund is a trust which pooling up the recourses of investors who have an ambition of investing in the free risk investment. The resources that collected are directed to capital market instruments. The income earned from the money investments and the capital invested is appreciation and realized by its unit holders in proportion to the number of units owned by investors. Thus, a mutual fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed basket of securities at a relatively low cost. UTT was established under the Trustee Incorporation Act, Cap 318 in 2005 and was vested with the several key activities including the development of collective investment schemes; acquiring and keeping in trust the shares of privatized enterprises and encouraging savings culture through wide participation in the ownership of distributed shares/units. Among wide variety of funds equity diversified fund is considered as substitute for direct stock market investment. In this research paper an attempt is made to analyze the performance of the growth oriented equity diversified schemes on the basis of return and risk evaluation. The analysis was achieved by assessing various financial tests like Average Return, Sharpe Ratio, Treynor Ratio, Standard Deviation, Beta and Coefficient of Determination (R^2). The data has been taken from various websites of mutual fund schemes. The analysis portrays that majority of funds selected for study have outperformed under Sharpe Ratio as well as Treynor Ratio.

Keywords: Securities, Mutual Fund, Average Returns Investors, Standard Deviation, Beta, Coefficient of Determination, Sharp Ratio, Treynor Ratio

Introduction

Statement of the Problem

Investment is the sacrifice of certain present value for some uncertain future reward. In other words, an investment can be defined as commitment of funds to one or more assets that will be held over some future time (Ljungqvist.A, Richardson.M, Wolfenzon.D, 2017). Broadly, an investment decision is a tradeoff between risk and return. A mutual fund is a special type of institution that acts as an investment instrument. Apart from the many advantages that investing in mutual funds provide like diversification, professional management, the ease of investment process has proved to be a major enabling factor. (Pangestuti.I, Wahyudi.S, Robiyanto,R, 2017). The objective of this study was to find out the performance of the Selected Diversified Equity Mutual Funds in Tanzania then after to compare the performance of selected Diversified Equity Mutual Funds in Tanzania.

Literature Review

Jensen's alpha measure

The most influential article on mutual fund's performance is the early work of Jensen (1986). Jensen's index is called differential return measure and can be defined as:

$$E(R) = a + b(E(R_m) - R_f)$$

The Jensen's measure of performance is based on the Capital Asset Pricing Model (CAPM). He added an intercept term, alpha, in equation of CAPM that means identification of superior or inferior portfolio performance. The alpha measures the contribution of the portfolio manager since it represents the average incremental rate of return per period beyond the return attributable to the level of the assumed risk. Specifically, if alpha is significantly positive, this is evidence that the portfolio manager matches the market on a risk adjusted basis. Portfolios often fail to meet this statistical significance test because of the variability in security returns. This means that although the manager may actually add value, this cannot be detected statistically. Superior and inferior portfolio performance can derive from at least two sources.

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First, the portfolio manager may be able to select undervalued securities consistently enough to affect portfolio performance. Second, the manager may be able to time market returns, varying the portfolio's composition in accordance to the rise and fall of the market. The other coefficient (β) measures non diversifiable risk (beta). The beta for the overall market is equal to 1.00 and the other betas are viewed in relation to this value. Funds that have a beta larger than 1.0 have high risk, while funds that have beta smaller than 1.00 have low risk.

Jensen Michael (1968) as cited by Choudhary & Chawla (2014), developed a composite portfolio evaluation technique concerning risk-adjusted returns. He evaluated the ability of 115 fund managers in selecting securities during the period of 1945-66. Analysis of net returns indicated that, 39 funds had above average returns, while 76 funds yielded abnormally poor returns. Using gross returns, 48 funds showed above average results and 67 funds below average results. Jensen concluded that, there was very little evidence that funds were able to perform significantly better than expected, as fund managers were not able to forecast securities price movements.

Methodology

Scope of the study

The period of the study is 17 years (2005-2021) regarding the commencement of each scheme. The study uses a sample of 6 mutual fund schemes comprising of all equity diversified funds.

Source of data

To gain an overview of the current performance trends of the Tanzanian mutual fund industry, secondary data have been used and collected from the newspapers, journals, books and periodicals. The data were also collected from various websites of UTT, and BOT. The NAVs of the sample mutual fund schemes have been collected on monthly basis of time regarding the commencement of the scheme.

Tools

To analyze whether mutual funds under-perform or over perform the market index, the following statistical methods and techniques have been used:

For Risk Analysis

Standard deviation (Total Risk), Beta (Systematic Risk) and Coefficient of Determination were calculated.

For Return Analysis

Average Return was calculated for analyzing return on mutual funds.

Performance Evaluation by Risk Adjusted Measures

For this purpose, Sharpe Ratio and Treynor Ratio were calculated.

Analysis of Data

Average Returns

The performance evaluation is done by comparing the returns of a mutual fund scheme with returns of a benchmark portfolio. In this study, the returns have been called as average returns. Average return is obtained by taking the simple mean of monthly returns, whereby monthly returns are calculated by using the NAVs of the mutual fund scheme.

Standard Deviation (SD)

Its significance lays in the fact that sample is free from defects of sampling, it measures the absolute dispersion, and the greater the SD the greater will be magnitude of the deviation of the values from their mean. Small SD means high degree of uniformity & homogeneity of a series. The total risk is measured in terms of standard deviation.

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Beta

Beta is a fairly commonly used measure of risk. It basically indicates the level of volatility associated with the fund as compared to the benchmark. The success of beta is heavily dependent on the correlation between a fund and its benchmark. If the fund portfolio doesn't have relevant benchmark index then the beta would be inadequate. A beta that is greater than one means that fund is more volatile than the benchmark, while a beta of less than one means that the fund is less volatile than the index. A fund with a beta very close to 1 means the fund's performance closely matches the index or benchmark.

Coefficient of Determination (R²)

The R is a measure of a security's diversification in relation to the market. The closer the R² is to 1.00, the more completely diversified the portfolio (Reilly and Brown, 2003). R² is ranging from -1 to 1, gives an idea about how well a fund's performance correlates with that of the benchmark. When R² is 0 means that a fund's returns have no correlation with the market and when R² is 1.00 indicates that a fund's returns are completely in conform up and down with the benchmark (Contas and Shim, 2006).

The Sharpe Measure

This ratio measures the return of a portfolio in excess of the risk free rate, also called the risk premium, compared to the total risk of the portfolio, measured by its standard deviation. It is drawn from the capital market line and its measure is based on the total risk of the portfolio, made up of the market risk and the unsystematic risk taken by the manager, it enables the performance of portfolios that are not very diversified to be evaluated. This measure is also suitable for evaluating the performance of a portfolio that represents an individual's total investment, it can be calculated as:

$$S_p = \frac{R_p - R_f}{\sigma_p}$$

S_p stands for Sharpe ratio of the mutual fund schemes.

R_p stands for average return on portfolio.

R_f stands for average risk-free rate of return (5%).

σ_p stands for total risk or standard deviation of the returns of portfolio.

The benchmark comparison with this measure of performance is

$$\frac{R_m - R_f}{\sigma_m}$$

Where by:

R_m stands for average return on the market or benchmark portfolio

σ_m stands for the total risk on market.

While a high and positive Sharpe Ration a superior risk adjusted performance of a fund, a low and negative Sharpe Ratio is an indication of unfavorable performance (Robiyanto.R, 2018).

The Treynor's Performance Index

Treynor ratio measures the relationship between fund's additional return over risk-free return and market risk is measured by beta. The larger the value of Treynor ratio, the better the portfolio has performed. Generally, if the Treynor ratio is greater than the benchmark comparison, the portfolio has outperformed

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the market and indicating superior risk-adjusted performance. Using the beta, rather than the standard deviation (as in the Sharpe Index), we are assuming that the portfolio is a well-diversified portfolio.

The formula used is $T_p = \frac{R_p - R_f}{\beta_p}$ where:

T_p stands for Treynor ratio of the mutual fund schemes.

R_p stands for average return on portfolio.

R_f stands for average risk-free rate of return (5%).

β_p stands for sensitivity of fund return to market return

The benchmark comparison with this measure of performance is measured by:

$$T_m = \frac{R_m - R_f}{\beta_m}$$

Where:

T_m stands for Treynor ratio of the benchmark portfolio

R_m is the average return on the market

β_m is the market beta which is equal to 1.0

If the Treynor ratio is greater than the benchmark comparison ($R_m - R_f$) then the portfolio has outperformed the market and indicating superior risk-adjusted performance.

Results and Findings

Performance in terms of Average Returns, Standard Deviation, Beta and R²

The performance of selected funds is evaluated using average return, standard deviation, Beta and R². Return alone should not be considered as the basis of measurement of the performance of a mutual fund scheme, it should also include the risk taken by the fund manager because different funds will have different levels of risk attached to them. Risk associated with a fund, in a general, can be defined as variability or fluctuations in the returns generated by it. The higher the fluctuations in the returns of a fund during a given period, Higher will be the risk associated with it.

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Table 1: Return and Risk of Mutual Fund Schemes

S/N	Schemes	Average Return (Monthly)	Total Risk (Std. Deviation)	Beta	R ²
1	Umoja Fund	33.12290155	69.52377691	1.205626727*	0.665089432
2	Wekeza Maisha	26.70401198	0.9	1.694905139*	- 0.282708101
3	Watoto Fund	23.79154839	1.220309615	1.357490493*	0.606271343
4	Jikimu Fund	11.548	8.696873666	- 0.933577017*	- 0.198241106
5	Liquid Fund	18.53194175	77.53125346	14.41867805*	0.786608644
6	Bond Fund	56.5925	22.9199335	23.57939598*	-
	Benchmark	28.38181728	30.13202453	1	1

Note: R² is a coefficient of determination for a portfolio.

* indicates statistical significance at the five percent level.

Interpretation

An analysis of Table 1.1 reveals that in case of all Equity option schemes of Diversified funds, two out of six funds have earned higher returns (average returns). The top performers in terms of average returns, in decreasing order are Bond Fund and Umoja fund, remaining four funds have shown inferior returns than the market returns and have thus been unsuccessful in beating the market. These schemes were Wekeza maisha, Watoto fund, Liquid fund, and Jikimu fund.

Performance in terms of Sharpe Ratio

The Sharpe Ratio measures the fund's excess return per unit of its risk (i.e. total risk). This ratio indicates the relationship between the portfolio's additional return over risk-free return and total risk of the portfolio, which measured in terms of standard deviation. The results of the Sharpe Ratios of the selected mutual fund schemes of all the growth option with the benchmark portfolio have been presented below:

Table 2: Sharpe Ratio of Mutual Schemes – Growth Option

S/N	Schemes	Sharpe Ratio
1	Umoja Fund	0.475706341
2	Wekeza Maisha	29.61556886
3	Watoto Fund	19.45534814
4	Jikimu Fund	1.322084285
5	Liquid Fund	0.238380536
6	Bond Fund	2.46695742
	Sharpe ratio benchmark	8.929007597

Interpretation

The Sharpe Ratio measures the fund's excess return per unit of its risk (i.e. total risk). This ratio indicates the relationship between the portfolio's additional return over risk-free return and total risk of the portfolio, which measured in terms of standard deviation. A high and positive Sharpe Ratio shows a superior risk-adjusted performance of a fund while low and negative Sharpe Ratio is an indication of unfavorable performance. Generally, if Sharpe Ratio is greater than the benchmark comparison, the fund's performance is superior over the market and vice-versa, the results of the Sharpe Ratios of the selected mutual fund schemes of all the growth/equity options with the benchmark portfolios have been presented in the table 1.2. Two selected funds have the greater value than the Sharpe ratio benchmark which shows their superior performance. Top performing fund schemes as per Sharpe ratio analysis were Wekeza Maisha fund na Watoto fund, Thus, it can be concluded that the performance in terms of Sharpe Ratio of few of the selected mutual funds have been satisfactory and have outperformed the market index during the study period.

Performance in Terms of Treynor Ratio

Treynor ratio measures the relationship between fund's additional return over risk free return and market risk is measured by beta. The higher the value of Treynor Ratio, the better is the performance of portfolio.

Table 3: Treynor Ratios of Mutual Fund Schemes-Growth Option

S/N	Schemes	Treynor Ratio
1	Umoja Fund	27.43212373
2	Wekeza Maisha	15.72596092
3	Watoto Fund	17.48929256
4	Jikimu Fund	-12.31607012
5	Liquid Fund	1.281805564
6	Bond Fund	2.397962189
	Traeynor ratio benchmark	8.6685124738

Interpretation

Treynor ratio measures the relationship between fund's additional return over risk-free return and market risk is measured by beta. The larger the value of Treynor ratio, the better is the performance of portfolio. Generally, if the Treynor ratio is greater than the benchmark comparison, the portfolio is supposed to have outperformed the market and indicates superior risk-adjusted performance. Table 1.3 presents the results of Treynor Ratio from the selected mutual fund schemes with their respective benchmark portfolios. The analysis reveals that three out of six diversified fund schemes are greater than the benchmark comparison which means the portfolio has outperformed the market and indicates the superior risk- adjusted performance.

Conclusion

The study has compared the various equity diversified mutual funds. Summary of results is presented in different tables. Generally, investors are confused with scheme because of insufficiency information to pick the best out of them. This study provides some insights on mutual fund performance so as to assist the common investors in taking the rational investment decisions for allocating their resources in correct mutual fund scheme. The data employed in the study consisted of monthly NAVs for the open-ended schemes. The study utilized benchmark portfolios according to the scheme objective. The performance of

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sample mutual fund schemes has been evaluated in terms of return and risk analysis, and risk adjusted performance measures such as Sharpe ratio and Treynor ratio. In general, the performance of mutual fund in terms of Average returns, thirty three percent of the diversified fund schemes have shown higher and superior returns and remaining have shown inferior returns. In terms of standard deviation, also, thirty-three percent of the selected schemes are less risky than the market. Five schemes have beta greater and one has negative beta, the positive beta implies the less risky than the market portfolio. On other hand, the coefficient of determination (R^2) shows that, three schemes were near to one, which indicates higher diversification of portfolio. Two out of six and three out of six funds have shown superior performance under the Sharpe and Treynor Ratio respectively.

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Post-harvest Losses for Urban fresh Fruits and Vegetables along the Continuum of Supply Chain Functions: Evidence from Dar es Salaam City – Tanzania

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Abstract

Despite the significance and efforts put forward to enhance fresh fruits and vegetables, post-harvest losses continue to threaten the supply chain of this trade. The study explores post-harvest losses of urban fresh fruits and vegetables along the supply chain continuum in Dar es Salaam. It further digs into understanding factors contributing to post-harvest losses for fresh fruits and vegetables in the context of supply chain functions of storage, transportation, value addition, and market services. A qualitative research design was adopted and data were drawn from 55 respondents who were selected by purposive and simple random sampling techniques. In-depth interviews, Focus Group Discussions, documentary review and non-participant observation were used in data collection. Findings showed that post-harvest losses for urban fresh fruits and vegetables along the supply chain functions are attributed to deficiencies inherent in the supply chain functions of storage, transportation, value addition and quality improvement as well as market services. Further findings indicate that low technology, inadequate communication and information, inadequate policies and institutions to mention just a few are the underlying factors leading to such loss. The study recommends stakeholders to collectively alleviate poor storage, transportation, value addition, and markets related challenges that lead to post-harvest losses in the sector. These findings contribute to the existing knowledge in the sector, pave policy inputs with regards to minimising post-harvest losses in the agricultural sector, thereby improving food security, traders and the government's income in general.

Key words: Post-harvest loss, Urban Fruits and Vegetables, Supply chain

Introduction

The supply chain of Fresh Fruits and Vegetable (FFV) in urban settings is of paramount importance to individual livelihood and national income (Issa & Munishi, 2020). The business further contributes to poverty reduction as well as enhancing government revenue (Ahmad & Fehér, 2010; Deliya *et al.*, 2012). Health wise, the business ensures food safety & security for urban populations through provision of the required dietary fibres, minerals and vitamins and guarantees reduction of risks associated to non-communicable diseases (Moran, 2018; Mahajan *et al.*, 2014). The supply chain of FFV consists of agents, wholesalers, and retailers who directly or indirectly fulfil the customers' request of products or services (Ballou, 2004). Such services include but not limited to, new products development, marketing, operations, distribution, finance and customer services (Felea & Albăstroi, 2013; Ruteri & Outsourcing, 2016). The agent collects goods directly from the farmer and sales them to the wholesaler. The wholesaler on the other hand, collects FFV from the agents and sells them to the retailers (Issa & Munishi, 2020). Finally, the retailers collect the goods from the wholesalers and delivers them to the customers (Chopra *et al.*, 2013) The entire chain passes through the harvesting, storage, transportation, quality improvement and value addition, and provision of market and marketing services functions (Issa & Munishi, 2020). On the other hand, supply chain management refers to a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores so that products and services are produced as well as distributed to the right quantities, at the right locations, in a right time to the right quality so as to satisfy service level requirements to final consumers (Agrawal, 2018; Felea & Albăstroi, 2013). In other words, supply chain management involves a coordination of material, information and financial flows among all the participants to ensure that the right product in the right place, at the right price, at the right time, and in the right condition are ultimately delivered to final consumers (Deliya *et al.*, 2012).

However, as it stands, the supply chain of FFV experiences considerable post-harvest losses which jeopardize the consumers' health, traders' income and the entire food supply chain in the urban setting

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(MOA, 2019; Negi & Anand, 2015). Post-harvest loss has been earmarked as a serious challenge associated with the urban fruits and vegetables supply. This is because it occurs alongside the supply chain functional areas of any commodity (Rais & Sheoran, 2015; Negi & Anand, 2015a). It entails the loss of these commodities right from the harvest to the consumption stage (Zakaria *et al.*, 2014). Evidence shows that post-harvest loss of fruits and vegetable takes place in the context of supply chain process particularly through retailers, wholesalers, transporters and agents. Likewise post-harvest loss can be traced at every supply chain functional areas of storage, transportation, value addition and quality improvement stages as well as at marketing services provision levels (Zakaria *et al.*, 2014; Mwangike & Mdoe, 2015; Mwangike, 2015; Negi & Anand, 2015).

Based on the above realities, the government of Tanzania and various stakeholders have made a number of efforts aimed at preventing post-harvest losses country wide. These include improvement of urban market places and enacting regulatory frameworks for ensuring that supply chain of various products including the urban fruits and vegetable supply chain are well fixed (Moran, 2018; MOA, 2019). The National Post-Harvest Management Strategy (NPHMS), the Investments Policy and the National Horticultural Developments Policy were strategies aimed at facilitating development of horticultural industry including minimizing post-harvest losses (Underhill *et al.*, 2019; Issa & Munishi, 2020; HODECT, 2012). Furthermore, the formation of farmers and trade associations, intermediaries market orientation, agricultural innovation strategy and business skills are specific interventions to minimise post-harvest losses (Maier, 2015; Hailu & Derbew, 2015).

Despite the efforts invested by various stakeholders, post-harvest losses of FFV are still witnessed in large quantities in many cities of the Sub-Saharan Africa, Dar es Salaam inclusive. It has of recent been reported that the magnitude of post-harvest losses (PHLs) in Tanzania due to insects and rodents has been estimated at 35 percent, while losses caused by transportation from field to storage has been rated at 16 percent (MOA, 2019). Moreover, Post-harvest loss (PHL) resulting from improper weighing and packaging is rated at 12 percent, improper drying at the rate of 9 percent, unpredictable markets (delay in selling the produce) at 5 percent, loss during processing at less than 5 percent and grain breaking into pieces (especially for rice) also at less than 5 percent (MOA, 2019). This situation calls for among other things an examination of the existing control mechanisms for PHL in the fresh fruits and vegetable trade in terms of infrastructures, knowledge and equipment necessary for preventing the post-harvest losses in urban areas (MOA, 2019).

While a number of studies on the post-harvest losses in the context of fresh fruits and vegetables supply chain have been undertaken (MOA, 2019; Anwar *et al.*, 2018; Agarwal, 2017a; Mgonja & Utou, 2017; ; Negi & Anand, 2016a; Negi & Anand, 2016b; Khatun & Khandoker, 2014; Zakaria *et al.*, 2014; Rehman *et al.*, 2007; Eskola, 2005), these works mainly focused on post-harvest loss in the fields but did not specifically focus on the post-harvest losses in the market areas and more especially in the urban based market places. Owing to the above problematic situation, this study intends to examine factors leading to post-harvest losses for urban fresh fruits and vegetables supply chain with the view to provide strategies for overcoming the situation. Specifically, the work intends to examine ways in which post-harvest losses for urban fresh fruits and vegetables occurs in the context of supply chain and recommend strategies for alleviating post-harvest losses.

Literature Review

It should be understood that Post-Harvest Losses have been a rampant issue in the FFV trade. These have been experienced in all stages of the supply chain of this trade right from the harvest, storage, transportation, value addition and quality improvement and marketing services (Ruteri *et al.*, 2009; Issa & Munishi, 2021). During the storage stage, post-harvest losses have been associated with the existence of poor and inappropriate storage facilities for fruits and vegetables (Kimaro & Msogya, 2012). Studies indicate that lack of cold storage facilities such as refrigerators, force traders and intermediaries to use traditional storage devices (Mwangike & Mdoe, 2015; Negi & Anand, 2015a). Closely related to this, a number of markets in urban settings lack central storage facilities (warehouse). Such a situation obliges traders to sell their produces in less appropriate urban spaces (open market space) or to buy fruits and vegetables in bulk in order to sell them in retail outlet to final consumers (Mgonja & Utou, 2017). It has

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also been noted by Negi & Anand (2015b) that even if storage facilities were in place, inadequate knowledge and skills on the use of such facilities and their alternatives also has been leading to PHL.

During the transportation stage, post-harvest losses have been associated with poor and inadequate transport infrastructure such as roads and railways. In the similar vein, it has been reported that inadequacy of special vehicles for carrying fruits and vegetables directly to urban areas escalates the problem (Zakaria *et al.*, 2014; Kiaya, 2014). It has further been reported by scholars (Wakholi *et al.*, 2015; Verma *et al.*, 2019) that poor and inappropriate loading and offloading facilities in fields contribute to more PHL in the VVF trade. Moreover, inadequate storage facilities notably cold temperature facilities within trucks is yet another escalating situation (Sharma & Singh, 2011; Negi & Anand, 2016b; Kitinoja & AlHassan, 2012).

Moreover, in the value addition and quality improvement level Mgonja and Utou (2017) report that lack of modern harvesting tools have led to more PHL in FFVs. This is due to the use of rudimental tools. The situation has been complicated by lack of appropriate technologies for processing fresh fruits and vegetables before and after delivering them to urban markets (Negi & Anand, 2016b). Further studies (Rais & Sheoran, 2015; Maier, 2015) report that inadequate guidelines and skills on value addition and quality improvement lead to more PHL. It has also been reported that lack of quality assurance regulatory systems and inadequacy of knowledge by farmers on the FFVs preparation and processing before and after harvesting them have caused more PHL (Haldar, 2018; Wakholi *et al.*, 2015; Haldar, 2018; Mgonja & Utou, 2017; Wakholi *et al.*, 2015; Kiaya, 2014).

With regard to market and marketing services level, post-harvest losses have been associated with unreliable markets for FFVs partly due to poor road connectivity and networks (Sudharshan *et al.*, 2013; Mwangike & Mdoe, 2015) and inadequate markets and marketing information (Karim & Biswas, 2016; Zakaria *et al.*, 2014). Studies by Negi and Anand (2015a), Mwangike and Mdoe (2015) have reported that poor coordination among the fruits and vegetables stakeholders notably farmers and intermediaries leads to disorganisation among different parties involved in supply chain intensify PHLs. While other studies (Zakaria *et al.*, 2014) report poor market network, Kader, (2005), Deliya *et al.*, (2012) and Verma *et al.*, (2019) associate the loss with lack of timely information sharing between farmers and other supply chain players as well as unstable demand and supply of the fresh produces emanating mainly from seasonality aspect.

Realities from reviewed literature indicate that PHL is a serious problem in the entire supply chain continuum. Despite the fact that existing studies have concentrated on PHL of FFV in the fields while neglecting the situation in urban markets, this study intends to bridge the existing knowledge gap by focusing on the urban markets in Tanzanian context.

Conceptual Framework

This conceptual framework addresses aspects of research problem and objectives which include the post-harvest losses, causes of post-harvest losses and possible strategies for alleviating postharvest losses in the urban setting. Components of post-harvest loss in the context of supply chain are storage facilities, transportation, value additional and quality improvement markets and marketing services (Negi & Anand, 2016b; Haldar, 2018; Zakaria *et al.*, 2014; Kader, 2005; Kiaya, 2014; Karim & Biswas, 2016; Sharma & Singh, 2011. Mgonja & Utou, 2017; Mwangike & Mdoe, 2015; Underhill *et al.*, 2019; Verma *et al.*, 2019; Deliya *et al.*, 2012). Accordingly, in order to minimize post-harvest losses it is imperative to explore factors leading to post-harvest losses within the supply chain context of urban fresh fruits and vegetables. It is expected that the information emanating from the exploration of the factors can be relied upon to improve supply chain functions thereby alleviating the post-harvest losses of urban fresh fruits and vegetables.

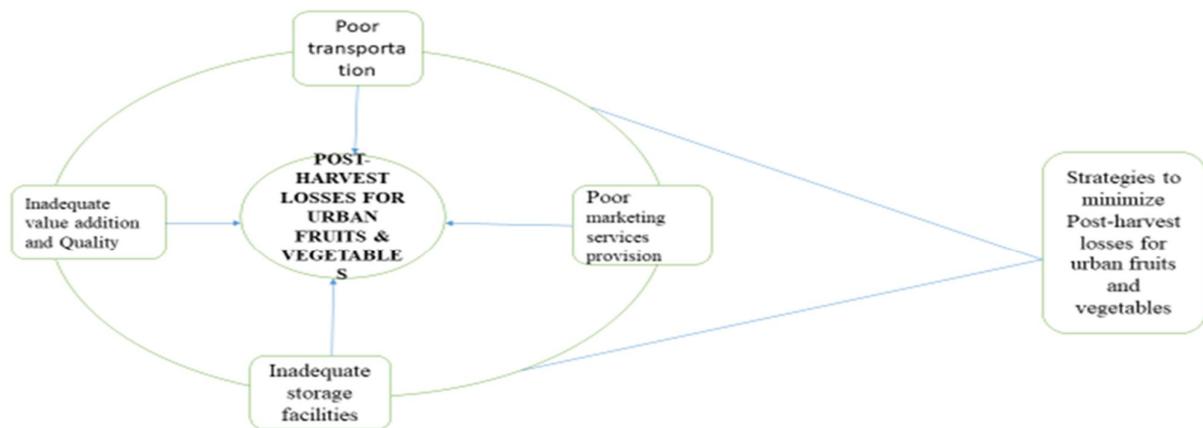


Figure: Conceptual framework on post-harvest losses for Fresh Fruits and Vegetables

Source: Researcher's creation, 2021

Methodology

Research design and context

This study adopted a qualitative case study design. This is because of the power of the design to study the intended phenomena in depth. The approach helped researchers to explore respondents' views on PHL in FFV. It also allowed respondents to air their views freely regarding how post-harvest losses occur in at every point of the supply chain function (Bryman, 2003). It was through this strategy the questions of what and how could easily be answered (Goodrick, 2014; Yin, 2013) rather than collecting data in numeric form that do not give a clear picture about the problem under the study. The work was carried out in Dar es Salaam city with Temeke stereo and Ilala market used as case studies. The two markets were used because they are the biggest FFV markets in the city with a vast number of vendors of FFV from whom valid data obtained, would not be secured from any other vendors in other markets. Thus, researchers, after obtaining data from the right source, studied the problem exhaustively.

Research Instruments

Data were collected through interviews, observation, Focus Group Discussion (FGD) and documentary review. With regards to interview, researchers set and pretested open ended interview questions before administering to respondents to check if they lead to collecting intended information. These questions were in line with what causes PHL in the supply chain continuum in Dar es Salaam markets. In this regard, consideration was made to transportation, storage, value addition and quality and marketing services. By using these questions, interviews were administered to intended participants. These were asked the same questions except in the period when participant deviated from the question or gave inadequate information which attracted more probing. All interviews were carried at vendors' business place(s) (Stereo/Ilala market). Interviews lasted between 30 and 45 minutes each session. With regards to FGD, two sessions (one from each market) were conducted among traders and intermediaries moderated by one of the researcher while the other two recorded the proceedings. By the use of market leaders, we recruited FGD participants in a convenient place and moderated the discussion. Each discussion held, lasted for an hour. As for documentary reviews, researchers reviewed a number of studies and regulatory framework including the national post-harvest management strategy, national horticultural developments policy, national Strategy for Growth and Poverty Reduction I & II, Agricultural development policy and SMEs policy. All these captured information related to PHL in FFV in urban markets. In the same vein, both FGD and documentary reviews were centred on PHL and the supply chain continuum. Quotations from verbal expression of participants and extracts from documentary reviews are presented in result presentation section. Due to the fact that the study was conducted during their working hours, participants

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were allowed to attend their customers in the middle of the interview and FGD. While the interview was about 40 minutes long, each FGD was carried for 90 minutes.

Case Selection Criteria

The study employed 55 respondents including customers, traders, market officer and intermediaries with 35 respondent from Stereo market and 20 from Ilala market. While researchers used convenient sampling to obtain customers, they, on the other hand, used purposive sampling, to recruit other participants in this study. Researchers recruited a total of 10 customers from both markets and the rest of participants from a combination of intermediaries, market officers and traders. It was pertinent to include customers because they are the ones who accidentally or deliberately buy damaged products. As for other participants, they were included in this study because of their vast knowledge in the topic and in simple terms, FFV trade is part of their life. These were approached and requested to participate in the study. Those who consented were interviewed with regards to the topic. While the study had intended to use more 100 participants, however, by the 45th participant, the researcher reached data saturation and added more 10 participants for confirmation.

Data Analysis

Due to the fact that we intended to produce valid results, our tools were subjected to a pre-test peer debriefing and prolonged engagement with respondents. We further, expounded the procedures we had intended to use in data collection so as to get corrected by our peers. We ensured that all participants were asked the same questions, and FGD were properly moderated and recorded. Due to the fact that Swahili is the easiest medium of communication in Tanzania, interviews and FGD were conducted in Swahili. The Swahili transcriptions were translated into English, typed and saved as documents in rich text format. By the use of MAXQDA 10 data were coded to determine the repeating contents. Thus, by using content analysis important contents of interests were obtained which formed a basis for the research report. Together with these, frequencies and quotations and important extracts are reported in findings.

Reflexivity Statement

The study was conducted during more challenging moments in the sense that the first challenging moment is that the government was conducting a survey to increase taxes, hence anyone seen to question about anything would be regarded as a tax officer and people would tend to shy away from him/her. Secondly, due to the COVID 19 pandemic there were few customers in the market. However, before data collection, we introduced ourselves to market leaders, presented our research permits and identification cards. Market leaders introduced us to our intended respondents, informed then the intention of our study and its benefits to them and the country at large and assured them that we were not from the tax section. With regards to customers, the number we obtained was sufficient for our study.

Findings and Discussion

These findings are structured around the four functions of the supply chain process which include storage, transportation, value addition and quality improvement as well as markets and marketing services provisions. In this case factors or rather ways in which post-harvest losses of urban fresh fruits and vegetables occur is traced and explained based on the abovementioned functions.

Post-Harvest Loss and Storage Facilities

Post-harvest losses of FFV at the storage level occurs and is caused by a number of reasons. Firstly it is caused by the absence of adequate central storage facilities for fruits and vegetables at the market places in the urban areas as evidenced by around 69% of the respondents. The reality shows that, neither of the market visited had a central storage facility. Due to this, stakeholders in the trade resorted to using only few available storage spaces implying that a greatest segment is never stored adequately leading to PHL as attested by one respondent here under:

We keep a lot of our commodities [fruits and vegetables] on the floor as there are no specific storage devices here. Traders simply store their products in the ways convenient to them. This way a lot of our commodities are wasted and disposed every. To my understanding big market places like these ones

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should have central storage facilities. We are even ready to pay for it. (Male mangoes wholesaler (32), Temeke stereo market).

Secondly, it is associated with poor storage facilities as attested by around 63.6% of the respondents who emphasized that existing improvised storages do not have sufficient and effective devices. This has compelled many traders and intermediaries resort to using traditional and less suitable storage facilities such as wooden box, plant leaves and canvas sheets. These make FFV look awkward to customers. Moreover, it was established that lack of awareness by traders and intermediaries is another aspect that impeded them from making good and effective use of modern storage facilities available at the market and elsewhere as attested by around 56.36% of the respondents as briefly attested by one of the respondents below:

...we have been using bamboo baskets, wooden boxes and crates to store our products. What's wrong about that? If you say that this is not proper what then should we do [use]? Nobody has ever come here and instructed us to use alternative storage facilities [modern facilities]. If there is anything different we need to do, let them [experts] come here and tell us. (Male Respondent (45), Temeke Stereo Market)

Thirdly, PHL at this level were caused by lack of knowledge and sensitization on the importance of proper storage by the various stakeholders as evidenced by around 39% of the stakeholders. Indeed it was noted that there were no any ongoing initiatives by the government and private sector to empower the traders and the intermediaries on the importance of appropriate storage.

Table 1: Summary of post-harvest loss caused by inadequate storage

Absence of/inadequate central storage facilities	69%
Poor storage facilities	63.6%
Inadequate knowledge on use of appropriate storage	56.36

Source: field data 2021

Drawing from Table 1, it is clear absence of adequate central storage facilities, poor storage facilities as attested by around and poor storage facilities among other factors contribute to PHL. These findings correspond well with the works as formerly conducted Tanzania (Kimaro & Msogya, 2012; Mwangi & Mdoe, 2015; Mgonja & Utou, 2017); India (Negi & Anand 2014; 2015; 2016; Rehman *et al.*, 2007). This further means that the current findings do not tell a very different story suggesting that it complements to the existing body of knowledge concerning the ways in which post-harvest losses of urban fresh fruits and vegetables occurs more especially at the storage level.

Post-Harvest Loss at Transportation

Findings present that PHL for urban FFV at the transportation level has been caused by the state of roads, transport facilities, loading and offloading mechanisms and handling practices. With regard to poor road infrastructure, these have led to the delay of products from one point as confirmed by around 83.6% of the respondents. It was further clarified that vehicles took too long to transport fruits and vegetables from one point to the other due to dilapidated roads. Moreover, vehicles carrying fruits and vegetables would opt for long routes with better roads an aspect that further resulted in the delays that lead to product damages and hence post-harvest losses.

Poor transportation facilities and equipment has been another cause of PHL of FFV as attested by 72.72% of the respondents. It was claimed that their financial capacity could not allow them to afford standards transportation facilities e.g. covered trucks with inbuilt storage facilities. These respondents explained that there were not adequate and specialized vehicles for transporting the fruits and vegetables. For example more often than not, transporters used open trucks or lorries that did not have storage facilities in them. This condition led to spoilage of fruits and vegetables before and even after arriving at the intended destinations as further explained one of the respondents:

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Most of the trucks and Lorries used for transporting fruits and vegetables are not designed for undertaking this task; hence transporters and agents of fruits and vegetables have resorted to using them because they are the available ones. As a result, FFV are exposed to hostile which depletes their quality.

Moreover, poor loading and offloading technology has been associated to causing PHL as attested by around 56.36% of the respondents. Respondents emphasized that in most cases picking up for fruits and vegetables specifically during loading and offloading to the trucks were done manually by individuals who would like to maximize their income through a number of trucks they load/offload. In this case, they are careless in handling FFV. All this is caused by lack of recommended standard loading and offloading equipment as further shown in the photos below:



Fig 1.1: Using less improved storage facilities within a truck (Photo: Issa, I.M, 2020)

Hand in hand with the above point, another ways in which post-harvest loss occurs at the transportation level was through use of poor and inappropriate handling tools and distribution from the farms to the truck as attested by 73% of the respondents. They emphasized that handling and distribution facilities for fruits and vegetables were almost missing more especially when handling the products from farms to the transportation facilities and as a result they resorted to the use manual or less improved ones as stated here under:

Basically farmers and intermediaries use very traditional handling tools here when it comes to collecting or carrying the fruits and vegetables from vehicles to markets. You can image using some traditional tools such as bamboo baskets and woven sacks it is really tiresome and risky. Sometimes, products fall down and get spoiled. This causes huge post-harvest losses as you can see. So at times business people receive them while already spoiled. (Tomatoes and oranges intermediaries (38) (42), Temeke stereo market)

Table 2: Summary of post-harvest losses at Transportation function

Poor road infrastructure & delay in transporting products	83%
Poor transportation facilities and equipment,	72%
Through poor loading and offloading technology	56%
Use of poor and inappropriate handling tools and distribution	73%

Source: **field data 2021**

Based on the above findings it can be said that, postharvest losses at the transportation level was caused by poor road infrastructure that led to the delay of the products from one point, through poor transportation facilities and equipment, through poor loading and offloading technology as attested by around and above all through use of poor and inappropriate handling tools and distribution from the farms to the truck. These results correspond well with existing literature (Zakaria *et al.*, 2014;Kader, 2005; Kiaya, 2014; Wakholi *et al.*, 2015;Verma *et al.*, 2019; Sharma & Singh, 2011; Eskola, 2005; Negi & Anand, 2016b; Murthy *et al.*, 2009; Kitinoja & AlHassan, 2012; Rais &Sheoran , 2015; Mgonja & Utou,

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2017; Verma *et al.*, 2019). This is to say that, even though the existing studies focused on PHL of FFV in fields, this study has confirmed that it is not in fields alone even during transporting the same to markets of Dar es Salaam and other urban setting in Tanzania.

Post-Harvest Losses at Value Addition and Quality Improvement

One of the factors that caused post-harvest losses at value addition and quality improvement function relates to lack of appropriate value addition technology both at harvesting and processing stages as attested by over (63.6%) of the respondents. They stated that farmers used traditional or essentially manual means for harvesting and process various fresh fruits and vegetables. More specifically lack of modern harvesting tools lead to ineffective cleaning, sorting and grading of fruits and vegetables thus further leading to post-harvest losses as confirmed by a respondent here under:

We are wasting a great deal of fruits and vegetables here because farmers and Intermediaries especially collectors in particular lack the required tools for cleaning grading and sorting out the fruits and vegetables products in order to assure quality before harvesting the products. (Urban farmer and trader (44, (31), Temeke stereo market).

The absence of inspection tools during harvest, transportation and processing times have also caused PHLs as confirmed and evidenced by around (67.2%) of the respondents. Farmers and intermediaries stated that they basically lacked specific knowledge and skills for ensuring value and quality of fruits and vegetables before, during and after harvesting partly because there were no agencies that would advise them on to appropriate quality of FFV needed in the market. The end up sending to the market any produce, while traders receive the destroyed, the ripe, the unripe which afterwards are never sold but disposed .This was confirmed by one of the respondent;

At times we're basically incapable of effectively determining what should be included or thrown away when sorting and grading because we lack skills and criteria for determining that. This is something we have always shared with various authorities but has not been solved. Consequently we lose a lot of what would be good products for fruits and vegetables. (Male intermediaries (FGDs), Ilala market)

It was reported further that lack of quality and value assurance regulatory system at both in fields and markets contribute to PHL in FFV as evidenced by majority of the respondents (67.2%). In this regard, traders always bring to the market any FFV they come across most of which is never used by consumers because it does not conform to their preferences and ends up being spoiled. It was, on the same note, revealed that farmers complained about poor government enforcement on quality assurance aspects. Presence of these quality regulatory systems with proper inspection tools in fields and markets would ensure harvesting the right produces, cleaning, sorting and grading them and would recommend hygienic loading/offloading, packaging and transportation means from the farms to markets. They further complaint that they did not know the value of appropriate packaging facilities as well as even lack of enough capital to afford and buy modern and improved packaging facilities for fresh fruits and vegetables. Thus, farmers and intermediaries resort to use traditional and less improved ones. One respondents stated hereunder:

We uses bamboo baskets, nets, woven sacks, wooden boxes to be out packaging and handling facilities for the produces. These are our facilities, we admire to have modern ones but we don't have enough funds and assistance from the market officers, government as well as private sectors" (males avocados and pension traders (36) (41), respectively, Temeke stereo market)

Findings also revealed lack of appropriate packaging materials as severe cause postharvest losses of urban fruits and vegetables as evidenced by around 82% of the respondents. Respondents maintained that containers and other facilities are deficient in almost all important areas at the time for harvesting in the farm, when loading them in trucks or lorries as well as at the markets places. This obviously caused post-harvest losses for fruits as testified by the following respondents:

You have to note that, we use floors, pallets, boxes and sacks as handling tools as well as packing and packaging material. No any other alternative. I am compelled to use these dilapidated wooden boxes and woven sacks to hand the products. Almost all other people here use the same means. This is because we

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don't have funds to perchance more modern and appropriate packing and packaging tools. In this ways we lose a lot fruits because they simply get rotten or damaged in various ways (Male (48) fruits and vegetables trader (Temeke stereo market)

Table 3: Summary of post-harvest losses at value addition and quality improvement

Inappropriate value addition technology	63.6%
Absent of inspection tools during harvest and processing times	67.2%
Inadequate/lack of quality and value assurance regulatory system	67.2%
Absence of grading and sorting tools	80%
Inappropriate tools for inspecting fruits and vegetables	82%

Source: **field data 2021**

It can be summarized that post-harvest losses at value addition and quality improvement was caused by inappropriate value addition technology and absent of inspection tools during harvest and processing times. Other causes included absence of grading and sorting tools which could help identify products maturity from the farms, inappropriate tools for inspecting fruits and vegetables and lack of appropriate packaging handling tools. These findings correspond well with some former works in some parts of East Africa Tanzania inclusive (Mwagike & Mdoe, 2015; Mgonja & Utou, 2017); India (Wakholi *et al.*, 2015; Haldar, 2018; K. Kalidas *et al.*, 2012; L. Kitinoja & AlHassan, 2012; Kiaya, 2014; Hailu & Derbew, 2015; Negi & Anand, 2016b; Agarwal, 2017b; Haldar, 2018; Sharma & Singh, 2011; Verma *et al.*, 2019). However, an interesting part of this discussion relates to the lack of quality assurance regulatory system and absence of inspection tools as a critical cause for post-harvest losses for urban fruits and vegetables at the value addition level. This has not been captured by other previous works. Accordingly, this is the new contribution made by this current work.

Post-Harvest Losses at Markets and Marketing Services Function

Findings revealed post-harvest losses were variously associated with markets and marketing services provisions. Specifically, one of the aspects that caused post-harvest losses at this stage was related to unreliable market for fresh fruits and vegetables as attested by over 56.3% of the respondents. Respondents explained that traders transporting FFV from rural to urban areas do not have specific markets instead they depended on intermediaries who at times would overstay with the products hence leading to spoilage and post-harvest losses. Lack of markets was further contributed by inadequate number at value addition and quality improvement industries as confirmed by 36% of the respondents. Due to the fact that FFV are seasonal at the peak of their season markets were overflowed by these products most of which end up being spoiled. They added that such products would be absorbed by the related industries such as juice industries etc. Moreover, lack of markets was further fuelled by the outbreak of COVID-19 as attested by 41% of the respondents who affirmed that the outbreak prevented customers from visiting various urban marketing places for shopping.

Another marketing related aspect that contributed to the losses relate to poor coordination and relationship between the farmers and intermediaries on the one hand and among the intermediaries themselves on the other hand as evidenced by 51% of the respondents. Respondents explained that the existing relationship between farmers and intermediaries/traders was exploitative in nature, meaning that intermediaries were always setting prices that would benefit them at the disadvantage of farmers. In this case, farmers overstayed with the products in search of better prices while the intermediaries also overstayed with the products in search of super profits at the expenses of the farmers. Similarly, in such a blur relationship there is limited information flow between actors about what is prevailing in the market. Such a situation may lead into farmers transporting their produces in urban markets only to find them flooded. This causes them to witness their produces perish in front of their eyes. The situation was testified by a respondent as captured below:

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Intermediaries and some traders in many FFV markets in Dar es Salaam city have little knowledge and an understanding regarding the market trends and the dynamism that characterise these markets. And that have this knowledge don't share it between stakeholders. This is partly due to lack of information sharing mechanism among them (Male cabbage trader (34), Ilala market)

Another market and market related factor that contributed to the post-harvest losses is associated with the unstable or rather unpredictable demand and supply for fruits and vegetables as attested by over 53% of the respondents. This is to say that simply farmers and intermediaries were incapable of predicting the market forces to due to constant changes of the market conditions in terms of buying and selling prices.

Table 4: Summary of post-harvest loss caused by poor marketing services

Unreliable market for fresh fruits and vegetables	56.3%
Poor coordination and relationship between the farmers and intermediaries	51%
Lack of marketing information and poor marketing communication	80%
Unstable/ unpredictable demand and supply for fruits and vegetables	53%

Source: **field data 2021**

In this stage post-harvest losses were caused by the unreliable market for fresh fruits and vegetables, poor coordination and relationship between the farmers and intermediaries, lack of marketing information and poor marketing as well as the communication, unstable/ unpredictable demand and supply for fruits and vegetables. These factors very closely correspond well with the existing literatures as formerly discussed in Tanzania (Mwagike & Mdoe, 2015), India (Karim & Biswas, 2016; Zakaria *et al.*, 2014; Negi & Anand, 2015a; (Deliya *et al.*, 2012; Sudharshan *et al.*, 2013; Underhill *et al.*, 2019; Verma *et al.*, 2019). This is a clear indication that the current study contributes to the existing literature about this particular subject matter.

Conclusion

The study intended to get a better understanding of factors leading to PHLs for urban FFVs supply chain. Specifically, the work intended to examine ways in which post-harvest losses for urban fresh fruits and vegetables occurs in the context of supply chain continuum. The findings were structured around the four functions of the supply chain process which include storage, transportation, value addition and quality improvement as well as markets and marketing services provisions. In this case factors leading to post-harvest losses of urban fresh fruits and vegetables are traced and explained based on the above mentioned functions.

Accordingly, it is evident that the planning of markets built in urban settings did not consider the importance of providing storage facilities for all products. If the situation is not addressed, we are far back to achieving zero PHLs of FFV in markets. It can further be generalized that the transport network with dilapidated roads lay grounds for the delay of FFV and ultimately decay. Worse still even when these produces delay, they are not in proper transport means and in most cases the situation in which they are damage their quality. It further tells that these produces will always yield low prices leading to produce and monetary losses.

With the way it stands, there are limited effort of quality improvement and value addition in the FFV trade in general. This implies that never will these produces compete in the market, they will be the last and will continue to rot. In the same way these produces will only be consumed locally and will never compete neither qualify for international markets. Moreover, due to the fact that there are no platforms monitored by the government providing information about the market trend of FFV it is evident that stakeholders will always face market uncertainties due to inadequate information. The situation will lead them into increased PHLs of these produces day after the other.

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Recommendations

The study puts forward a number of recommendations order to alleviate post-harvest losses associated with FFV trade in urban markets in Dar es salaam, Tanzania. These include construction of central storage facilities which are well equipped with cooling equipment that will ensure that all FFV are stored well and in a hygienic acceptable situation. This can be done through taking special contributions from traders because they are ready for that. Municipal authorities and private sector may be included in this as well. Moreover, important FFV supply chain stakeholders should be sensitized on the proper utilisation of relevant and available storage facilities.

In order to alleviate the post-harvest losses related to the transportation function, firstly government through the ministry of transportation and road construction should work hard to improve the existing poor road infrastructure that causes delays in transporting fresh fruits and vegetables products. The general public should be sensitized on the investment of FFV friendly and hygienic transporting vehicles. Such vehicles will minimize the loss incurred in the VVF supply chain continuum. Along with this, FFV trade stakeholders through the ministry of agriculture and food security should be trained on proper FFV handling in terms of hygienic harvesting, packing and packaging, sorting and selling.

To alleviate PHLs at value addition and quality improvement function, the ministry of education in collaboration with the ministry if investment should encourage the establishment of value additional industries. These will consume all products available in the market there by minimising PHLs in this trade. Along with this, training should be extended on proper harvesting, piling, sorting and grading as well as selling. Further regulatory requirements be extended to all stakeholders and regular follow ups be conducted by Tanzania Bureau of Standards (TBS) from the farm to market. These will not only safeguard consumer's health but also minimising the rate of PHLs.

With regards to PHLs caused by markets and marketing services we recommend that the ministry of agriculture and food security should search for markets of FFV locally and internationally and make sure that it publicises information regarding to market trends by the use of social networks and mobile phone USSD codes. This should be facilitated through thorough research on the demand and supply for fruits and vegetables in such a manner that will not cause any damage and spoilage of these products and cause post-harvest losses in particular. This will minimise PHLs in the FFV supply chain continuum.

Future Research

This study was qualitative in nature and thus findings care not generalizable. While the study dealt with FFV in the markets, issues related to regulatory frameworks and FFV trade, consumer hygiene and FFV trade in the sampled markets need to be looked into in future studies.

Data Availability Statement

Data regarding the findings of this paper are available upon request through the correspondent author.

Declaration on Conflict of Interest

Authors declare no conflict of interest with regard to title and findings obtained in this study.

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Potential Utilization of coal along Mbalawala River: Assessment of Coal Quality and Washability Characteristics

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Abstract

Tanzania is blessed with large coal resources which can be categorized as lignite, sub-bituminous to bituminous. The current use of coal in Tanzania is as source of heating utility particularly in cement companies etc. However, there is a broad use of Tanzania coal particularly in the production of metallurgical coke for ironmaking in a blast furnace that can make huge impact to iron industry. In this work, the coal samples along Mbalawala River were investigated to determine size by size characteristics of the coal seams, in terms of distribution of ash content, volatile matter, calorific values, moisture and total sulphur. Washability data were generated to assess and compare the cleanability of the coals under investigation. The proximate analysis data shows that the ash contents of channel samples is 10.09 wt %. In addition, the ash content increase with the decrease of grain size while calorific value increase with increase in grain size this means calorific values are generally higher for the Mbalawala coal sample, and sulphur values are higher in the finer fraction (1.08 wt %). Volatile matter is evenly distributed in all size fractions. The results from the different channel samples display different Washability characteristics. The minimum ash values obtained is < 8 wt % ash and can be obtained at density < 1.60 with better cleaned coal. Therefore, this study recommends that the coal along Mbalawala River can be converted for further use such as other industrial and domestic purposes particularly metallurgical coke.

Key words: *Mbalawala River, washability, cleanability, proximate analysis, coal quality, sulphur, metallurgical coke, coal utilization*

Introduction

Coal is the fossil fuel most abundant in the world, which is produced worldwide (Ezra, 1978). Coal production stands at approximately 4.6 billion tonnes per year, of which 57% is used for electricity generation, 25% is converted into metallurgical coke for iron and steel industries and 18% is used for other industrial and domestic purposes. Tanzania's coal reserve is estimated at 5 billion tons, with 25% being proven (URT, 2015). Currently coal is exploited in small scale at Kiwira Coal Mine in Mbeya Region and Tancoal Energy Limited Mine at Ngaka in Ruvuma Region. At an estimated maximum production rate of 4-5 million tons per annum, the Ngaka Coal Project has sufficient proven coal resources for over 50 years of profitable, low-cost production (TC, 2016). Tanzania's coal reserve are estimated at 1.9 billion tonnes, 25% of which are proven. Tanzania's coal production reached 712,136 tonnes in 2019 compared to 257,321 tonnes in 2015 and this tonnes are primarily used for domestic use and power generation only (Tancoal energy, 2020), Therefore the coal need to converted so as to be used in other purposes like in steel and iron production.

The coal along Mbalawala River is part of Mbalawala field owned by Ngaka coalfield that can be accessed by following Mbinga – Songea road. At Kitai there is a junction road to Ngaka. Ngaka Coalfield has two distinctive coalfields namely Ngaka Northern fields and Mbalawala field. The Ngaka Northern Field is a composite field and consists of a number of apparently separate small fields namely, Mbuyura, Mkapa, Lower Mkapa and Nyakangunda. Mbalawala can be accessed by following Kitai – Ruanda road (Augustina K, 2015). The channel sample from Mbalawala was taken at an exposure on the banks of Mbalawala River at Longitudes 34° 55' 22" E and Latitudes 10° 28' 22" S; UTM values 71018 E and 8842.06 S at an elevation of 988 meters above sea level. Semkiwa (1992) & (Wopfner & Kaaya 2009), studied Ngaka sub basin, particularly the formations in the Karoo Supergroups at Mbalawala and Nyamangami Rivers. In addition, He studied the coalification profile and vitrinite reflectance. The vitrinite reflectance values vary from 0.79% to 0.70%.

The aim of this work was to investigate the coal samples along Mbalawala River for determine size by size characteristics of the coal seams, in terms of distribution of ash content, volatile matter, calorific

values, moisture content, total sulphur and its washability. Through comminution of the coal at different size helps in liberation of the mineral particles. The size fraction can be used to predict what quality of coal and how much coal can be produced at specific sizes (Bidyut et al, 2016) & (Mohn, 1997). Using the washability data it is possible to predict how much coal of what quality can be produced at a given specific gravity with what separation difficulty or to determine the gravity of separation for the desired coal quality (Leonard, 1979, Sanders, 1986) & Rao, 2016). In this study proximate analysis data on size by size basis were also generated including to asses the distribution of ash forming minerals and total sulphur.

Methods of Investigation

The investigation was in two phases, field observations of the coal seam and laboratory characterization of the sample to examine properties of the collected channel sample after different treatments. The sample was then analyzed for the ash content and other properties as presented later in this report.

Field Observations

The samples were collected from the exposure at Mbalawala River. The thickness of the coal seam at Mbalawala is 129 cm, most of the coal is Bright Banded Coal, partings are mainly mudstone, siltstone and carbonaceous shale; total partings is 28 cm. The coal seam show distinctive lithotypes of bright coal, bright banded coal, dull coal and dull banded coal. The thickness of the lithotypes range from 15 cm to 25 cm.

Laboratory Investigations

Sample preparation was conducted at Kiwira Coal Mine's laboratory. A representative sample weighing about 5.0 kgs was crushed using a laboratory jaw crusher to obtain -15mm size fraction. Using a Jones riffle, the sample was split into representative samples weighing approximately 500 grams each. Screening was conducted using the Chinese Standard Sieves. For each set of experiment, the samples were ground to the required size fractions. A flow chart of laboratory studies conducted is presented in figure 1.

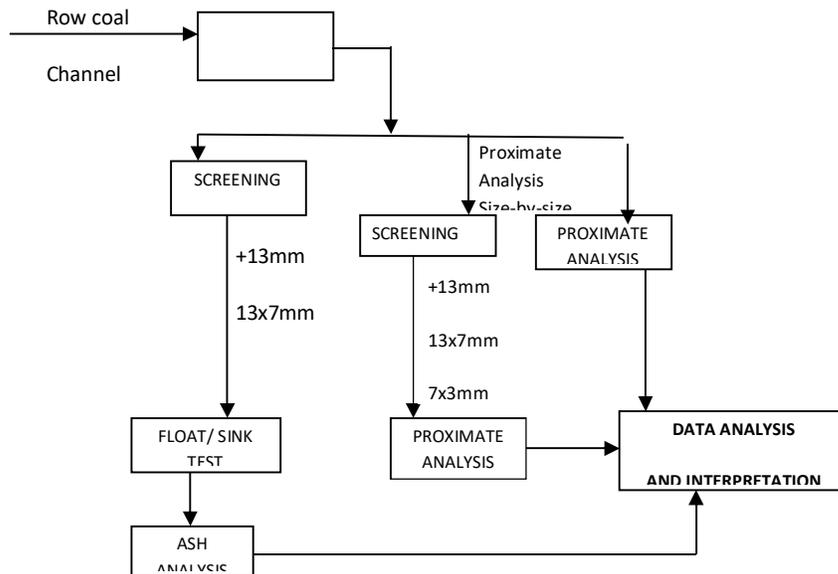


Figure 1: A Schematic Illustration of the Experimental Program

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Proximate Analysis Size-by-Size Basis

The sample was analyzed using procedures developed by the Chinese Team for the Kiwira Coal Mine Laboratory and for the GST, they analyzed proximate analysis based on the standards of ASTM D3172. The procedure covers the determination of calorific value, moisture, volatile matter, ash, total sulphur and the calculation of fixed carbon in coals.

Washability Studies

Approximately 500 grams from the channel sample studied were screened to obtain different size fractions. Using ZnCl₂ solution of different densities, different float and sink of each size fractions were obtained. A representative sample for each density fraction was taken and analyzed for ash.

Results

Table 1: Size Distribution of coal as Air Dried

SIZE (MM)	WEIGHT (GM)	WEIGHT %	CUMMULATIVE WT %
+13	31.09	10.2	10.2
13 x 7	97.46	31.9	42.1
7 x 3	96.43	31.5	73.6
3 x 0.9	41.09	13.5	87.1
0.9 x 0.3	24.83	8.1	96.2
-0.3	14.58	4.8	100

Proximate Analysis

The results from proximate analysis on size-by-size basis are presented in **table 2 and 3**.

Table 2: results of proximate analysis of coal from coal seam at Mbalawala

SIZE (MM)	Moisture	Ash%	Vol. Matter%	Fixed Carbon%	Sulphur%	Calorific Value Kcal/Kg
+13	8.13	6.99	30.66	54.22	0.37	16022
13 x 7	7.19	7.08	31.51	54.22	0.28	15819
7 x 3	6.47	8.74	33.56	51.23	0.25	12815
3 x 0.9	11.58	10.51	29.31	48.60	0.35	10656
0.9 x 0.3	7.21	13.80	33.42	45.57	1.11	8116
-0.3	4.59	19.77	34.02	41.62	1.08	6120
Head (KCM)	6.45	10.09	32.90	50.56	0.31	11100
Head (GST)	9.45	8.95	32.81	48.81	0.12	11852

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Table 3. Proximate Analysis Size-By-Size Basis (Air Dried)

SIZE (MM)	Moisture	Ash%	Vol. Matter%	Fixed Carbon%	Sulphur%	Calorific Value Kcal/Kg
+13	2.74	41.18	22.86	33.22	ND	4231
13 x 7	2.85	38.05	23.50	35.60	ND	4532
7 x 3	2.89	37.79	24.29	35.03	ND	4575
3 x 0.9	3.06	33.42	24.57	38.98	ND	4919
0.9 x 0.3	3.06	31.39	25.07	40.48	ND	5091
-0.3	3.17	31.44	23.87	41.52	ND	5091
Head (KCM)	2.84	37.60	23.13	36.43	2.84	4575
Head (GST)	2.39	38.33	25.29	33.99	ND	ND
Head (Chinese)	3.21 dried	air 25.44 dry basis	37.65 m.a.f. basis	ND	1.39 basis	m.f. 5908 m.f. basis 4571 air dried

Washability Results

Table 4: Washability data 15 X13 mm Size Fraction –Reported on Air-Dried Basis

Density Fraction	Fractional		Cumulative Float		Cumulative Sink	
SG	Wt%	Ash%	Wt%	Ash%	Wt%	Ash%
-1.30	-	-	-	-	-	-
1.30-1.40	-	-	-	-	-	-
1.40-1.50	97.84	7.89	7.89	7.89	100.00	8.45
1.50-1.60	2.16	33.93	33.83	8.45	2.16	33.83
1.60-1.70	-	-	-	-	-	-
1.70-1.80	-	-	-	-	-	-
+1.80	-	-	-	-	-	-

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Table 5: Washability data 13x7 mm Size Fraction reported on air dried basis

Density Fraction	Fractional		Cumulative Float		Cumulative Sink	
	Wt%	Ash%	Wt%	Ash%	Wt%	Ash%
SG	Wt%	Ash%	Wt%	Ash%	Wt%	Ash%
-1.30	-	-	-	-	-	-
1.30-1.40	-	-	-	-	-	-
1.40-1.50	91.35	8.29	91.34	8.29	100.00	9.11
1.50-1.60	7.32	15.68	98.66	8.84	8.66	17.77
1.60-1.70	1.34	29.17	100.00	9.11	1.34	29.17
1.70-1.80						
+1.80						

Table 6: Coal from the Exposure at Mbalawala River 7 X 3 mm Size Fraction

Density Fraction	Fractional		Cumulative Float		Cumulative Sink	
	Wt%	Ash%	Wt%	Ash%	Wt%	Ash%
SG	Wt%	Ash%	Wt%	Ash%	Wt%	Ash%
-1.30	-	-	-	-	-	-
1.30-1.40	-	-	-	-	-	-
1.40-1.50	58.18	8.06	58.18	8.06	100.00	10.58
1.50-1.60	26.43	11.77	84.61	9.22	41.82	14.10
1.60-1.70	10.55	14.80	95.16	9.84	15.39	18.09
1.70-1.80	2.98	19.63	98.14	10.14	4.84	25.27
+1.80	1.86	34.3	100.00	10.58	1.86	34.30

Table 7: Coal from the Exposure at Mbalawala River 3 X 0.9 mm Size Fraction

Density Fraction	Fractional Wt%	Fractional Ash%	Cumulative Float Wt%	Cumulative Float Ash%	Cumulative Sink Wt%	Cumulative Sink Ash%
-1.30	-	-	-	-	-	-
1.30-1.40	-	-	-	-	-	-
1.40-1.50	14.85	6.86	14.85	6.86	100.00	12.36
1.50-1.60	23.14	8.73	37.99	8.00	85.15	13.31
1.60-1.70	35.95	11.79	73.94	9.84	62.01	15.02
1.70-1.80	16.87	15.73	90.80	10.94	26.06	19.49
+1.80	9.20	26.37	100.00	12.36	9.20	26.37

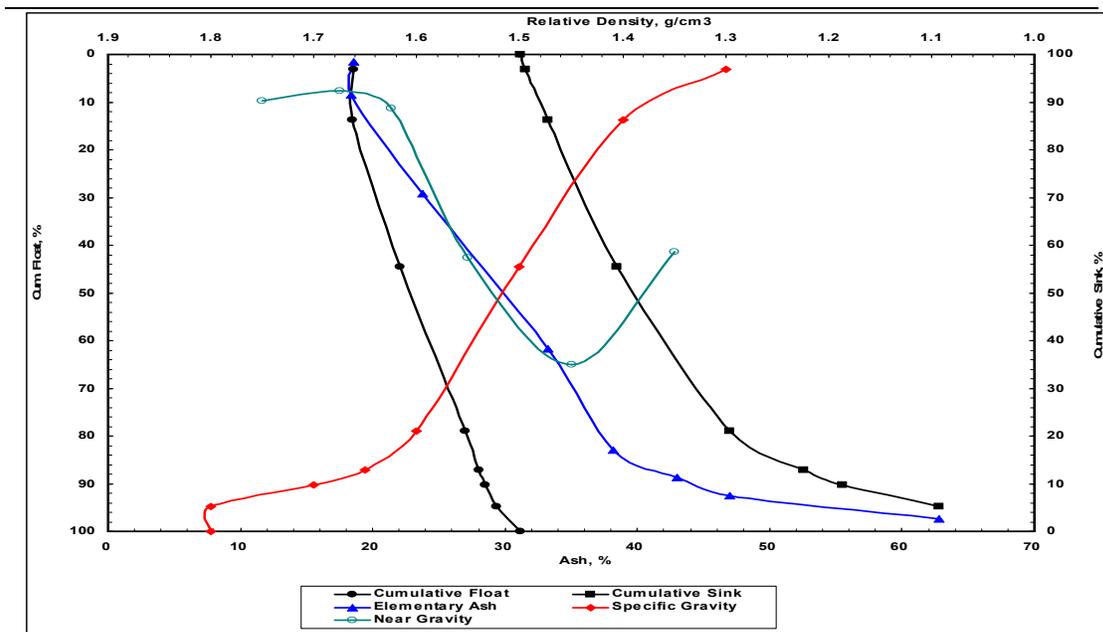


Fig. 1: Washability curves for 3 X 0.9 mm size fraction (Mbalawala Coal).

Discussions

The results in table 2 shows that the investigated sample contained relatively high moisture content. This might be due to the fact that the sample under investigation was taken from the exposure. The high moisture content may be due to the effect of weathering, rain and snow during transportation and storage. The volatile matter content is relatively high; it does not show any trend with the decrease in the size fraction analyzed. However, the courser size fraction contains relatively low ash values and the finest size fraction contains highest ash values this means that a fine coal consists of more mineral matters.

Calorific value increase with increase in the size fraction analyzed and decrease with decrease in size fraction, then the largest size is better for fuel energy production. While, Tables 4 to 6 give the tabular results of washability data. The coarser size fraction is relatively cleaner, only two density fractions were

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obtained from 15 x 13 mm size fraction with more than 95% of the coal particles with density below 1.50 and ash content less than 8% by weight. Mishra (2009) proposed that washing coal from India is very difficult simply because the cleaning coal was poor even though the ash content is low and when washed at high specific gravity the ash content increase, that coal may not be clean rather than to be used in thermal power plants and for combustion processes since it produce very high ash content.

The finer fraction contains heavier particles (contains high amount of mineral matters) with relatively high ash content. Screening the coarse size without any further treatment can yield better quality coal with relatively low ash values and high calorific values.

Conclusions

Screening the coarse size without any further treatment can yield better quality coal with relatively low ash values (<8%), high calorific >15000 Kcal/Kg) values and low sulphur (<0.40%) content. Washability data show that most of the coal particles have the specific gravity ranging between 1.40 and 1.60. The number of fractions increases with the decrease of grain size, the coarse size fraction has more than 90% by weight of coal particles with Specific Gravity less than 1.50. The finer fraction contains relatively high ash (>19%) and sulphur (1.08%) values, that means it is very difficult to clean the coal from Mbalawala with fine particles, this may be due to high degree of liberation of mineral particles in finer size fraction. This coal is relatively better, at coarse size fraction the product with less than 8% ash content can be obtained with sulphur less than 0.40% by weight.

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Levels of Vulnerability of Livelihood Assets to Gas Extraction Operations in South-Eastern, Tanzania

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Abstract

Extractive investments are adversely affecting local communities' households in Africa and particular in Tanzania because their operations depend on natural resources. This paper analyses the levels vulnerability of livelihood assets to gas extraction operations. A questionnaire survey which involves 260 households were conducted between July and December 2020. Eight (8) major components and (36) key indicators were developed based on the data collected through household surveys. The Livelihood Vulnerability Index (LVI) with particular emphasis on levels of vulnerability of livelihood assets and socio-demographic and economic variables were used. The primary data were collected through household surveys. Microsoft Office Excel 2019 was used to analyse the LVI, the vulnerability spider (radar) chart and the vulnerability triangle. Results revealed that villages closer to gas processing plant were more vulnerable in terms of livelihood strategies, land, health and social networks. Conversely, the villages away from the gas processing plant were more vulnerable in terms of adaptive capacity, taking into account food, water and socio-demographic aspects. It is concluded that inadequate social networks and inefficient livelihood strategies contribute to household vulnerability. Interestingly, the impacts of gas extraction operations remain not the same in the study area and similarly when assessing household vulnerability. Finally, the study recommends that decision-makers should formulate effective adaptation policies to safeguard local communities and their livelihood assets residing closer to extractive investments. A health policy would help reduce vulnerability of households and a rural development policy would create employment opportunities leading to improved livelihoods.

Keywords: Levels of vulnerability Index, Gas extraction operations, Mtwara rural district, South-Eastern Tanzania.

Introduction

Local communities' livelihoods are directly dependent on natural resources, especially in developing countries. Gas extraction operations Vulnerability can be referred as a function of exposure, sensitivity, and adaptive capacity (IPCC 2010). The adverse effects of extractive investments have a bearing on environmental and socio-economic status which is increasingly causing vulnerabilities to people around the world (Etwire *et al.*, 2013). Etwire *et al.*, (2013) assert that vulnerabilities are a serious inhibitor to the attainment of food security and the fulfilment of major developmental agenda in the majority of global economies from which Tanzania cannot be exempted. Extractive investment has attracted the consideration of the academic community, governmental and non-governmental organisations. Piya, *et al.*, (2016) noted that adverse effects of extractive investments are likely to affect poor local communities' households whose daily existence depends on semi-subsistence agriculture, including fishing. The projected impacts of extractive investments change in Africa will vary across sectors, locations and populations. Rapid population growth and natural resource degradation along with poverty and food insecurity characterize Africa. The impacts will be heaviest on local communities (farmers and fisherfolks) because the majority of them depend on natural resources in this region (Thapa, *et al.*, 2016; Grumbine, *et al.*, 2015; Piya, *et al.*, 2016; Sujakhu *et al.*, 2016).

The vulnerability of local communities and households to natural gas extraction investments and change needs an examination to identify actions that can upgrade adverse impacts. The concept of vulnerability is defined differently across disciplines (Gallopín, 2006). According to Kasperson, *et al.*, (2003) the term "vulnerability" has no universally recognised definition, largely because diverse disciplines use the term inversely to explain their areas of concern. Studies on epidemiology define vulnerability as the degree to which an exposed unit is susceptible to being harmed by exposure to a worry or stress, in conjunction

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with its ability (or lack thereof) to cope, recover or adapt (become a new system or go extinct). In contrast, poverty and development literature, which focuses on social, economic and political conditions, defines vulnerability as an aggregate measure of human welfare that integrates environmental, social, economic, and political exposure to a range of harmful worries. FANRPAN (2011) defines vulnerability as the incapability to survive the opposing impact of exposure to stresses or shocks associated with environmental and social change, and the absence of the capacity to adapt to the impact. Adger and Kelly (1999) define social vulnerability as the exposure of groups or individuals to stress as a result of social and environmental change, where “stress” refers to unexpected changes and disturbances to livelihoods. Vulnerability is an individual or group’s reduced capacity to cope with, resist, and recover from the impacts of a natural or human-made hazard (Islam *et al.*, (2013). Multiple disciplines such as anthropology, sociology, disaster management, climate science and sustainable livelihoods provide the foundation for approaches to study vulnerability (IPCC, 2014a). In this paper, we attempt to understand levels of vulnerability of livelihood assets using the Livelihood Vulnerability Index developed by Hahn, Riederer, and Foster (2009) followed by Islam *et al.*, (2013). Investigations of the levels of vulnerability at the national scale have been made through different methods. However, national or regional-level studies have overlooked the micro-level because of their constraint in accounting for the fact that people vary in their exposure to the impacts of extractive investments (Coulibaly *et al.*, 2015; IPCC, 2014b). Physical, financial, social and natural capital determine the vulnerability and the adaptive capacity of local communities (Hahn *et al.*, 2009).

The determinants of household vulnerability are measured and explored through different methods (Zhang, 2016). Nkondze, Masuku, and Manyatsi (2013) used a multinomial regression model to investigate the factors affecting households’ vulnerability in Mpolongeni, Swaziland. Edoumiekumo *et al.*, (2013) used a logistic regression model to demonstrate the major determinants of poverty in Bayelsa State, Nigeria. Zhang (2016) used an ordinal logistic regression model to evaluate the vulnerability of households in Wenchuan, China. Principal component analysis to develop a vulnerability index for an individual household followed by an ordered logistic regression model to identify the key determinants of vulnerability was used by Tsue *et al.*, (2014) in Nigeria.

A few studies (Thapa *et al.*, 2016; Piya *et al.*, 2016; Sujakhu *et al.*, 2016; Asad *et al.*, 2015) studied the impact of specific hazards on farmers’ livelihoods in the Asian Highlands. Most extractive investments using empirical models have contributed to our understanding of the process and influences of extractive investment operations at global and regional scales, but they couldn’t specify the levels of vulnerability as a result of extractive investments at the local level (Kais and Islam, 2016; Xu and Grumbine, 2014). How local communities use available resources in effective ways to cope with gas extraction operations is key to helping people with adaptation planning. In addition, mapping the connections between gas extraction operations, communities’ coping strategies and various kinds of capital could provide information necessary for policy makers to help communities avoid or resist losses from gas extraction investment operations.

These are far-reaching impacts of extractive investments on household vulnerability and the environment but the ultimate impact that matters most is on the levels of livelihoods vulnerability of the local communities. A vital issue here is how they affect livelihoods. Vulnerability assessment helps to understand the levels of vulnerability of livelihood assets resulting from gas extraction operations. However, the assessment describes a diverse set of methods used to systematically integrate and examine interactions between humans and their physical and social surroundings.

The field of gas extraction vulnerability assessment has emerged to address the need to quantify how communities can adapt to changing environmental conditions. Vulnerability to extractive investment operations has been defined by various authors as the degree to which an organisation or community is disposed to, or at danger to, and incapable to deal with the harmful things of extractive investments (FAO, 2008; UNEP, 2009). According to the FAO (2008), vulnerability is not a motionless perception; it diverges in period and space. Many of these methods rely heavily on the IPCC working definition of vulnerability as a function of exposure, sensitivity, and adaptive capacity (IPCC 2010). Sensitivity is the

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degree to which an organisation is either negatively or positively, directly or indirectly affected by extractive investment operations (IPCC, 2010); and adaptation capacity is the capability of an organisation to lessen to reasonable levels, the potential effects of extractive investment operations by either taking advantage of existing opportunities or undertaking measures to deal with its consequences (IPCC, 2010; FAO, 2009). Whereas an exposure is the the state of being exposed to contact with something. "The dangers posed by exposure to asbestos"

Hahn, Riederer and Foster (2009) have developed Livelihood Vulnerability Index (LVI) as a tool for vulnerability assessment. The LVI uses multiple indicators to assess exposure to extractive investments, social and economic characteristics of households that affect their adaptive capacity, and current health, food and water resource characteristics that determine their sensitivity to gas extraction investment impacts. This approach differs from previous methods in that it used primary data from household surveys to construct the index.

The approach used by Hahn, *et al.* (2009) has several advantages over past efforts. This helps to avoid the pitfalls associated with using secondary data. Second, it presents a framework for grouping and aggregating indicators at the regional level. Third, it does not depend on climate models and misses livelihoods complexity at the local level.

However, Hahn, *et al.*, (2009) did not apply their index beyond broader regional levels although they mentioned of vulnerability differences across several dimensions. The extent of poverty has also been found to be higher in the south-eastern coastal region as compared to other parts of Tanzania (MDC, 2016). According to the Economic survey (URT, 2017), the incidence of poverty was found to be 29.1% in Mtwara rural district compared to 26.4% of Tanzania. Besides, there is an additional burden of poverty and vulnerability on the households living in coastal areas of Tanzania (MDC, 2016). Dependence on agriculture-based livelihoods can increase the vulnerability of the households who do not diversify (Fields, 2005). This analysis can be easily extended to other dimensions. For example, within a region, one may expect different vulnerabilities for those living in closer villages and those in far away villages. We used and extended the scope of these indices to measure and explain the levels of vulnerability of the local community's households living near gas extraction investment in the south-eastern region of Tanzania. By measuring the LVI, we tried to answer the following question:
Are households from closer villages to gas extraction processing plant more vulnerable to gas extraction operations compared to the households in away villages?

Past studies on vulnerability have mostly been based on poverty (Novignon, *et al.*, 2012). These studies measured vulnerability using national aggregates without household level data. Few studies have focused on the household level for example, (Etwire, *et al.*, 2013). The current study fills the gap in the literature by employing only household data to analyse the levels of local communities' vulnerability to gas extraction operations using the lens of the livelihood vulnerability frameworks. This paper therefore analyses and document the levels of vulnerability of livelihood assets to gas extraction operations in Mtwara rural district. It also analyses vulnerability to gas extraction operations in the four villages of Mtwara rural district. The four villages are compared in terms of distance to gas extractions operations. This result is necessary in ensuring better targeting of future developmental interventions in South-eastern region of Tanzania based on evidence.

Asset-Based Analytical Frameworks to Assess Livelihood Vulnerability to Gas Extraction

Several methods are used in order to measure vulnerability to life-threatening events. While vulnerability valuations do frequently take into account livelihoods or compulsory assets for a sustainable means of living, the number of frameworks which definitely analyse the levels of livelihood vulnerability to extractive investments are limited (Carr, E.D., 2014). The sustainable livelihoods framework, which classically consisted of natural, social, financial, physical and human capitals (Chambers, R., and Conway, G., 1992), is predominantly the most relevant to understand vulnerability to extractive investments. It includes the main components that create livelihoods and the contextual factors that externally influence household asset base such as shocks, trends and seasonality (Donohue, *et al.*, 2009).

Therefore, the sustainable livelihoods framework incorporated the issues of climate exposure and household adaptive capacity (Hahn, *et al.*, 2009).

Although the sustainable livelihoods framework (SLF) offers numerous valuable insights about micro-level facts of household's livelihood and considers the wider context in which those livelihoods function, it has a number of limitations. These include its inability to take into account the dynamism in capital assets over time, inadequate consideration of the higher levels of governance and insufficient attention to the complex ecological consequences of livelihood adaptations (Small, L.A., 2007). The bionetwork services framework is another pertinent analytical structure to assess the vulnerability of livelihoods to gas extraction investment. Proponents of this approach argue that livelihoods are basically dependent upon bionetwork services of natural capitals. Therefore, in order to reduce livelihood vulnerability, critical levels of natural capital must be provided. Also, long-term viability of bionetwork services should be ensured (Ekins, *et al.*, 2003). Based on this framework, bionetwork goods and services include: (Adaptive capacity, Exposure and Sensitivity). Adaptive capacity consists of; socio-demographic, livelihood strategies and social networks. Exposure consists of gas extraction and land whereas Sensitivity consists of; health, food and water (IPCC, 2014). Although this framework conceptualizes the complex links between gas extraction operations and levels of livelihood vulnerability, it only focuses on natural capital and "does not consider the role of adaptation strategies based on human, physical, social and financial capitals" to support local communities household livelihood in the context of gas extraction operations (Reed, *et al.*, 2013). In order to comprehensively assess levels of livelihood vulnerability resulting from gas extraction operations, a new analytical framework is imperative that integrates gas extraction exposures, household sensitivity and adaptive capacity (Hahn *et al.*, 2009).

Relying on the IPCC (2014) working definition of vulnerability as a function of exposure, sensitivity and adaptive capacity, Hahn, *et al.*, (2009) developed the livelihood vulnerability index (LVI) to evaluate climate change vulnerability in the two districts of Mozambique. The LVI applies multiple indicators of socio-demographics, livelihoods, social networks, health, food, water security, natural disasters and climate vulnerability to examine livelihood vulnerability. Also, Reed, *et al.*, (2013) integrated sustainable livelihoods framework with the ecosystem services framework, diffusion theory, social learning, adaptive management and transition management to investigate the rural livelihoods vulnerability to climate change. This integrated analytical framework explains livelihood vulnerability to extractive operations through determining the level of exposure to extractive investment and its interactions with existing or future stresses, identifying the sensitivity of capital assets and household livelihood to gas extraction operations and considering adaptation options and factors influencing decisions to develop or adopt different adaptation strategies.

Among the various analytical frameworks in livelihood vulnerability, this study applies the integrated analytical framework (developed by Reed, *et al.*, 2013) as a basis for analysis of the livelihood vulnerability of local communities' households who residing near extractive investment operations (Fig. 1). To the best of our knowledge, this framework has never been applied empirically.

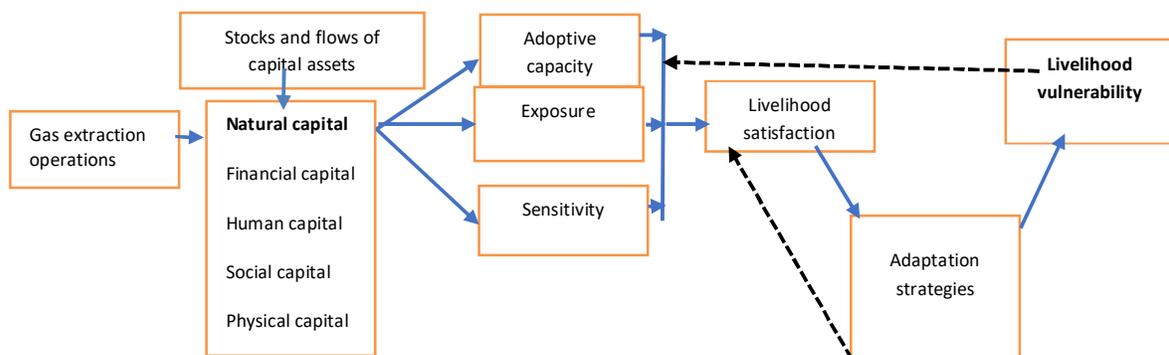


Fig. 1. Conceptual framework for analyzing levels of livelihood vulnerability to gas extraction operations (Adapted from Reed et al., (Reed et al., 2013) with minor changes).

Materials and Methods

Study Area

The study was conducted in Mtwara region, Tanzania. The Region is generally renowned for gas extraction operations. It lies between longitudes 39° 0" and 40° 27" East of Greenwich. It is also situated between latitudes 10° 0" and 10° 07" South of the Equator. It is bordered by the Indian Ocean to the East, Lindi Region to the North and Ruvuma Region to the West. Mtwara Rural District has an area of 3,597 square kilometres inclusive of the Nanyamba Town Council (MDC, 2016). The selection of Mtwara Region and Mtwara Rural District, in particular, was based on the fact that the areas are ranked high in gas reserves in the country, and gas extraction operations are carried out where marginalized people are living.

Madimba and Msimbati wards of Mtwara Rural District were purposively selected for the study because of the existence of gas processing plant and extraction activities. Four villages, namely Msimbati, Mtandi, Namindondi and Mngoji (Figure 1) were also purposively selected because of their geographical location, proximity to the coast of Mnazi Bay of Mtwara and the changing nature of the area's rural livelihood after gas extraction operations.

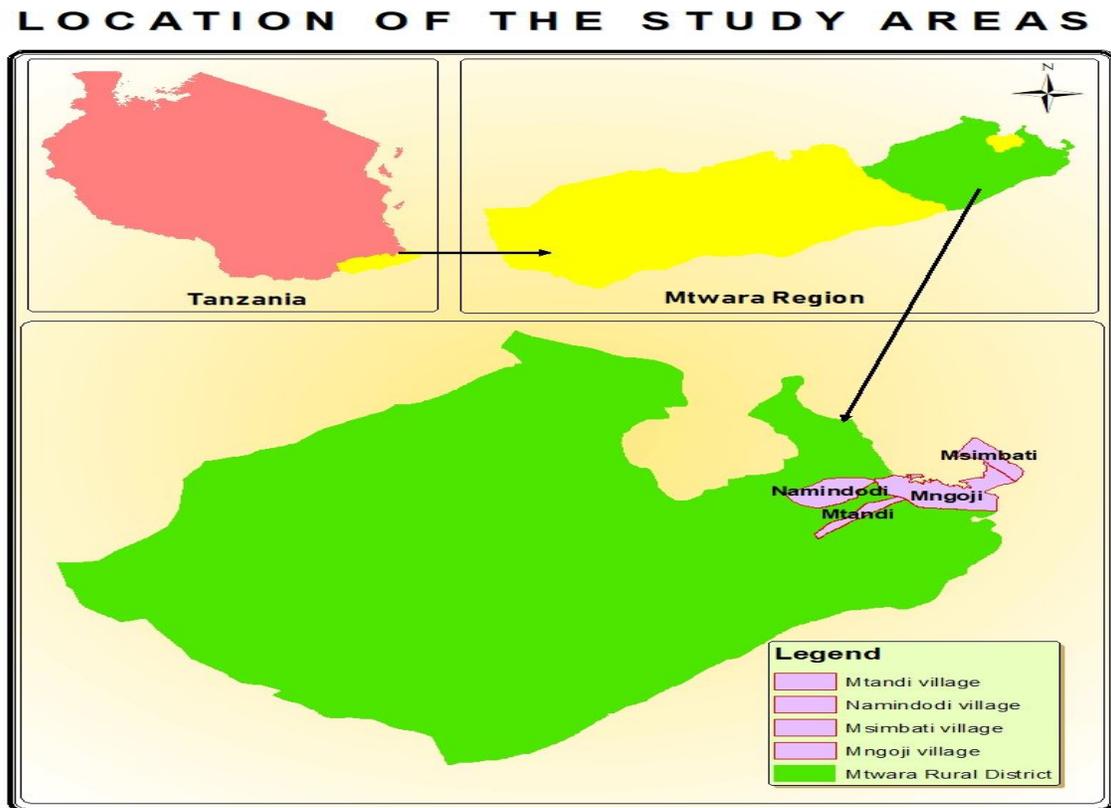


Figure 1: A map to show the study area

Research Design

This study used a cross-sectional research design. The design was considered favorable as it allows data to be collected at a single point in time and also it helps to collect data with two or more variables (usually more than two) which are examined to detect patterns of association (Bryman, 2012). Data were collected from July 30th to 16th December 2020.

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Data Source, Sampling design, and Sample Size

A multistage sampling technique was used for this study. The Mtwara rural district in the South-eastern region was purposively selected based on the reason that it is the most effected with gas extraction investment operations in South-eastern region of Tanzania. The second stage involved stratified sampling to select villagers closer and away to gas processing plant. The last stage involved proportionate simple random sampling technique which was applied to select the households in each study villages.

The sample size distribution among villages was computed proportionately to the population presented in four villages and covered 260 households. Krejcie and Morgan (1970) sample size formula (Equation 1) was used to estimate the sample size for the study.

$$S = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)} \quad (1)$$

Where S is the required sample size, X² is the Z value (for instance, 1.96 corresponds to 95% confidence level). N is the population size, P is the population proportion (assumed to be 0.5 or 50%), d is accuracy (5%) expressed as a proportion (0.05) signifying the margin of error. The key informants included the 2 Ward Executive Officers, 4 Village Executive Officers, 4 Village Chair Persons, 1 District Planning Officers, 1 Community Development Officer, 1 Regional Gas Project Coordinator, and 2 Tanzania Petroleum Development Company (TPDC) Gas Officers.

Data Collection

Primary data was collected through a household survey whereby a questionnaire was used as a data collection tool. The questionnaire was pretested to 30 households before embarking on the actual data collection to test for reliability and validity of the tool. The survey was aimed at collecting data on the socioeconomic characteristics of a household, level of exposure to risks and the experience they had on the impact of extractive investment on their lives and livelihood. The Semi-structured interviews were used to obtain primary data from the key informants and a checklist was used to guide the interviews. A total of eight (8) focus group discussions (FGDs) were conducted; each had a range of 8 to 12 participants. Inclusion criteria were age (youth and elders) and sex. Freedom of interaction was ensured during the discussions (Kitzinger, 1994). Those who participated in the focus group discussions did not participate in the household survey. The focus group discussions and key informants' interviews aimed to get in-depth information from the local community members who were affected by gas extraction operations.

Data Analysis

Several indicators were used to assess the levels of vulnerability. The following major components were used: socio-demographic profile, livelihood strategies, social networks, health, food, water, and gas extraction (see Table 1). Each component has several sub-components. These sub-components are chosen on the basis of their relevance to each major component, if we had more local information on some other aspects, the richness of the sub-components could have been easily increased. On the other hand, the questionnaire covered 36 key variables which were used in computing the LVI and other variables to achieve the other objectives.

Computation of Livelihood Vulnerability Index (LVI)

Households' livelihood vulnerability and gas extraction-induced stresses was estimated by developing and applying the livelihood vulnerability index (LVI) as was used in other studies (Hahn *et al.*, 2009; Rahman, 2014; Tewari and Bhowmick, 2014; Gerlitz *et al.*, 2017; Huong *et al.*, 2018; Adu *et al.*, 2018). Data were aggregated by using a composite index and differential vulnerabilities index at both villages and household level and then compared. Eight major components for generating an LVI were included: (i) Socio-Demographic Profile (SDP), (ii) Livelihood Strategies (LS), (iii) Social Network (SN), (iv) Land (v) Food (F), (vi) Water (W), (vii) Health services (HS), and (viii) Gas extraction operations and their impact (GOI). Each set is comprised of several indicators or sub-components and a total of 36 indicators were selected (Table 1). These were developed based on a review of the relevant literature on each major component.

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LVI was created using a balanced weighted average (UNDP, 2007; Gerlitz, *et al.*, 2017; Huong, *et al.*, 2018; Adu, *et al.*, 2018; Asmamaw *et al.*, 2019). Each sub-component contributed equally to the overall index although each major component had a different number of sub-components. As thirty-six sub-components were selected, the indicators were equally weighted. Therefore, each of them had a 1/36 weight. The weight of each major component was calculated by multiplying 1/36 with the number of sub-components or indicators within a major component (e.g., weight for the major component socio-demographic profile is $4 \times 1/36$). Each of the sub-components was measured on a different scale with first standardized as an index using Equation (1). The equation used for this conversion was adapted from the Human Development Index (UNDP, 2007) to calculate the life expectancy index. Afterward, the following equation (2) was used in measuring both the LVI (Okafor, *et al.*, 2017; Asmamaw, *et al.*, 2019).

$$\text{Index (DBx)} = \frac{\text{DBx} - \text{Dmin}}{\text{Dmax} - \text{Dmin}} \quad (2)$$

where **DBx** is the observed (actual value) of sub-component of indicator for the household and **Dmax** is maximum value and **Dmin** is the minimum value for each subcomponent. For example, the “average number of dependent people in a household” subcomponent in the SDP major component ranged from 0 to 7 in the four villages we surveyed. These minimum and maximum values were used to transform this indicator into a standardized index so that it could be integrated into the SDP component of the LVI. For variables that measured frequencies, such as the “percent of households’ heads reporting no primary education,” the minimum value was set at 0 and the maximum at 100. The maximum and minimum values were also transformed following this logic (Hahn *et al.*, 2009 and Adu *et al.*, 2018). Subsequently, Equation (3) was used to standardize these sub-components. Once each component was standardized, the subcomponent was averaged using Equation (2) to calculate the value of each major component:

$$\text{JDx} = \frac{\sum_{i=1}^n \text{IndexDxi}}{N} \quad (3)$$

Where JDx equals one of the major components for a household of Msimbati, the IndexDxi represents the subcomponents, indexed by i, which makes up each major component, and n is the number of subcomponents in each parent component. Once values for each of the major components for a household were calculated, it was averaged using Equation (4) to obtain the LVI at the household level. The LVI is scaled from 0 (least vulnerable) to 1 (most vulnerable). The household-level LVI was calculated as the weighted average of the eight major components.

$$\text{LVIDx} = \frac{\sum_{i=1}^8 \text{Wmi} \cdot \text{MDx}}{\sum_{i=1}^8 \text{Wmi}} \quad (4)$$

which can also be expressed as:

$$\text{LVIDx} = \frac{\text{WSDP} \cdot \text{SDPx} + \text{WLS} \cdot \text{LSx} + \text{WLA} \cdot \text{LADx} + \text{WFS} \cdot \text{FSx} + \text{WWS} \cdot \text{WSx} + \text{WPF} \cdot \text{PFx} + \text{WHS} \cdot \text{HSx} + \text{WGDx}}{\text{WSDP} + \text{WLS} + \text{WLA} + \text{WFS} + \text{WWS} + \text{WPF} + \text{WHS} + \text{WG}} \quad (5)$$

where LVIDx is the livelihood vulnerability index for a household of Mtwara Rural District, and the weight of the major component, Wmi, was determined by the number of subcomponents that make up each parent component, for example, SDP has four sub-components, so WSDP was 4. Weights are included so that all subcomponents contribute equally to the overall LVI (Hahn, *et al.*, 2009 and Adu *et al.*, 2018). In this paper, the LVI was scaled from 0 (least vulnerable) to 1 (most vulnerable). Microsoft Office Excel 2019 was employed to estimate the LVI as described by Hahn, *et al.*, 2009).

IPCC Framework for Calculating LVI

The alternative way for calculating LVI incorporated the IPCC vulnerability definition by grouping the eight major components under exposure, sensitivity, and adaptive capacity. Each major component comprised several subcomponents or indicators the same as in LVI. Similarly, equations 1-4 were used to calculate the LVI-IPCC. Instead of using one weighted average as in LVI approach, this method calculated three weighted averages of the major subcomponents according to the three contributing factors explained using equation (6).

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$$CF_h = \sum_{i=1}^n wM_i M_{hi} / \sum_{i=1}^n wM_i \quad (6)$$

Where CF_h is an IPCC- defined contributing factors (exposure, adaptive capacity and sensitivity) for

	Msi mbat i	Mtan di	Nami ndon di	Mng oji	Major Compo nents	Msim bati	Mtan di	Nami ndon di	Mng oji
Subcomponents									

household, M_{hi} are the major components for households indexed by I ; wM_i is the weight of each major component, and n is the number of major components of each contributing factor. Once exposure, adaptive capacity and sensitivity are calculated, the three contributing factors are combined using equation (7).

$$LVI-IPCC_{NR} = (eNR - aNR) *SNR \quad (7)$$

LVI-IPCCNR = (exposure – adaptive capacity) *Sensitivity

Where $LVI-IPCC_{NR}$ is the LVI for household NR expressed using the IPCC vulnerability framework, eNR is the calculated exposure score for household NR (equivalent to Natural resource). Also, aNR , is the calculated adaptation capacity score for household NR. (weighted average of socio-demographic, livelihood strategies and social networks major components), and SNR is the calculated sensitivity score for household NR (weighted average of the health, food and water major components). The LVI-IPCC index is scaled -1 (least vulnerable) to 1 (most vulnerable). Microsoft Excel 2019 was used in estimating LVI as described by Hann, *et al.*, (2009).

One major limitation of this method is the use of equal weights. Not only the sub-components but also the major components are weighted equally. Eakin and Bojorquez-Tapia (2008) use a fuzzy logic method for deriving unequal weights on the factors. Vincent (2007), on the other hand, suggested the use of expert opinions in determining the weights. As pointed out by Asmamaw, *et al.*, (2019), the indicators (major and subcomponents) oversimplify a complex reality and there is inherently no straightforward way to validate indices comprised of disparate indicators. Also, as the sub-components are averaged into one major component score, the indexing approach does not incorporate variance between study populations. The selection of sub-components and the assignment of directionality from less to more vulnerable involves normative judgment.

2.5.3 Major Components and Sub-Components comprising the livelihood vulnerability index (LVI)
 In this paper, we have considered eight major components as shown in Table I. The figures in parenthesis indicate the number of sub-components that belong to the respective major component. For example, the major component social and demographic profile (SDP) has four sub-components and each of the subcomponents is described in subsequent columns.

Table 1: Indexed sub-components, major component and overall LVI for the study area

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Dependency level	0.004 6	0.004 3	0.003 5	0.003 8					
Percentage of female headed household	0.369	0.462	0.538	0.415	Socio-Demographic profile	0.239 58	0.306 8	0.275 1	0.28 38
Average years of schooling	0.353 8	0.53	0.358 8	0.456 4					
Percentage of households where head of the household had not attended school	0.231	0.231	0.2	0.26					
Percentage of household with Salaried employment	0	0.015	0	0.031					
Number of household members with assistance from gas extraction investments	0.015 7	0	0.073 3	0.26					
Percentage of households with family members working with Gas extraction investment	0.011 2	0.011 2	0.016 5	0.040 9	Livelihood Strategies	0.255 8	0.270 5	0.377 3	0.33 74
Farming + Fishing (CROP PRODUCTION)	0.713 9	0.742 9	0.955 6	0.748 8					
Percentage of households solely dependent on agriculture as source of income	0.538	0.583 3	0.841 0	0.606 4					
Percentage of household who receive remittances	0.016 5	0.022 9	0.005 1	0.028 4					
Average number of household members without assistance from any organisation	0.107 8	0.253 3	0.12	0.152 5	Social Networks	0.049 1	0.112 1	0.057 3	0.08 71
Percentage of households who are members of association	0.022 9	0.06	0.046 7	0.080 5					
Average number of meals	0.385	0.375	0.525	0.375					
Average number of households skipping a day without eating	0.583 3	0.742 9	0.606 4	0.606 4					
Average number of households reducing meals portion size	0.423 2	0.641 3	0.496 2	0.459 3					
Whether in the previous four weeks they had been worried that they would not have enough food	0.407 0	0.657 8	0.632 6	0.477 4	Food	0.340 9	0.411 7	0.350 8	0.29 72
Whether in the previous four weeks they had not been able to eat kinds of foods	0.18	0.18	0.169 7	0.289 2					
Average size of land owned	0.182 7	0.028 9	0.274 2	0.153 3					
Average sizes of land (acres) that households lost due to extractive investment operation	0.015 4	0.097 7	0.020 5	0.103 9					
Average size of land owned for crop production	0.182 7	0.030 5	0.271 2	0.144 1	Land	0.085 4	0.039 4	0.122 4	0.08 39
Average size of land owned for livestock production	0.015 4	0.04	0.046 2	0.018 5					
Percentage of households using only gas energy for cooking	0.031	0	0	0					

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purposes									
Average distant from home to water source	0.106	0.283	0.289	0.100					
	9	4	4	5					
Average time from home to water source	0.157	0.329	0.428	0.290					
		1	4	3					
Average time from home to gas extraction processing plants	0.527	0.906	0.127	0.101	Water	0.364	0.428	0.300	0.24
	2	6	3	4		3	8	3	07
Average amount of money spent on drinking water in the last 12 months	0.215	0.015	0.051	0.163					
	1	4	3	9					
Percentage of households that do not have consistent water supply	0.958	0.807	0.561	0.330					
	3	5	2	6					
Percentage of households that utilise natural water source	0.221	0.231	0.344	0.457					
	1	4	3	4					
Number of households who do not have toilet facilities	0.034	0.005	0.005	0.005	Health	0.133	0.091	0.164	0.10
	0	1	1	1		96	2	5	62
Average distance (m) from home to health facility	0.233	0.177	0.324	0.207					
	9	3		4					
Number of household members without assistance from gas extraction	0.107	0.253	0.12	0.135					
	8	3		6					
Number of household members not employed by gas extraction	0.807	0.878	0.841	0.878					
	5	9	0	9					
Number of households succumb by fire during gas exploration process	0	0	0.219	0.374					
			7	6					
Number of households damaged due to gas extraction operations	0.031	0.015	0.215	0.277	Gas Extract ion and their impact	0.173	0.193	0.291	0.38
						1	7	6	5
Number of conflicts reported due to gas extraction operations	0.046	0	0.323	0.6					
Number of violence reported due to gas extraction operations	0.046	0.015	0.031	0.046					
						0.002	0.003	0.020	0.04
Overall LVI						45	9	9	33

Source: Filed survey, (2020)

Results and Discussions

We present the results in three sections. The first part deals with comparing and contrasting the livelihood vulnerability index of the closer and away villages by using the major components and sub-components. The second part addresses the comparison of vulnerability by socio-demographic and economic variables. Finally, results on the association between the extent of livelihood assets vulnerability to and gas extraction operations and socio-demographic and economic variables are presented.

Community Members' Assets Vulnerability to Gas Extraction Operations

Three household groups were explored from the analysis of the livelihood vulnerability index: (i) lowest vulnerable households who can cope with the vulnerable situation; (ii) slightly lower vulnerable households who require temporal assistance for coping with gas extraction operations; and (iii) the highest vulnerable who needs to be targeted for mobilizing assets to adapt immediately (Opiyo, 2014).

Livelihood Vulnerability Indices by Major Components among the Villages

Table 2 represents the score of the sub-components of the LVI for each village. The results revealed that the vulnerability indices of the major component ranged from (0.01407) lowest vulnerable to (0.504)

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highest vulnerable. The overall indices of livelihood vulnerability of major components in the study area reveal that water ratio index was highest (0.50383) followed by Natural capital (Land) by (0.4303). It is slightly lower in the livelihood strategies, social networks, healthy and gas extraction. It is lowest for socio-demographic (0.01407) see Table 2 below.

Table 2: The Livelihood Vulnerability Indices of the major components in Mtwara district

Major components	Components	Overall	Msimbati village	Mtandi village	Namindondi village	Mngoji village
Adaptive capacity	Socio-demographic	0.01407	0.239581	0.306833	0.275067	0.283808
	livelihood strategies	0.32203	0.255778	0.270483	0.377282	0.337416
	Social networks	0.20359	0.049063	0.112083	0.057263	0.087127
	Natural capital (land)	0.4303	0.085436	0.03943	0.122413	0.083939
Sensitivity	Food	0.10278	0.340936	0.41174	0.350831	0.297229
	Water	0.50383	0.364278	0.428897	0.300312	0.240712
	Health	0.2862	0.133966	0.09115	0.164525	0.106234
Exposure	Gas extraction	0.2115	0.173046	0.193713	0.291624	0.385347
	Livelihood Vulnerability Index (LVI)	0.0201	0.00245	0.003921	0.020868	0.043339

Source: Household field survey, 2020

Livelihood Vulnerability Indices by Socio-Demographic Profile

The sociodemographic profile of local community's households considered by this paper consisted of four subcomponents, namely; dependency level, percentage of female headed households, average years of schooling and percentage of households where heads of the household had not attended school. The socio-demographic profile ratio index was recorded highest for Mtandi (0.30683) and the lowest for Msimbati (0.23958). It was slightly higher in closer villages of Namindondi (0.27507) and Mngoji (0.28381). The per cent of household heads with dependency level (percentage of population below 15 and above 60 years) was recorded highest for Msimbati (45.75%) and the lowest for Namindondi (35.16%). It was slightly higher at the other two villages of Mtandi (43.3%) and Mngoji (38.7%). Namindondi respondents reported a higher (53.8%) proportion of female headed households if a male head was away from home (>3 months) per year than the other villages, where it was relatively higher while comparing with 10% nationally (NBS, 2014). Remarkably, the proportions of total female-headed households in the other three villages were high; i.e. 36.9% in Msimbati, 46.2% in Mtandi and 41.9% in Mngoji, compared to the national average (URT, 2012). After the introduction of gas extraction operations in the study area, male household heads have been migrating outside the community in search for new opportunities. Indeed, agriculture-based work opportunities have become scarce because of gas extraction activities done in the area, and thus some male workers have left the areas. This result is contrary to the study done by Mensah, *et al.*, (2020) who reported that about (73%) percent of sampled households were headed by males while (27%) percent were headed by females in Pru East district of Ghana. He also reported that, Kobre community had the highest number of households headed by males (94%) and households headed by females (29%). In the literature, extractive investment has an inconsistent high effect on the livelihood of households headed by females than households headed by males.

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Mngoji village has recorded slightly higher in percentage of households where household head has not attended school and the lowest for Namindondi (20%) and other two villages of Msimbati (23.1%) and Mtandi (23.1%). The computed index of (0.26) implies that gas extraction operations have a moderate effect on the livelihood of farming household as a results of household heads not attending school. Uneducated household heads lack understanding of certain issues that affect the livelihood of their households. In a typical rural Tanzanian society, females are marginalised in vital decision making and also resource distribution which adversely impacts on their livelihoods.

On mean years of schooling (Years that a 25-year-old person spent in schools), the results show that the highest mean years of schooling was recorded for Mtandi (5.83 years) and the lowest was for Mngoji (5.02 years). It was slightly higher for the other two villages of Msimbati (5.66) and Namindondi (5.74). This imply that household's heads from away village of Mtandi are more literacy compared to closer villages of Namindondi and Mngoji hence it reveals that gas extraction operations have a moderate impact to closer village. Formal education tends to improve the ability of local communities' households to better appreciate issues troubling them and, therefore, look for possible solutions in the appropriate places (Etwire, *et al.*, 2013). The literacy level of rural communities is considered to help ascertain the level of skills and education among the rural people. Deressa, *et al.*, (2008) argued that communities or nations with high level of knowledgeable people are considered to have greater adaptive capacity than those with low literacy level. Illiteracy limits the households in local communities from accessing information, especially the information presented in written sources. This, consequently, increases their vulnerability to gas extraction operations.

The dependency ratio index was recorded highest for away village of Mtandi (0.30683) and the lowest for Msimbati (0.23958). It was slightly lower for the two closer villages of Namindondi (0.27507) and Mngoji (0.28381). This could be explained by the fact that the population proportions under 15 and over 60 years that were dependent were greater in Mtandi than in other villages in the study area. Households with lowest dependency ratio and lack the financial assistance to hire labor are likely to be restricted from adaptation practices that will mitigate the impacts of gas extraction operations in order to reduce the vulnerability in their households and the community at large (Abaje, *et al.*, 2014).

Livelihood Vulnerability Indices by Livelihood Strategies

The second major component was livelihood strategies which consisted of five sub-components (percentage of household with wage salaried employments, number of household members with assistance from gas extraction investments, per cent of households with family members working with gas extraction investment, per cent of households dealing with farming and fishing only as livelihood strategies and per cent of households that reported agriculture as their only source of income). When all the sub-components were aggregated, the closer village of Namindondi was recorded highest vulnerable with an index of (0.377282) and lowest for away villages of Msimbati and Mtandi with an index of (0.255778) and (0.270483) respectively. It is slightly higher vulnerable for Mngoji with an index of (0.337416). This imply that with regard to livelihood strategies indices, the closer to gas processing plant households are more vulnerable compared to the away villages. Closer village of Mngoji with and index of (0.031) showed more vulnerability based on the per cent of households with wage salaried employments than the other three villages, and the lowest vulnerability was recorded for Namindondi (0.00) and Msimbati (0.00) villages. The vulnerability was slightly higher for Mtandi village with an index of (0.015). This signifies that more households had some members working in a different community (closer with 31%) and (away with 15%). Wage salary generally provides access to markets, farm inputs, technology and other resources that can be used to reduce gas extraction operations effects (Gbetibouo, *et al.*, 2010). Based on this, rural communities in Namindondi and Msimbati villages with lowest level of vulnerability (0.000) are most likely to reduce the impacts of gas extraction operations more strongly than communities in Mngoji and Mtandi villages with higher level of vulnerability, and will likely be the most threatened to the impacts of gas extraction operations in terms of wage consideration.

In terms of per cent of households with assistance from gas extraction investors, closer villages reported the slightly higher percentage households (24.0%) with assistance from gas extraction investors and the

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lowest percentage households (5.5%) with assistance from gas extraction investors was for away villages. This was crucial to the survey on livelihood because it exposed a glaring inconsistency on how the gas operations interact with the local populace. The discussion then turned towards the issue of job opportunities available for the residents and more specifically the youth in the area. Furthermore, it shows a negligence on the part of the investors in building proper infrastructure and social service buildings such as schools, dispensaries, water projects. The Gas investors have done some improvements in the case of distributing desks to all primary schools within the Madimba and Msimbati wards in 2019. Msimbati Primary school also got 2 new classrooms and another 2 in 1 teacher building all of which were completed in 2019. In addition to this they have built one Maternity wing in the local village dispensary and gas plant also offered 34 beds this year 2020 as explained by one of key informant.

“.....There is only 1 person currently in the employ of the gas plant as a security guard, the only available work offered to residents at the beginning of the project were menial tasks such as cleaning, cooking and house maintenance...” (KII no 1, male, 62 years old, Msimbati village).

Upon further inquiry on why this is the case another key informant offered a response;

“.....The reason that our youths are no longer been employed in the plant is Nepotism. We are seeing an abnormal influx of new faces from all over the country whilst our own people have been completely neglected.” (FGD no 1, female, 54 years old, Msimbati village).

However, the computed indices of households that reported at least one family member working with gas extraction investment to earn wages was higher for Mngoji (0.04086) and lowest for the other two villages of Msimbati (0.01122) and Mtandi (0.01122), while it was slightly higher for Namindondi (0.01649) village. This imply that local community's households in all the study villages in Mtwara rural district as whole experience low level of family member working with gas extraction investment to earn wages. This might be caused by lack of professional skills needed by gas investors. This showed that less than 0.1% of the local residents are benefiting from the employments that should have been made available to the populace in accordance to the National Gas Policy of 2015.

In terms of per cent of households dealing with farming and fishing only as their livelihood strategies, Namindondi and Mngoji which had almost (100%) of households. It was slightly higher for away villages of Mtandi (89.2%) and Msimbati (87.8%). This imply that the main activities for livelihood of the people of the study area are farming and fishing specifically cashew nut and Cassava farms, their main market being local consumption and Mtwara Municipality.

In terms of the per cent of households which depended solely on agriculture as a source of income, the higher per cent was recorded for Namindondi (93%) and the lowest for Msimbati (79.7%). It was slightly higher for the other two villages of Mngoji (81.5 %) and Mtandi (83.2 %). This imply that the slightly changes in percentage is due to the fact that the majority (above 80%) of local community's households are both fisherfolks and farmers. During high tides they all went for fishing and during low tides they all shift for farming. Closer villages showed greater vulnerability with an index of (0.7237) based on average agriculture livelihood activity compared to away villages with an index of (0.5607). This implies that the households in away villages practised more diversified agricultural activities compared with the closer villages. This finding suggests that the fewer agricultural activities a household was engaged in the more vulnerable it was to gas extraction operations. This is due to the fact that diversifying livelihood activities (such as sea shells collection, petty business, crop sales and wages labour) enables households to move to a higher income level which would further facilitate acceptance of gas extraction operations in the study area.

Livelihood Vulnerability Indices by Social Network

The social network component consisted of three sub-components (average help received and given by households in kind, percentage of household who receive remittances, average number of household members without assistance from any organisation and percentage of households who are members of association). When all the sub-components were aggregated, the social network ratio indices were recorded highest vulnerable for closer village of Mngoji with an index of (0.087127) and the lowest

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vulnerable for away villages of Msimbati with an index of (0.049063) and Mtandi with an index of (0.112083). It was slightly higher vulnerable for Namindondi (0.057263). This imply that gas extraction operations had effects on social network indicators.

In terms of the per-cent of household heads who received remittances from different places and relatives, closer village of Mngoji was reported the highest vulnerable recipient with an index of (0.02842) while the lowest vulnerable recipient was Namindondi village with an index of (0.00505). In the other away villages, the receipts were slightly higher vulnerable with an index of (0.01649) for Msimbati and with an index of (0.02292) for Mtandi. This imply that household heads closer to gas extraction investment had no option when it comes to the issue of migrating to other areas for job search because they lack skills and capital. They are denied to fish and farm near gas extraction wells and gas processing plant.

The per cent of household heads without assistance from any organisation was reported the highest vulnerable for Mtandi (0.25333) and the lowest vulnerable for Msimbati (0.10778). It was slightly higher vulnerable for the other two closer villages of Namindondi (0.1200) and Mngoji (0.1525) respectively. However, the computed indices showed that local community's households in all villages of the study area experience low assistance from both local government authorities and the gas extraction investors. These villages did not approach their local authorities for any assistance. As agreed in the FGD that:

“There is poor relationship between government and the entire community because we community members know nothing going on in the area. For sure we can say there is very poor relationship between local government and us as community members regarding the natural gas operations in our area” (FGD no 2, Mtandi village, 17:09:2020).

Another key informant also supported the foregoing views by saying that:

“...I have not to my knowledge seen any active community involvement in the gas operations decision making process however, I am not fully familiar on how to get about doing this however.” (KII no. 6, 58 years old, female, Msimbati village, 21:09:2020).

When it came to the per cent of households which were members of any association during the survey, it was found that closer village of Mngoji (0.08046) were recorded highest vulnerable and lowest for Msimbati (0.02292). Slightly higher vulnerable for Mtandi (0.06) and Namindondi (0.04674). These results imply that even, though the households in the local communities of the four villages received help, they preferred seeking assistance from their friends and relatives rather than from local government authorities. This indicates the importance of social and natural capitals on livelihood vulnerability to gas extraction operations. Findings revealed that local communities' households who were classified closer to gas processing plant had lower participation in community activities and got less support from social networks than members of away villages. It could be concluded that social networks can empower local communities' households and help them to mitigate the livelihood vulnerability in the context of gas extraction operations.

Livelihood Vulnerability Indices by Land

When it comes to the livelihood vulnerability by land which consisted of five sub-components: (average size of land owned; average sizes of land in (acres) that households lost due to extractive investment operations; average size of land owned for crop production; average size of land owned for livestock production and percentage of households using only gas energy for cooking purposes). When all the results of the sub-components were aggregated, closer village of Namindondi with an index score of (0.12241) was found to be highest vulnerable to land and away village of Mtandi with an index of (0.03943) was recoded lower vulnerable. The vulnerability was slightly lower and almost the same for the other two villages of Msimbati and Mngoji with an index sore of (0.085). This imply that villages near gas processing plant of Madimba are more vulnerable than away villages. Further results stated that limited access to physical (farm lands, livestock and on-farm infrastructures) and natural resources increased the livelihood vulnerability of local communities to gas extraction operations.

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The size of farm land owned by a household also determines the extent to which households' livelihoods are adversely affected by extractive investment operations since there are still no enough farm land for cultivation by the household after surrendering part of their lands to extractive investors and TPDC. The minimum and maximum land owned by sampled households was 1 acre and 10 acres respectively while the average land owned by households was (2.995) acres. The minimum and maximum size of land lost by households to gas extraction investors were 0 and 10 respectively. Averagely, each household lost 1 acre of land due to gas extraction investors. The average sizes of land (acres) that households lost due to extractive investment operation was recorded highest for Mngoji village with an index score of (0.6231) and lowest and the same for the two villages of Msimbati and Namindondi with an index score of (0.0154). This reflects a typical smallholder farmer in Tanzania. Similarly, number of acres of land lost by local households due to gas extraction investors influences the magnitude of effect on households' livelihoods. The index of (0.6231) computed for the closer villages to gas processing plant of Madimba ward suggests high effect of gas extraction investment operations on natural sources in the district. Losing possession of these natural resources to gas extraction investors is synonymous with losing entitlement to, control of and benefit derived from these natural resources, thereby interpreting local community's households' closer to gas processing plant more vulnerable. Mutopo *et al.*, (2015) found that in Mwenezi, Zimbabwe Bio Energy company used a fence to ensures its' exclusive access to water because the company assumed legal exclusive ownership of the natural resources on the land including water bodies. Neighbouring communities were therefore restricted from accessing water resources within this vicinity. Land dispossession was also reported in one of the FGD that;

"... Our land has been taken by the gas investors and TPDC for low price that was not sufficient, as a result we are now extremely poor and most of us do not even have land to farm and carry out our activities, our local government authorities were doing nothing to help us and we don't know what to do..." (FGD no 3, Mngoji village, 03:09:2020).

The percentage of households using only gas energy for cooking purposes was reported highest for Msimbati village (3.1%) and (0.0%) for the remaining three villages of Namindondi, Mngoji and Mtandi of which gas extraction investment would have done some effort to supply gas energy for cooking instead of sending it in Dar es salaam. All farming and fishing households in local community of Mtwara rural district depend on only forest-based energy such as charcoal and fire wood for cooking. This suggests that households in the closer villages of Madimba ward are the worst affected with gas extraction operations. The computed index for the Mtwara rural district (0.031) implies a high effect of gas extraction operations on local households' source of forest-based products for cooking. When lands are acquired by gas extraction investors, households are expelled from felling trees on such land for firewood and charcoal burning which they use for domestic cooking. Again, all local community's households in closer (Madimba) and away (Msimbati) wards reported depletion in their forest products due to gas extraction operations by gas investors. This suggest that gas extraction operations have a high impact on the depletion of forest products in Mtwara rural district. This was supported by KIIs that;

"We were still piss poor and we are even worse off nowadays because most of the land we depended for livelihoods has been grabbed by the gas company and Tanzania Petroleum Development Cooperation (TPDC) at a low price. It would have been better they didn't come to invest here." (KII no 4, male, 64 years old, Mngoji village, 18:10:2020).

Other focus group participants also supported the foregoing views by saying that:

"Most of land owners sold their land to the investors at a very low price such that all the money is now gone and there is nothing to show for it" (FGD no 2, Namindondi village, 22:09:2020).

"For sure we need more of the land taken from us by the gas investors to either be returned or we be compensated properly because most of us depend on land for our daily bread" (FGD no 1, Msimbati village, 17:10:2020).

Livelihood Vulnerability Indices by Food

With regard to livelihood vulnerability to food, when all the results of the sub-components (average number of meals; average number of households skipping a day without eating; average number of

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households reducing meals portion size; whether in the previous four weeks they had been worried that they would not have enough food; whether in the previous four weeks they had not been able to eat kinds of foods) were aggregated, away village of Mtandi found to be more vulnerable with an index score of (0.41174) and the lowest vulnerable was closer village of Mngoji with an index score of (0.297229). The vulnerability was slightly lower and the same for other two villages Msimbati and Namindondi with an index score of (0.350831).

The average numbers of meals per day that households obtained was the same for the four villages (approximately two meals per day). Food security improves a household's flexibility to external stresses, including extreme gas extraction operations (World Bank, 2015). This is due to the fact that, as individuals, communities, and countries get access to quantities of good quality food, there are falling real prices which increase their real incomes. The per cent of household heads that reported to skip a day without eating was highest for Mtandi (89.2%) compared to other three villages where the per cent of households which were skipping meals (ranging from 80%). This imply that the inception of gas extraction operations in the study area made changes or had an impact on food security because local community's households claimed to leave their land to pave the way for gas extraction investment operations. Local communities were both farmer and fisherfolks before inception of gas extraction but nowadays they are not allowed to enter into ocean for fishing activities and other area has taken by TPDC as their reserves where local communities are not allowed to cultivate, prepare farms or burn at any cost.

This was agreed by the focus group participants that:

“Cashew nut farmers and artisanal fishermen were the main activities undertaken among other things before gas extraction operations, but since inception of gas extraction in the area we are strictly prohibited to fish and cultivate near gas extraction wells and pipes” Their operations resulted into water contamination, the killing of flora and fauna, plant shrinks thus made our food security drop up to single meal per day (FGD no 4, Namindondi village, 12:11:2021).

As one of the informants added that:

“We mainly subsistence farmers cultivating only enough to feed us hand to mouth and thus are quite poor. (KII no 1, male, 58 years old, Mtandi village, 14:12:2020).

Reducing meals portion size was highest for Mtandi with an index score of (0.6413) and the lowest for Msimbati (0.42321). It was slightly lower for the other two closer villages of Namindondi (0.49615) and Mngoji (0.45926). However, based on the index scored for food as a major component, Msimbati village was the highest vulnerable. Interview was done to know whether a household had not been able to eat the kinds of foods they liked in the previous four weeks. The results revealed that Msimbati village was less vulnerable. This could be attributed to the fact that the households have access to land under different arrangements (leased land, or rented, and family land). This facilitates the production of different crops, and thereby reducing households' vulnerability to gas extraction operations.

Livelihood Vulnerability Indices by Water

The percentage of household heads that utilized natural water (unprotected source) is recorded highest at Mngoji (70.7%) as their primary water source and lowest at Msimbati (44.7%). Utilization of a natural water source, such as unprotected wells, rivers, dam or ocean among others, had a higher probability of leading to an increase in a household's vulnerability to waterborne diseases and water scarcity during the dry season. This is in line with the study done by Etwire *et al.*, (2013) on Smallholder farmers' adoption of technologies in Northern Ghana. Due to the un availability of pipe and bore holes in both villages, the households were affected much during the dry season when most natural water sources (basic, limited, un-improved and surface) water tended to dry up and contaminated with chemicals from gas processing plant. This imply that closer villages to gas processing plant had affected more with gas extraction operations due to the fact that water sources might be easily contaminated with wastes and chemical produced by gas investment operations and during cleanliness of gas tanks than away villages.

One-third of respondents spent at most 29.68 minutes to reach the nearest water source and more than three-fifth spent more than 46.11 minutes. The findings also reveal that local communities' households do

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walk longer distance from home to water sources. The maximum distance was recorded for away villages of Msimbati 1372 metres and Mtandi 960.6 metres, the shorter distance was recorded for closer villages of Namindondi and Mngoji 736.76 metres. This is contrary to the National Water Policy (NAWAPO) of 2002 which set a goal of providing clean and safe water to the population within 400 meters of their households by 2002 (URT, 2002). It is also contrary to Tanzania household budget survey (THBS) of 2017/18 which shows that only one-fourth of households by distance from home to water sources within 500 metres in Mtwara region. This task increased time available for the burden of household responsibilities and strongly affected time for upkeep in the case of the women and school attendance in the case of the children.

Despite major effort by the Government to ensure communities in rural areas have access to clean and safe water, the country is experiencing a number of challenges that include; pollution and degradation of water sources; inadequate treatment of water for domestic uses; low awareness of household on water treatment and safe storage. Similarly, the impact of gas extraction operations can manifest through a number of ways including increased water contamination with chemicals and lack of water for hygiene during its operations. This is contrary to the study done by Adu *et al.*, (2017) on assessing smallholder maize farming households' vulnerability to water resources in Brong-Ahafo region of Ghana, which found that the availability of pipe and bore holes in both municipalities, the households were not affected much during the dry season when most natural water sources tended to dry up, this was also supported by a fifty-seven years KII as follows:

“The sources of water are local hand dug wells and streams which are not exactly safe in my opinion and are quite far from residents. We have no central water supply system in place and the gas investment should help us do it.” (KII no 7, female, 57 years old, Namindondi village, 19.12.2020).

This is not in line with the Sustainable Development Goal (SGD 6) Safe and affordable drinking water for all by 2030 require investing in adequate infrastructures, providing sanitation facilities and encouraging hygiene. It also requires protecting and restoring water-related ecosystem.

For average distance from home to gas processing plant it is reported that away villages of Msimbati and Mtandi had highest distance from home to gas processing plant of Madimba (20581.5 metres) and (20010.9 metres) respectively than Namindondi which reported a slightly lower distances (3074.5 metres) and lowest for Mngoji village which reported (774.2 metres). This imply that the shorter the distance to gas processing plant the higher the vulnerability the households became.

Livelihood Vulnerability Indices by Health

The health component consisted of three sub-components (percent of households which did not have toilet facilities and average distance (m) from home to the nearest health facility and percentage of households with family member suffering from chronic illness). When all the sub-components were aggregated, a closer village of Namindondi was recorded highest vulnerable (0.164525) while away village of Mtandi was recorded lower vulnerable (0.09115). The findings also show that away villages of Msimbati and Mtandi had greater vulnerability (0.03404) for the households who did not have toilet facilities than closer villages of Namindondi and Mngoji (0.00505). Closer villages had higher vulnerability (0.324) on the average time a household took to reach the nearest health facility than away villages (0.23389). Inadequate access to health services tends to decrease the health status of the household in local communities, thereby increasing their household vulnerability (Sujakhu *et al.*, 2018). This imply that local communities had to travel for about 20km to reach a nearby health centre which is located in Msimbati ward thus results to women, children and elderly more vulnerable. Other FGD also supported the foregoing views by saying that:

“We have just one dispensary which we are building by our own efforts, that is still under slow construction we are not sure if it will ever be completed any time soon, we would like to see it completed and staffed adequately. We really need good health care because these gas extraction operations could be killing us without our knowledge” (FGD no 8, Mngoji village, 23:11:2020).

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Livelihood Vulnerability Indices by Gas Extraction Operations

The LVI by gas extraction operations consists of six sub-components (per cent of household members who did not receive any assistance from gas extraction investment, per cent of household members not employed by gas extraction investment, per cent of households which had succumbed to fire during gas exploration process, per cent of houses damaged due to gas extraction operations, per cent of conflicts due to gas extraction operations reported, and per cent of violence due to gas extraction operations reported). When all the components were aggregated, closer village to gas processing plant of Mngoji showed highest level of vulnerability with an index score of (0.385347), slightly lower for Namindondi with an index score of (0.291624) and lowest for away villages of Msimbati and Mtandi with an index score of (0.173046) and (0.193713) respectively. This imply that local communities in the study area were denied employment and their environment were disrupted by gas extraction operations, this was supported by one key informant that:

“Investors were using Gunpowder to blast holes into the earth while building gas wells and pipelines, they were also dumping toxic wastes (mud) into the deep ocean. We are worried it has had an effect on soil, environment, and marine ecosystem because we are seeing a rapid drop in fishing and crops yields over the current years...” (KII no 2, male 63 years old, Mngoji village, 22.12.2020).

In terms of proportions of household members who did not receive any assistance from gas extraction investment, majority 99% of respondent in the study area did not receive any assistance from investors. Both closer villages recorded almost the same highest index value (0.87895) of vulnerability for household members not employed by gas extraction investors. Closer villages to gas processing plant of Namindondi and Mngoji were recorded highest level of vulnerability with an index score of (0.21972 and 0.37458) respectively.

In terms of the proportions of the numbers of households which succumbed to fire during gas exploration processes, the per cents were higher for closer villages (44.6% and 63.1%) and lower for away villages. Closer villages of Namindondi and Mngoji recorded higher vulnerability (0.215 and 0.277) with (21.5% and 27.7%) of houses having been damaged due to gas extraction operations. The away villages recorded less vulnerability (0.031 and 0.015) with (3.1% and 1.5%) of houses having been damaged due to gas extraction operations. This imply that away villages did not succumb by fire thus less vulnerable compared to closer villages.

In terms of conflicts reported due to gas extraction operations, the closer village to gas processing plant recorded the highest vulnerability (0.60) while the lowest vulnerability was found for away villages with an index score of (0.00). Therefore, away villages to gas processing plant recorded less vulnerability due to conflicts which resulted from the gas extraction operations.

Msimbati and Mngoji villages experienced highest vulnerability in terms of violence due to gas extraction operations with an index of (0.046 and 0.046) respectively, and lowest for Mngoji and Namindondi (0.015 and 0.031) respectively. Indices recorded for houses damaged due to gas extraction operations showed that vulnerability was higher for closer villages of Namindondi and Mngoji (0.215) and (0.277) respectively and lowest vulnerable for Mtandi with an index score of (0.015). This suggests that closer villages to gas processing plant had a greater vulnerability in terms of houses damaged due the gas extraction operations than the away villages, as agreed by focus group discussion participants that:

“We have in our history witnessed multiple times some environmentally destructive events that took place courtesy of the natural gas plant; one of these is the great fires and explosions of 1986 where almost 100 houses in our village burned down. However little to no compensation was offered to alleviate the impact on the people” (FGD no 4, Mngoji village, 26:11:2020).

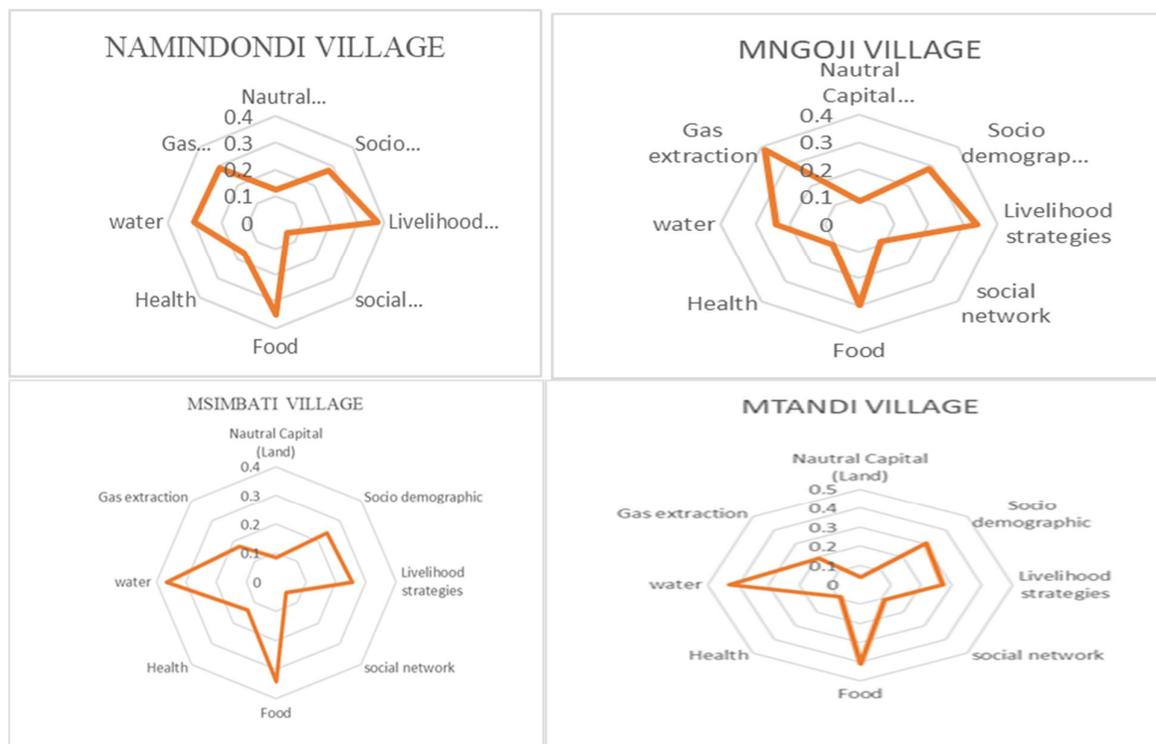
Another Key informant went on to say that:

“Most of the times while cleaning their pipes by flames thick smoke envelopes the entire village for days on end. This worries us a lot.” (KIIs no 5, female, 57 years old, Mngoji village, 23:11:2020).

The results on all the major components are summarized in Figure 2. The vulnerability spider diagram ranges between 0 (least vulnerable) and 0.6 (most vulnerable). Villages closer to gas extraction sites were

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more vulnerable in terms of adaptive capacity and exposure (socio-demographic profiles, food, livelihood strategies, social networks, and gas extraction). Villages away from gas extraction sites were more vulnerable in terms of sensitivity (natural (land), water and health), see Table 3.



Source: Computations from field survey, 2020

Figure 2. Vulnerability spider diagram on the major components of the livelihood vulnerability index (LVI) for the four villages

The Overall Aggregated LVI Values for all the Major Components in the Study Area

The Overall Aggregated LVI Values For All The Major Components For Closer Village Of Mngoji were recorded higher in vulnerability with an index of (0.043339), and lowest for away villages of Msimbati with an index of (0.00245) and Mtandi with an index of (0.003921). Slightly vulnerable for Namindondi with an index of (0.020868). This implies that overall, in terms of gas extraction operations, the closer villages to gas processing plant of Mngoji had the highest level of vulnerability compared to away villages of (Msimbati and Mtandi) which recorded the lowest level of vulnerability (see Table 4).

Table 4: Livelihood vulnerability index for Mtwara Rural District

Livelihood vulnerability index	Villages			
	Msimbati	Mtandi	Namindondi	Mngoji
Adaptive Capacity	0.165387	0.18313	0.221796	0.206082
Sensitivity	0.319867	0.370337	0.298852	0.24176
Exposure	0.173046	0.193713	0.291624	0.385347
LVI-IPCC	0.00245	0.00391	0.02086	0.04334

Source: Household survey, 2020

The results in this paper reveal that all villages where the research was done in Mtwara Rural District in the South-eastern region of Tanzania were vulnerable to gas extraction operations but the level of

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vulnerabilities varied with the distance from each village to the gas extraction processing plant. Such variations are consistent with findings of previous related studies by Asmamaw *et al.*, 2019; Huong *et al.*, 2018 and Gerlitz *et al.*, 2017 which revealed that closer communities of northern Altiplano were more vulnerable than away villages of central Altiplano in the Bolivian Altiplano Region. The results of the current study are also consistent with previous research findings regarding households' vulnerability to social capital, human capital, and natural hazards within the context of various livelihood frameworks (Panthi *et al.*, 2015; Uy *et al.*, 2011). The results also revealed that the local communities closer to the gas processing plant were vulnerable to key dimensions of all the livelihood vulnerability frameworks developed by previous research (Adu *et al.*, 2018; Tewari *et al.*, 2014). These key dimensions of the livelihood frameworks include socio-demographic profile, livelihood strategies, land, health, social network, food, water, and gas extraction. These dimensions reflect the power relations, access to water resources and health facilities, and political, social, and economic structures.

Table 5: LVI-IPCC for away and closer villages to gas processing plant in Mtwara rural district

Contributing factors	Major components	Major component values				Number of sub-components per major component	Contributing factor values		LVI-IPCC value			
		Msimbati	Mtandi	Namindondi	Mngoji		Msimbati	Mtandi	Namindondi	Mngoji	Msimbati Mtandi Namindondi Mngoji	
Villages												
Adaptive capacity	Socio-demographic	0.239581	0.306833	0.275067	0.283808	5	0.165387 0.18313 (0.221796) (0.206082)					
	livelihood strategies	0.255778	0.270483	0.377282	0.337416	5						
	Social networks	0.049063	0.112083	0.057263	0.087127	4						

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	Natural capital (land)	0.085436	0.03943	0.122413	0.083939	5	
Sensitivity	Food	0.340936	0.41174	0.350831	0.297229	5	0.319867 0.370337 (0.298852) (0.24176)
	Water	0.364278	0.428897	0.300312	0.240712	5	
	Health	0.133966	0.09115	0.164525	0.106234	2	
Exposure	Gas extraction	0.173046	0.193713	0.291624	0.385347	6	0.173046 0.193713 (0.291624) (0.385347)

Note: Values in the parenthesis are for closer villages

The overall livelihood indices LVI-IPCC of the major components for the villages away from gas extraction operations showed lower vulnerability for Msimbati (0.00245) and Mtandi (0.003921) villages while closer villages showed slightly higher vulnerability (0.020868) in Mngoji and highest vulnerability for Namindondi (0.043339). However, the empirical results from the major components implied that local communities' levels of vulnerability among households in Mtwara Rural District of Tanzania were weak to shocks resulting from access to water, food and shocks due to gas extraction operations in their socio-demographic profiles, such as dependency ratio and might require more government support to enable them cope with these shocks, as one key informant explained:

"We really don't know what to do and to be honest we are completely vulnerable to any and all environmental problems that come our way." (KIIs no 4, Male, 64 years old, Mngoji village, 17:08:2020).

Conclusions and Recommendations

Conclusions

The results in this paper revealed that all villages in Mtwara Rural District in the South-Eastern Region of Tanzania were vulnerable to the gas extraction operations. However, the current levels of vulnerability are unprecedented. It is also expected that closer and away villages to gas processing plant will encounter different levels of vulnerability and consequently experience more prolonged and severe extractive impacts on their household livelihood. Reducing the livelihood vulnerability of local communities' households and enhancing flexibility need a comprehensive understanding of livelihood vulnerability in the face of extractive investment operations. The results show that fifth-eighth of the households were highly vulnerable to gas extraction operations, suggesting they are in a state of emergency indicating that they need immediate attention and special expertise if they are to pull out of the situation, they are in. One-fourth of the households were slightly lower vulnerable, implying that in case of an external shock they would need some assistance for them to recover. Only one-eight of the households was able to cope even though they were also lowest vulnerable. The shift of a household from the state of lowest vulnerability to the state of slightly lower or high vulnerability was influenced by the different indices of the major livelihood components in the household. The overall LVI computed from the major components indicate that local community's households in closer villages of Namindondi and Mngoji were more vulnerable to gas extraction, with an index of (0.3854) while households in away village of Mtandi and Msimbati recorded lower level of vulnerability with and index of (0.015) in the study area. Results in this paper revealed that the overall aggregated LVI values which is equivalent to LVI-IPCC index for all the major components were higher for closer villages of Namindondi (0.043339) and Mngoji (0.020868) and lowest for away villages of Msimbati (0.00245) and Mtandi (0.003921) villages

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respectively. Generally, the results from study indicated that gas extraction operations are being experienced in the South-eastern of Tanzania, and local community's households are being vulnerably affected by these extractive investment operations.

Recommendations

Based on the above findings and conclusions. The levels of livelihood vulnerability to gas extractive operations are resulted from a complex interplay of various natural, physical, financial, social and human drivers. During the recent gas extractives, local communities' households in rural areas had limited livelihood options due to lower values of income and saving and limited access to job opportunities. The majority (62.5%) of households in Mtwara rural district would need external assistance in case of gas extraction operations because some households were in an emergency situation. In order to reduce levels of vulnerability of the most livelihood vulnerable local communities' households, financial support is necessary. Credit availability would enable local communities' households to get access to resources that are needed to implement certain adaptive strategies. Moreover, local governments should promote adaptation strategies that require little capital investments.

Despite the fact that investment in enhancing access to water supplies makes local communities' households in both villages less vulnerable, it would make the study area more sensitive in the face of future extractive investment effects (Keshavarz, M., 2016). When physical capitals (farm lands, livestock) are insufficient and water resources are limited, providing non-farm opportunities is imperative to help relieve the pressure of local communities in agriculture and fishing. Also, social factors such as having efficient cooperation with other farmers and fishers and getting support from social networks are shown to play an important role in reducing livelihood vulnerability. Therefore, targeting interventions should focus on prioritizing social capitals to reduce the levels of livelihood vulnerability. In this regard, empowering local communities' households to participate in social activities, improving social networks and enhancing communication infrastructures are recommended. Thus, it is suggested that key stakeholders should embark more on gas extraction operations, awareness outreach activities and workshops in the study area.

Acknowledgements

This article is extracted from research which was conducted between July and December 2020 in Mtwara Rural District where gas extraction operations in Tanzania take place. The study was fully funded by the Institute of Rural Development Planning (IRDP-Dodoma), Tanzania. The authors would like to thank Mtwara Rural District Officials. We are grateful to people in the study site of Msimbati and Madimba wards for their responses and support during the fieldwork.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Institute of Rural Development Planning (IRDP)-Dodoma Tanzania.

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Appendices

Appendix 1: Calculating the Socio-demographic Profile Major Component for the LVI for Mtwara Rural District

Sub-components for socio-demographic profile	Sub-component values for Mtwara District	Max in combined data	Min in combined data	Index value for Mtwara district	Socio-demographic major component for Mtwara district
Percentage of population below 15 and above 65	40.96	100	0	0.4096	0.322025
Percentage of female headed household	30	100	0	0.3	
Average years of schooling	5.56	16	0	0.3475	
Percentage of households where head of the household had not attended school	23.1	100	0	0.231	

Step 1 (repeat for all sub-component indicator): $index_{SDP1NR} = Index (DBx) = \frac{DBx - Dmin}{Dmax - Dmin}$
 $= \frac{40.96-0}{100-0} = 0.4096$

Step 2 (repeat for all major components): $SDPNR =$

Step 3 $JDx = \frac{\sum_{i=1}^n Index_{Dxi}}{N} = \frac{0.4096+0.3+0.3475+0.231}{4} = 0.322025$

Step 3 (repeat for all study areas): LVI_{NR}

Appendix 2: Computation of LVI-IPCC for Mtwara Rural District

Contributing factors	Major components for Mtwara rural district (NR)	Major component values for NR	Number of sub components per major component	Contributing factor values	LVI-IPCC value for NR
Adaptation capacity	Socio-demographic	0.01407	4	0.25452	-0.013597
	Livelihood strategies	0.32203	5		
	Social network	0.20359	5		
	Natural (land)	0.4303	5		
Sensitivity	Food	0.10278	5	0.3161	
	Health	0.2862	2		
	water	0.50383	6		
Exposure	Gas extraction	0.2115	6	0.2115	

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Step 1 (Calculate indexed sub component indicators and major components as shown in Appendix 1, taking the inverse of the adaptation capacity sub component indicators: Socio-demographic Profile, Livelihood Strategies, and Social Networks).

Step 2 (repeat for all contributing factors: exposure, sensitivity, and adaptation capacity):

$$\text{Adaptation Capacity}_{(NR)} = \frac{4 \times (0.01407) + 5 \times (0.32203) + 5 \times (0.20359) + 5 \times (0.4303)}{4+5+5+5} = \frac{4.83588}{19} = 0.25452$$

$$\text{Sensitivity} = \frac{5 \times (0.10278) + 2 \times (0.2862) + 6 \times (0.50383)}{5+2+6} = \frac{4.10928}{13} = 0.3161$$

Step 3 (repeat for all villages in the study areas):

$$\text{LVI-IPCCNR} = (eNR - aNR) * SNR = (0.452 - 0.439) \times (0.322) = 0.004$$

$$\text{LVI-IPCCNR} = (\text{exposure} - \text{adaptive capacity}) * \text{Sensitivity}$$

$$\text{LVI-IPCCNR} = (0.2115 - 0.25452) * 0.3161 = -0.013597$$

Appendix 3: Measurement of Variables

Predictor variables	Nature	Value	Expected sign
X ₁ = Age of the household head	Continuous	Actual age in years	+ve/-ve
X ₂ = Sex of the household head	Dummy	1 if male and 0 if female	+ if male
X ₃ = Education	Continuous	Years of schooling	+ if many years of schooling
X ₄ = Distance from home to gas extractive sites	Continuous	Actual kilometres in number	+ if shorter distance to extractive sites
X ₅ = Benefits	Dummy	Number of benefits received	+ if benefits are there
X ₆ = Households having children assisted by gas extraction investment	Dummy	1 if assisted and 0 if otherwise	+ if assisted
X ₆ = Households having a member employed in gas extraction investment	Dummy	1 if employed and 0 if otherwise	+ if employed
X ₈ = Family size	Continuous	Number of dependants per household	+ if they are few
X ₉ = Loss of farm land	Dummy	1 if yes, 0 if no	+ if a house holds lost farm land due to extractive investment
X ₁₀ = Compensation for land	Dummy	1 if yes, 0 if no	+ if a household was compensated by gas extraction investors
X ₁₁ = Access to credit	Continuous	Actual amount of credit accessed per annum	+ if access to credit
X ₁₂ = Health services	Continuous	1 if yes, 0 otherwise	+If health services are provided by gas extraction investors
X ₁₃ = Marital status	Dummy	1 if married, 0 if others	+If married

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Private Sector Inclusion in Managing Waste: Challenges and Opportunities towards Sustainable Solid Waste Management in Dar es Salaam City

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Abstract

Including the private sector in solid waste management is an alternate technique that has been used by various cities across the world to manage solid waste sustainably. This study used a qualitative case study design to explore challenges the private sector face and opportunities available towards sustainable solid waste management in Dar es Salaam City. Interviews, focus group discussions, observation, and documentary review methods were used in data collection. The qualitative content analysis was used in analysing data and descriptive statistics (frequencies) was applied to coded data to strengthen the understanding of findings. Findings of the study revealed that; ineffective decisions, lack of priority on reuse and recycling/recovery of solid waste, and ineffective contracts are the challenges that limit sustainable management of solid waste. Moreover, possibilities for the private sector to promote sustainable solid waste management exist through supporting technology for utilizing solid waste resources and linking solid waste management to other economic sectors. The study concludes that the participation of the private sector in decision-making can contribute to overcoming the existing challenges and possibilities to manage solid waste sustainably exist through promoting technology and linking solid waste management to other economic sectors. The study suggests active participation of the private sector in decision-making and improvement of contracts to accommodate sustainable solid waste management practices.

Keywords: Solid Waste; Sustainable Solid Waste Management; Private Sector

Introduction

Waste management is becoming increasingly important in urban places around the world since millions of tons of solid waste are generated every day (De Feo *et al.*, 2019). Solid Waste (SW) refers to solid items that have been thrown from their intended usage and are no longer useful to the owner (Lindell, 2012). It is estimated that world cities produced roughly 1.3 billion tonnes of solid waste per year, this number will have risen to 2.2 billion tonnes per year by 2025 (Hoorweg & Bhada-Tata, 2012). The huge increase in solid waste generation poses environmental challenges such as epidemics, ecosystem damage, soil and water contamination, and global warming, particularly if it is not managed sustainably (Ondonkor *et al.*, 2020). These challenges have made Solid Waste Management (SWM) a global environmental concern. They have also vented a need for cities in the world to adopt a sustainable approach to managing SW, which largely is possible with the inclusive approach between governments and non-governmental stakeholders such as the private sector (Allison, 2012).

Sustainable waste management means moving away from the traditional methods of collecting, transporting, and burying waste on the ground, and instead, treating it as a resource by separating waste at the source, reusing, recycling, or recovering it before disposing of it (Zhongming, 2020). Waste separation is the process of sorting out the waste that can still be used again or reused; waste reuse is making use of the waste which still has some value in it. Recycling, on the other hand, entails gathering used, reused, or unused items that would otherwise be discarded; sorting and processing them into raw materials; and then remanufacturing the recycled raw materials into new products (Zhongming, 2020). By following this approach, SW is managed sustainably because the resource in it is utilized before disposing of.

Sustainable management of SW was strongly reinforced in Agenda 21, at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil in 1992; and it is directly linked to the current sustainable development goal (SDGs) number thirteen which reinforce actions against climatic change

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and its impact (Munasinghe, 1993; Nerini, 2019). To attain sustainable SWM, different cities in the world integrated the private sector in managing SW to reduce the overwhelming burdens to local government authorities in terms of finance, technology, and human resource (Kalwani, 2017; Gelan, 2021). In this study, the private sector refers to private companies and/or informal groups contracted by local government authorities (at the municipal and ward level) to collect SW from households and the public. The private company this in study refers to registered firms held under private ownership, while informal groups are unregistered but formed by two or more people who come together to accomplish a certain task.

In Tanzania, the inclusion of the private sector in SWM started at first in Dar es Salaam City under the sustainable Dar es Salaam Project in 1994 by contracting a private company named Multinet Africa Ltd (Kassim, 2006). The aim was to make the SWM sustainable by promoting waste recycling and composting (Solomon, 2011). Later on, the sustainable management of SW and the inclusion of the private sector were legalised by the Tanzania Environmental Management Act no. 20 of 2004 (EMA) (URT, 2004; Biswas & Singh, 2021). Sections 114 and 115 of EMA – 2004 require local government authorities to engage the private sector, non-governmental organizations, and residents on proper methods for achieving source separation and waste collection (Biswas & Singh, 2021). Currently, more private operators are engaged for SWM in the municipalities of Dar es Salaam City (Kisanga, 2020).

Despite the inclusion of the private sector, Dar es Salaam City continues to experience challenges related to unsustainable waste management since the private sector only collect and transport for disposing of less than 50% of 4,161 tonnes of SW produced per day (Membe, 2012; Kimara & Mayo, 2016; Kisanga, 2020). The remaining uncollected and unattended SW is disposed of, burnt on-site, or dumped into the streets or open spaces at random. As a consequence, they continue to be sources of water pollution, odour, and annual flooding events in most parts of the city during rainy seasons, degrading the city's image (Mpuya, 2019).

Although several studies have been conducted on challenges that municipals and private sector face in SWM in Dar es Salaam City (Kisanga, 2020; Lubwama, 2017; Kirama & Mayo, 2016), little has been studied on challenges the contracted private sector faces in terms of managing SW sustainably (i.e. through SW separation, reuse, and recycling/recovery practices). Likewise, a gap exists on existing opportunities for managing SW sustainably as a result of including the private sector in SWM in the context of Dar es Salaam City. Therefore, the purpose of this qualitative case study was to explore challenges and opportunities to sustainable SWM in Dar es salaam City, given the inclusion of the private sector. Especially, it intended to answer the following questions; what challenges does the contracted private sector face in managing SW sustainably in Dar es Salaam city? And what opportunities can the inclusion of the private sector bring to managing SW sustainably in Dar es Salaam city?

Theoretical literature review

A Theory of Participation

Reed *et al.* (2018) in a new theory of participation developed four factors that explain what makes different types of stakeholders and public engagement lead to beneficial environmental and social outcomes: context, design, power, and scalar fit. The theory states that in the context factor, it is necessary to determine what type of stakeholder and public engagement approach is appropriate depending on the context. This means the approach of engaging stakeholders in SWM depends on the social, economic, and cultural aspects of a respective locality. In a design, the engagement processes that systematically represent relevant public and stakeholder interests and transparent opportunities are more likely to deliver beneficial environmental outcomes due to a wider range of information inputs and knowledge exchange. This implies that the engagement should mutually benefit both government and non-government actors.

On the power factor, the effectiveness of engagement is significantly influenced by power dynamics, thus, it is necessary to implement the design that ensures the value of every participant's contribution is recognized and everyone is given an equal opportunity to contribute. Finally, the scalar fit factor means stakeholder and public engagement must be organized and conducted at a spatial scale that is relevant to the issue and the jurisdictions of authorities or institutions that can tackle it. Scalar fir factor recognizes that some issues take a long time to bring desired results and some take less time. The application of the

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participation theory in this study is the expansion of knowledge of how the engagement of stakeholders such as the private sector and the government can facilitate desired outcome/ sustainability of SWM. The assumptions factors explained as important to be considered for beneficial environment outcome are used in this theory to widen the discussion of the findings.

Research Methodology

The Study Area and Research Design

Dar es Salaam City was selected for this study because it is Tanzania's largest city and the country's industrial and commercial hub, producing more SW. According to available data, Arusha produces only 550 tons a day, while Mwanza generates 338 tons a day, and Mbeya produces 400 tons a day (Yhdego & Kingu, 2016). On the side of Dar es Salaam, it produces 4,161 tons/day of SW (Membe, 2012). In addition, compared to other Tanzanian cities, it has more experience with involving the private sector in SWM. This study employed a qualitative case study design since it can facilitate an exploration of a phenomenon using a variety of data sources within its context (Baxter & Susan, 2010), and ensure detailed information is obtained.

Sampling Procedure and Data Collection Tools

In this study, a total of 10 private companies/ informal groups were sampled out of which, 7 were the private companies and 3 were the informal groups. This number is based on the principle of saturation in the collection of qualitative data in which, data are collected until there is no more new information is been obtained from participants (Sauder *et al.*, (2018), Dar es Salaam was purposively selected based on its quantity of SW generated and the experience in involving the private sector in SWM. Two municipalities which are Kinondoni and Ubungu were randomly selected while the six wards (Tandale, Msasani, Manzese, Bunju, Sinza, and Mbezi) were purposively selected based on the condition that they contracted private companies/informal groups in SWM. The sampled private companies, informal groups, and key informants were selected conveniently based on their willingness to participate in the study.

The study employed the interview, focus group discussion, and direct observation methods in data collection with the help of interview guides and a checklist. The multiple methods of data collection were used to complement information collected from each other and attain validity. The documentary review was also used in which relevant documents from libraries, online resources, and waste management reports from local government offices were used by the researcher to obtain additional and supplementing information regarding the topic under study.

Data Analysis

Qualitative content analysis was used to analyse qualitative data. The processes of data analysis went together with the process of data collection as follows: transcribing the recorded data each day and reading interview answers several times every after interview sessions; data coding; generating categories and grouping the coded data to reduce the number of categories concerning research questions. Lastly, the researcher organised data into a textual display to facilitate the linking of data into research questions (propositions) and the study discussion. Simple descriptive statistics (quasi-statistics) in terms of percentages were also used to make statements like a most, majority, and few more precise (Maxwell, 2010).

Findings and the Discussion

Challenges Faced in Managing Solid Waste Sustainably

1. Ineffective Decisions

Ineffective decisions in this study refer to decisions that do not have positive consequences on sustainable solid waste management. An inquiry was made to the private sector to explore details on their participation in the decision-making and make decisions about SWM, particularly on separation, recycling, and recovery of SW. The findings of the study revealed that more private companies/ informal groups (80%) participated in decision-making meetings upon invitation while the rest (20%) did not. However, all of those who participated pointed out that decisions made were mainly about routes and service fees for SW collection, modalities for collecting service fees, and rewards for the provision of services. Therefore, the meeting agenda excluded important aspects of sustainable SWM such as; waste separation, recycling, and/or recovery.

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This finding implies despite the inclusion of the private sector in SWM in Dar es Salaam City, there is still a challenge in making decisions that would foster sustainability by making use of SW as a resource through separation, reuse, recycling, and recovery. Moreover, findings revealed that the majority (75%) of the private companies/ informal groups who participated in decision-making were passive members receiving what has already been decided by the local government authorities. For example, it was said by one participant that;

“Those meetings we attend are simply procedures for awarding contracts...., but it does not mean that we meet to discuss or make decisions on major issues of SWM; mostly we receive directives regarding collection routes, transporting it, and modalities of collecting service fees”

This finding shows that decisions made were not effective to facilitate sustainable SWM since they do not incorporate SW separation, reuse, and recycling. One of the reasons for making such decisions could be the passive participation of the private sector in decision-making. This is because the private sector comprises skilled and experienced personnel capable of contributing and knowledge on better use of SW as a resource. Likewise, it was pointed out by Hoang (2019) that the inability to attain sustainable SWM is affected by the failure to involve multi relevant stakeholders in the decision-making process including business sectors and the community in a meaningful way of the

The importance of private sector participation in decision-making regarding SWM is also emphasised by Coad (2005) who argued that *“the private sector may be more capable of making wise decisions regarding the selection and allocation of resources than the public sector”*. Likewise, Minnie (2011) argued that participation of private sectors in decision-making may lead to more informed decisions which are beneficial to all as opposed to those made by a homogeneous group.

This is further explained in a participation theory by Reed *et al.* (2018) that the engagement processes that systematically represent relevant public and stakeholder interests, and transparent opportunities are more likely to deliver beneficial environmental outcomes due to a wider range of information inputs and knowledge exchange. Furthermore, they emphasized that it is necessary to implement the design that ensures the value of every participant’s contribution is recognized and everyone is given an equal opportunity to contribute. Therefore, the denial of the private sector in Dar es salaam City to actively participate in decision-making leads to ineffective decisions that pose a challenge towards sustainably managing SW. To a large extent, this is due to the adopted design of stakeholders and public engagement in SWM which is not appropriate for sustainable SWM outcomes.

II.Limited Priority on Sustainable Solid Waste Management Practices

Findings of the study revealed that all (100%) the private companies and informal groups contracted by the local government authorities at wards level mainly engaged in SW collection and transportation to the dumpsite (Pugu Kinyerezi) as their formal activities. This caused them to undermine other activities such as recycling and recovery which are crucial in attaining sustainability of SWM.

This finding implies that the focus for SWM among local government authorities in Dar es Salaam City remains with collection and transportation of SW for disposing of. Similarly, it was observed by Kihila *et al.* (2021) that

“waste segregation is an important component in the waste management chain as it makes it possible to realize effective Reuse, Recycling and Recovery, unfortunately, it has received little attention and is normally informally practiced in most developing countries” Dar es Salaam City inclusive.

The finding further implied that separation of SW, reuse, recycling, and recovery were not given priority as there was not much effort done by the local authorities at municipal and ward levels to reinforce their implementation. Similar responses were complemented by almost all (90%) key informants as one of them from Manzese said that;

“SW separation, reuse, and recycling practices are still new to us unless the central government shows how, we can also do it, otherwise, collection, transportation and disposing of, is still our priority”

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Limited priority to separation, reuse, recycling, and recovery practices implies that the resources which could be utilised from SW are dumped or disposed of, and continue to affect the environment and human health instead of being converted to raw materials for production. The conversion of SW into materials can be done through recycling and it has several advantages as also reported by Yu *et al* (2021) that; it reduces the amount of waste to be disposed of, hence, reduces the cost of transportation; and expands the lifespan of sanitary landfills. Additionally, it reduces methane generation and other negative impacts to humans and the environment.

More findings revealed that limited knowledge about waste separation; reuse, recycling, and recovery could be one of the reasons that these practices are not given priority. Similar findings were revealed by Modak (2010) that municipalities of developing countries lack relevant skills to manage SW. Likewise, Bowan (2013) argued that, in developing countries, SWM has been conducted with little knowledge on managing waste produced. This finding implies that local government authorities in waste management departments need to integrate experts as advisers from local and international agencies to acquire skills and knowledge on SWM practices that make use of a wasted resource.

III. Ineffective Solid Waste Management Contracts

With regards to contracts, findings have shown that contracts were designed by local authorities at the wards level and specified SWM activities to be conducted by contracted private companies/ informal groups. The specified activities are SW collection and transportation to the official dumpsite in Pugu Kinyerezi. This implies that contracts issued were ineffective in terms of sustainable SWM because they did not include SWM aspects which are essential for sustainable SWM. Instead, the separation and recycling of SW were done by the informal groups, individuals, and private investors who are not part of a contractual agreement with the local government. This was explained in all the two FGDs held with private companies/CBOs as one of them responded:

“As for my company, the contract we are given excludes recycling and recovery of SW and in fact, none of us have a contract for recycling or recovering; It is high time for the government to think of how to improve our contracts so that we are empowered to recycle SW”.

This finding implies contracts issued to the private sector limit the promotion of sustainable SWM practices since they do not go beyond SW collection and transportation to disposal sites. Similar findings were reported by Yoda *et al.* (2014) that, contracting agents in Accra Ghana were responsible to transfer SW to disposing of centres. Likewise, it was previously noted by Zurbrugg (2003) that recycling waste materials which is essential for promoting sustainable SWM, is an activity that is seldom promoted by the municipal authorities in developing countries. In other words, contracts issued to the private sector are not effective enough to enhance sustainable SWM. This also implies that, if the local authorities can improve the SWM contracts given to the private sector, it will facilitate increase utilisation of SW materials which is otherwise compelled to be transported for disposing of.

Further findings of the study revealed more (60%) of private companies/ informal groups were issued one-year contracts which is a short durations for stakeholders to invest heavily in terms of technology. This finding contradicts what is explained in stakeholders' participation theory by Reed *et al.* (2018) that the scalar fit factor recognizes that some issues take a long time to bring desired results and some take less time. This turns to be a concern that the local government authorities in Dar es Salaam City should take into consideration when engaging the private sector in SWM.

Opportunities for Promoting Sustainable Solid Waste Management

I. Utilization of Private Sectors' Technology

The study findings revealed that private companies were willing to import technologies for recycling and recovery of SW since they are aware that SW is a resource. More than half of interviewed private companies (40%) revealed the desire to make use of the SW resource they collected from house to house and from public places in terms of recycling them and generating new products out of them. To them, this would also be an additional source of income, hence, considered as an opportunity to manage waste sustainably while empowering themselves economically. However, the fact that they were required to transport all the SW materials to the dumpsite, they did not see the need to import technologies for SW

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recycling and recovery. Similar observations were made by Zurbrugg (2003) that standards and restrictions may limit the technology options that can be considered by the private sector.

As a result of the limitations, most private companies (60%) that owned modern technology, based on modern compactor cars for compacting SW to transport large quantities of SW per trip to the dumpsite rather than technology for waste recycling and recovery. On the sharp contrary, Kin'goo (2015) argues that one of the reasons for forming a partnership in SWM is to increase access to advanced technology and the availability of expertise from the private sector. Thus, there is an opportunity to promote the technological capacity for managing SW sustainably if private sectors are fully engaged and empowered in terms of decision-making on issues related to sustainable SWM. Such an opportunity exists in Dar es Salaam City; other cities in the world have made use of such an opportunity. For example, a study by Agarwal *et al.* (2015) in India has shown that private companies are providing a complete technological solution for waste management by constructing and managing a waste-to-energy composting plant at the Delhi airport. Such plants drive away SW from dumping sites.

II. Linking Solid Waste Management with Other Economic Sectors

This study also explored whether there were formal or informal horizontal connections between private companies or the informal groups which were given contracts to collect SW and other sectors of the economy particularly, the industrial sector. The finding of the study revealed that few (1 private company and 3 informal groups/ 40%) had established links with SW recycling centres, yet, these were the informal links. Such links targeted at supplying SW materials for recycling and recovery purposes, thus, facilitating the use of waste resources that could otherwise be dumped.

These findings are in line with the observation done by Schübeler *et al.* (1996) that links facilitate the support of community members who are involved in other sectors such as industrial, manufacturing centres in managing SW sustainably. This is to say linking the private sector in SWM with other economic sectors leads to the integration of sustainable components of SWM in the waste management system. Even though the links are informal, they facilitate sustainable SWM apart from SW collection and disposing of. Similar findings were observed by Van de Klundert and Lardinois (1995) that, inter-sectoral partnerships which make use of the unique talents of different sectors have the potential to result in efficient waste management.

The further implication of this finding is that, that there can be more sustainable waste management practices if links between SWM and other sectors are formalised in waste management contracts. It was similarly suggested by Schübeler (1996) that, the relationships and linkages between municipal SWM and other municipal service sectors need to be clarified within the framework of urban management. Therefore, in Dar es Salaam City, there exist opportunities of establishing clear and formal links within the framework of SWM in which waste will be managed sustainably. Such links are more likely to increase the focus of SWM to separation, reuse, recycling, and recovery practices apart from the current attention on the collection, transporting, and disposing of.

Conclusion and Policy Implications

Conclusion

This study concludes that ineffective decisions and contracts are the challenges to sustainable SWM. However, the inclusion of the private sector provides opportunities that can promote sustainable SWM such as technology for utilising waste resources and linking the SWM sector to other sectors of the economy. The implication from these findings is that the inclusion strategy in SWM adopted by Dar es Salaam City can be an effective tool in promoting sustainable SWM and overcoming challenges associated with the increased generation of SW. In turn, it is a response to the sustainable development goal (no.13) of tackling climate change and encouraging environmental protection. However, this is possible if the local government authorities at the municipal and ward levels in Dar es Salaam City empower the private companies and informal groups contracted for SWM to actively participate in making decisions.

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Policy Implication

The policy implication of the findings of this study is that policymakers should review the SWM policy to provide detailed roles of both government and non-governmental actors on SW separated at source, reuse, recycling, and recovery. SWM regulations and by-laws should be reviewed at municipal levels in waste management departments to reinforce SW separation at source, and reuse, recycling, and recovery practices. Likewise, SWM contracts should also be reviewed by municipal waste management departments and environmental management committees at wards levels to allow the private sector to recycle/ recover, and/or supply recyclable SW materials to manufacturing centres/industries.

Areas for Further Research

The study recommends that studies relating to the impacts of the inclusion of the private sector in sustainable SWM should be carried out in different cities of developing countries to come up with a proper method of implementing the inclusion strategy for sustainable SWM, in the context of developing countries.

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Strategic Human Resource Management: A Precursor for Promoting Quality Service Delivery in Tanzanian Referral Hospitals

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Abstract

The role of strategic human resource management (SHRM) on organization performance has received increased attention across the global in recent years. However, much is still unknown particularly in developing countries and specifically in the health sector. Therefore, the thrust of this study is to investigate the role of SHRM practices in improving provision of quality health services in Tanzanian referral hospitals. In this study, a qualitative study design with face-to-face interviews was carried out entirely by researchers to ensure consistency in questioning and probing. Experience survey design was adopted where key informants were picked purposively basing on their knowledge and experience in dealing with human resource management issues in the hospital. Collected data were subjected to qualitative conventional content analysis. Results showed that SHRM practices such as professional development, employee compensation, supervision and performance evaluation increase not only knowledge, skills and competencies, but also changes positively employees' attitudes and behaviours by creating satisfaction, commitment, motivation, intention to remain and enthusiasm, all of which result into increased level of individual performance. This enhances quality dimensions of responsiveness, reliability, tangibility, assurance and empathy directly and indirectly. It is therefore concluded that to provide quality health services and achieve long-term goals and vitality, referral hospitals should proactively cherish a strategic approach to the management of human resources and invest in such practices as professional development, employee compensation, supervision and performance evaluation. Their struggle should be directed in influencing actions and behaviours of employees to build a workforce capable and committed to deliver exceptional health services to achieve competitive edge.

Keywords: Strategic human resource management, Human resources, Referral hospitals, Tanzania health system, Quality service delivery.

Introduction

The impact of strategic human resource management (SHRM) on organizational performance has received increased attention across the global in recent years. Many scholars world-wide have recognized the vital role SHRM plays in improving organizational performance (Lin & Liu, 2016). The main argument is that SHRM practices enable organizations achieve sustainable competitive advantage because it ensures the organization with skilled, knowledgeable, competent, committed and well-motivated employees who can perform to achieve organization goals. In effect, the proliferation of SHRM was intended to reverse the traditional HRM under which people were managed like any other resources and were not considered as strategic asserts to the performance of an organization. Therefore, the roles of HRM professionals were administrative and regarded as expensive to an organization and not as an integral part of the core functions in the organization. In contrast, SHRM focuses more on the fit between human resources, management practices and organizational strategic goals with the main focus on the management of internal resources (human resources) to make organizations successful (Mitchell et al., 2013). The aim is to increase efficiency and effectiveness in performance by relying on conditions that encourage employees' involvement in decision making and commitment to the goals of an organization and their willingness to exert considerable efforts to achieve organization goals. This signifies that SHRM places more emphasis on investments in human capital to enhance employees' productivity than traditional HRM. As such, it impacts multiple measures of organizational performance including reduced turnover, absenteeism, increased employee productivity and market value.

Although various scholars have recognized the role of SHRM on organization performance across the global, there is much that is still unknown particularly in developing countries and specifically in the health sector.

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This is because various scholars have indicated that African continent is facing serious human resource management challenges in the health sector and that Sub-Saharan Africa is highly affected (Ang, et al., 2013; WHO, 2015). It is witnessed by inappropriate application of SHRM practices that results into severe shortages of human resources that affect the ability of many hospitals to initiate and sustain credible health services. For instance, estimates show that by 2015, Tanzania had less than half the required health workforce (MoHSW, 2014), the shortage of which confronts accessibility to quality health services. Among the factors perpetuating this shortage include but not limited to poor working conditions, limited opportunity for career growth, low motivation and commitment among health workers, lack of accommodation, poor supervision and inadequate performance evaluation and feedback (Sirili & Simba, 2021). In spite of the several reforms, policies and strategies developed and implemented to address health problems mostly in developing countries and Tanzania in particular, little attention has been given to the management of human resources (Shemdoe et al., 2016).

This becomes an indication that SHRM is the most misunderstood and poorly implemented strategy in the health sector. For instance, the reviewed literature has indicated that many hospitals in developing countries face human resource management challenges including human resource shortages, attrition, absenteeism, low morale and commitment all of which can be mitigated through proper implementation of SHRM practices (Swere, 2016). This implies that although hospital management recognizes that employees are critically important asserts to the performance of the hospital, many of them frequently neglect the management systems, practices and processes needed to support this important resource. It is also propelled by little empirical data available on the extent to which SHRM practices can be used to address human resource management challenges in the hospitals even though there are overwhelmingly evidence of human resource management challenges. Lack of studies to link SHRM and provision of quality health services could deleteriously affect the development strategy in the health sector of any country and without proper studies in this field may contribute to weakening the overall performance of hospitals.

In Tanzania, the indispensable role of SHRM on health service delivery was given a due consideration since independence in 1961. Tremendous efforts have been made to develop a national health system committed to the provision of quality health services. Among the strategies undertaken to improve health service provision include construction of healthcare facilities from the national level down to community level (making the health system assume a pyramidal pattern). Other strategies include but not limited to construction of clinical schools or university hospitals with complex combination of clinical care, teaching and research, introduction of various training programmes to update health care professional skills and knowledge for better healthcare provision, designated incentives (both financial and non-financial incentives) to motivate healthcare workers, together with proactive recruitment of health professionals committed to deliver quality health services (Swere, 2016; Manzi et al., 2012; Kwesigabo et al., 2012; Munga & Maestad, 2009).

But the economic hardships of 1980s in Tanzania affected severely the provision of quality health services (Wangwe & Semboja, 1998). This led to among others shortage of health workers, low wages and incentives for health workers, shortage of drugs, equipment, medical supplies and the overall deterioration of health infrastructure that affected morale, motivation, commitment and productivity of health workers. In 1990s the government started to rejuvenate the situation by implementing health sector reforms programmes (HSRs) which were aimed at among others to create and sustain greater satisfaction of health service consumers and providers and improve performance of the health system and quality to make health services accessible, sustainable, effective and efficient.

In this case, referral hospitals which were positioned at the highest order level of health service provision with health specialists and services that are non-existent in other lower-level hospitals were to provide quality health services to meet the expected needs of the customers. Thus, from 2001 the government started to implement rehabilitations and organizational reforms aimed at transforming these hospitals into modern entities that could provide effective, affordable and accessible quality services and supports teaching and research through committed and satisfied clientele (Muhondwa et al., 2008).

According to the Ministry of Health and Social Welfare (MoHSW) Health Sector Strategic Plan (2009-2015), referral hospitals were to be more accessible to patients who need advanced care, have quality

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assurance unit to promote quality and improve human resource management for better performance. Together with health service provision, referral hospitals were to be centers for training health professionals and conduct research. They were also required to provide support services to lower level hospitals. Therefore, SHRM was incorporated as an indispensable factor for better performance through the introduction of a new Public Service Act No. 8 of 2002; Public Service (Amendment) Act, No. 18 of 2007; Employment and Labour Relations Act No. 6 of 2004; Workers' Compensation Act No. 20 of 2008; National Health Insurance Fund Act No. 5 of 2012 and many others. The intention was to provide a better way of managing public servants for effective performance.

The government also introduced performance-based systems to improve motivation and productivity of health workers, continuing professional development to keep health workers updated in terms of knowledge, skills and competencies. All these opened a door for more incentives to health professionals including annual salary increment to retain health professionals, flexible work schedules, provision of housing for specific high-level health professionals, National Health Insurance Fund (NHIF)-performance payment and many others. The intension was to ensure better integration of SHRM practices to the public organizations and that health workers are motivated, committed and work to achieve performance excellence. Therefore, referral hospitals were expected to provide quality health services to carter for services provided in lower level hospitals.

Despite all these efforts, however, anecdotal evidence shows that referral hospitals still have difficulties in providing quality health services. This is evidenced by the long queues of patients and overcrowding in such places as laboratories, pharmacies and wards. Patients take long hours or even days to see specialists owing to the patients-specialists imbalances (Khamis & Njau, 2016). It is also noted that a lack of career development, a lack of uniformity in the provision of financial incentives to health workers, fixed budgets and staff working for long hours are among the factors preventing health workers from providing quality health services (Manzi et al., 2012). The literature reviewed has also shown that health workers lack motivation and commitment to comply with the standards owing to the frequent unavailability of necessary resources, inadequate performance evaluation and feedback, non-participation in decision making processes and a general lack of concern for workers welfare by hospital management (Sirili et al., 2014).

The most recent strikes by doctors in 2012 expressing their dissatisfaction not only with their low salaries but also the conditions under which they work, resulting in provision of compromised services where patients suffered, mirrored out the situation. The most recent and frequent managerial changes carried out in these hospitals (2015-2020) also show people's dissatisfaction with the services provided. All these problems are indicative of the underutilization of the skilled human resources in these hospitals. These problems can be eliminated and or reduced if SHRM practices are exploited to the maximum. There is a dearth of empirical evidence indicating how the implementation of SHRM practices motivates workers, helps to retain them and influence their performance.

Lack of studies to link SHRM practices and provision of quality health services could send clear signals to hospital management and other practitioners that investment in SHRM practices is not something to hold a leash. In return, employees may feel that they are not valued and cared for. This may result into bad retaliation from the employees by going slow, striking, attrition or engaging in other businesses to supplement their income while failing to provide good care to patients to meet quality dimensions of responsiveness, reliability, tangibility, assurance and empathy. Such situation may deleteriously affect health service provision by disrupting service delivery processes, training and development programs, performance evaluation processes, increased morbidity, and mortality of patients together with loss of public confidence in the facility. Astonishingly, such effects could snowball to the populations' productivity level and without appropriate measures results into stagnated economic growth of the country. This situation calls for a study to investigate the role of SHRM practices on promoting provision of quality health services in Tanzanian referral hospital.

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Methods

An exploratory study design with qualitative approach was conducted to investigate the role of SHRM practices on promoting quality health service delivery in Tanzanian referral hospitals from May 2019 to July 2019. The main purpose was to gain new insights and better understanding on how SHRM practices impact quality health service delivery. This qualitative approach was considered imperative for this study because it provides the possibility of obtaining multiple views and perceptions of the subject matter from the participants. As such, it enabled researchers to gain in-depth and comprehensive information to understand the subject matter.

The study was conducted in four zonal referral hospitals (Table 1). The reason for their inclusion is that they are at highest administrative level in Tanzanian health system. As such, they provide outreach services and conduct clinical supporting supervision to the lower level hospitals in their respective zones. Therefore, their adoption and implementation of SHRM practices are more covered and advanced than the adoption and implementation of the same at the lower level hospital.

Table 1: Zonal Referral Hospitals in Tanzania

Zone	Regions served	Hospital
Eastern and Southern zone	Dar es Salaam, Morogoro, Pwani, Mtwara and Lindi	Muhimbili National Hospital
Northern and Central zone	Kilimanjaro, Arusha, Manyara, Tanga, Singida and Dodoma	Kilimanjaro Christian Medical Centre
Western and Lake zone	Mwanza, Kagera, Mara, Shinyanga, Simiyu, Kigoma, Tabora and Geita	Bugando Medical Centre
Southern Highlands and Southern West zone	Mbeya, Iringa, Njombe, Rukwa, Songwe, Katavi and Ruvuma	Mbeya Referral Hospital

Source: MoHSW Country Profile, 2013

Data for this study were collected from the key hospital management staffs who are dealing with human resource management issues. Specifically, data were collected from human resource managers, human resource officers, head of departments/units, head of employment and staff development, health secretaries, block managers, coordinators and ward in charges. These officials were purposively selected because they were directly involved in the implementation process of human resource strategies in the hospital. Together with their knowledge and experience, the researcher considered also availability and willingness to participate in the study and their ability to communicate experiences as well as opinions in an articulate, expressive and reflective manner. Therefore, the study adopted experience survey design which involves interaction with people who have knowledge and experience with the problem studied. In this case, representatives were picked purposively until the point of saturation was reached. Therefore, collection of data ended-up with 14 key informants. These were considered sufficient for qualitative study as according to Creswell (2014) a sample of 5-25 participants are considered sufficient. The researcher conducted a total of 14 key informants interviews (Table 2) whose work experience varied from 4 years to 15 years with an age range between 37 years to 54 years with a minimum of bachelor up to master level of education. The interview took between 45 minutes to 75 minutes and were carried out in the offices or other areas conveniently selected by informants.

Table 2: Categorization of key informants

Key informants	M	F	Total
Manager HR	1	1	2
HR officers	1	1	2
Health secretary	0	1	1
Heads of departments	2	2	4
Block managers	0	1	1
Coordinators	1	1	2
Ward in charges	0	2	2
Total	5	9	14

Source: Field data, (2019)

Qualitative conventional content analysis was administered for analysis. This involved reading and re-reading the interview transcripts to get familiarization with the data. The reading process was followed by a three process of coding suggested by Mohajan (2018) consisting of open coding, axial coding and selective coding. During open coding, initial identification and meaning of segments from the field notes and transcripts was done. Consequently, the segments of meaning from the field notes and transcripts were clearly highlighted in relation to the research aim. The highlighted segments were again evaluated during axial step and organized in terms of context and coherence. The selective coding step involved selective scanning of all codes identified for comparisons, contrast and linkage to the research objective. After identifying codes and key concepts, further analysis was carried out to identify their similarities and differences and they were grouped together to form more precise categories that were deeply scrutinized to obtain themes. Potential themes were then compared to the coded abstracts to ensure that themes fit well with the objective of the study.

Permission to conduct this study was obtained from the institutions where the study was conducted. Both oral and written informed consent was obtained from all the key informants who participated in the study. Participants were clearly informed about the true purpose of the study and their right to withdraw from the study at any time and or refuse to answer any question without any consequences. All the information obtained during interviews was recorded in the notebook with the permission of each participant. After discussion, the recorded information was read before participant for validation purposes. However, confidentiality and anonymity were ensured throughout while respecting the privacy of respondents and maintaining honesty, academic integrity and objectivity throughout the study.

Results

The aim of this study is to investigate the role of SHRM practices in promoting quality health service delivery in Tanzanian referral hospitals. Specifically, the study seeks to determine how SHRM practices such as professional development, employee compensation, supervision and performance evaluation influence delivery of quality health services. Presentation and discussion of results is based on the SHRM practices embedded in this study.

Professional Development

Informants revealed that both in-house training and outside training are used as professional development mechanisms. They noted that in-house training is undertaken whenever needs arise. However, limited budget normally affects such trainings particularly when trainers come from outside the facility. They showed that training employees has not only been very instrumental in building employees' commitment and willingness to offer better services, but also it has proved to be a good strategy for enhancing their confidence. They

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further indicated that as a result of severe shortage of staff in the hospital, in-house training is used as a strategy to build capacity for junior staff through mentorship. For instance, one of the informants said, *“...As a result of staff shortages, we use internees and volunteers to work under the supervision of senior experienced staff through mentorship which has been instrumental to enhance their clinical knowledge...”* (Interviewee label BM 011).

Informants revealed further that as a result of attending professional development courses, employees become more knowledgeable, competent and confident to deliver health services to meet patients' needs. Also, employees develop behavioural outcomes such as job satisfaction, commitment, motivation and intention to remain, all of which lead into increased level of individual performance. One of the informants noted;

“...Employees feel that training and development support their professional growth and help them serve patients better. Normally, employees feel valued and cared for when given opportunities to develop their professions and this in turn results into increased employees' knowledge, skills, commitment, motivation and satisfaction. All these attitudinal and behavioural outcomes make employees provide prompt and accurate services to patients...” (Interview labeled MB 07).

Informants also revealed that professional development influences employees' trust to the management. Trust shapes employees' attitudes and behaviors that create positive attitude which is of paramount importance in ensuring that patients' expectations are met by service providers.

“...When employees trust their management, they tend to put in more positive efforts in performing their duties and this translates into better service provision....” (Interviewee label MH 03).

They also indicated that professional development influences decisions of employees about their willingness to stay in the hospital, and this reduces chances for the hospital to waste efforts and resources in finding replacement staff but also in serving patients better. As well, they noted that well trained and developed employees understand the scope, expectation and depth of their jobs and usually tend to be more creative and innovative in delivering health services.

Employee Compensation

Informants reported that employee compensation has ability to achieve employee satisfaction and retention as it comprises both financial and non-financial rewards that attract, motivate, satisfy and retain potential performers. They stated that doctors, specialists and super specialists are provided with house allowances, National Health Insurance Fund (NHIF)-performance payment and are given priority on securing houses within the hospital premises which all increases their morale, satisfaction and commitment to the hospital. They further noted that specialists and super specialists are provided with flexible working hours that allow them to work basing on their consultation schedules. This increases not only their morale and commitment, but also is used as a brain-drain control mechanism. For instance, one of the informants said,

“...Specialists and super specialists are working basing on their consultation schedules. They can work here and be employed somewhere else...” (Interviewee label MB 07).

When probed on how they motivate other employees, they revealed that other employees are given overtime allowance which ranges from 20,000/- to 30,000/- per hour depending on the cadre of employment. This improves employees' motivation and commitment not only to remain with the hospital but also to put all their vigor for improved service delivery. However, they indicated non-uniformity on financial rewards among the hospitals which discourages employees who receive less compared to others. One of the informants noted;

“...Hospital management has developed compensation strategies that attract, retain and motivate employees thereby leading to employees' satisfaction and commitment. This encourages employees to work harder and helps to build a competitive atmosphere in the organization for employees to perform to achieve hospital goals. ...” (Interviewee label MH 06).

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Supervision

Informants revealed various supervisory mechanisms used to enhance employee performance to include the use of biometric machines which has been very instrumental in controlling staff movements and reducing staff complaints related to overtime payment. They further indicated the use of suggestion boxes which are placed in different strategic areas of the hospital. The information generated from the suggestion boxes is used as a means of generating useful information for the hospital in making various decisions on how to improve quality service delivery.

Informants stated that good supervision in the hospital has been very instrumental in providing support services to employees. It enables them deliver quality healthcare services to patients in the form of equipment and other internal service-oriented processes including provision of adequate drugs, spaced consultation rooms, clean washrooms, cleanliness services, examination tables and other necessary resources required for quality service delivery. They also revealed that supervision ensures the well-being of employees at work and enables them to exert themselves to their roles with all vigor that translate to better service provision. They further indicated that in the hospital, supervisors act as advocates for employees, as they gather and distribute resources needed by the employees in order to do a good job. They make sure that all instructions including hospital plans, policies, decisions and strategies are well communicated to each and every employee. They help to control over staff and ensuring that hospital resources are always used in the best possible manner and that employees work harmoniously. One of the informants said,

“...Supervisors have to deal with complaints, grievances and frustrations of the staff and make sure that they perform to deliver quality services. They listen to patients’ complaints related to service provision and find immediate solution...” (Interviewee label KC 014)

Performance Evaluation

Informants revealed that performance evaluation is done through Open Performance Review and Appraisal System (OPRAS). In this system, employees are provided with an opportunity to set performance targets to be achieved over a period of time, normally a year. Therefore, employees are evaluated basing on the set targets. They attested that setting performance targets triggers employees’ commitment, confidence and belongingness to perform to achieve the set goals. One of the informants said,

“...We use OPRAS to evaluate employee performance. It has been very instrumental in drawing employees’ commitment and willingness to perform to deliver quality services since it is signed as a performance contract between employee and employer...” (Interviewee label MH 02)

Informants further stated that performance evaluation provides valuable feedback to employees about their performance together with the suggestions for improvement. This helps employees to focus more on the problematic areas and commit their efforts towards better level of performance. They indicated that OPRAS results are used as a criterion for selecting ‘best worker’ in the hospital and this reduces bias and complaints among employees because employees are evaluated basing on hard evidence. They indicated that performance evaluation influences individual behavior in areas of morale building, motivation and satisfaction while influencing physical and mental well-being of employees resulting into improved employees’ productivity. One of the informants said;

“...Performance feedback provides employees with an opportunity to make corrections. This makes them committed and motivated to perform better. It influences willingness of employees to help patients and in dealing with patients’ needs and demands...” (Ward in charge – BM 010)

Discussion

The results of this study revealed that SHRM practices enhance provision of quality health services directly and indirectly. Specifically, results indicated that professional development increased not only employees’ knowledge and skills, but also changed positively their work attitude for better performance. This implies that as a consequence of professional development, employees felt more knowledgeable and confident to offer better services to patients. Apart from that, they develop behavioral outcomes such as job satisfaction, commitment, motivation and intention to remain, all of which lead into increased level of individual performance. This signifies that it is necessary for employees to learn new knowledge and skills that can

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enable them meet new challenges such as dealing with emerging but complicated issues like COVID-19 pandemic. It has been recognized previously that career development opportunities is an indispensable factor for enhancing employees knowledge, skills and competencies and is a critical strategy organizations can use to enhance employees retention (Mozael, 2015).

It also implies that professional development may stimulate innovation and creativity which are useful for employees to perform to achieve quality dimensions of responsiveness, reliability, tangibility, assurance and empathy directly and indirectly. More importantly, employees develop trust to the management as they feel that they are valued and trusted. Trust shapes employees' attitude and behaviors that result into employees putting more efforts in offering high level quality health services. Employees working in the hospital are always in a direct contact with patients, therefore their positive attitude is of paramount importance because it ensures that patients' expectations are met by service providers. As contended by other scholars, professional development makes employees become valuable assets of the organization as it improves efficiency and effectiveness in discharging their duties (Chughtai & Nadeem, 2016).

Results show that compensation gives employees power to work willingly and committed on their own efforts with all vigor to deliver quality services, which is the ultimate goal of any hospital. Both financial and non-financial rewards when properly designed and implemented may have a direct influence on satisfaction level of employees (Sopiah, 2013). Satisfaction influences employee's willingness to produce a higher quality and quantity work. Willingness to perform is a must phenomenon in a hospital where health professionals deal with people in frustrations caused by their illness.

Compensation increases employee motivation. Motivation gives employees power to work willingly and committed on their own efforts. Previous studies indicated that compensation has a direct influence on satisfaction level of employees (Yaseen, 2013). Satisfaction influences employee's willingness to produce a higher quality and quantity work. Low compensation triggers employees to try to seek side jobs or business which ultimately disrupt the quality of the employees work and concentration. Low concentration of employees negatively impacts the quality of work performance. Employee compensation can therefore be conceptualized as an integral part of SHRM practices that impacts performance of employees because it establishes the degree of relationship between employer and the employee.

Results further indicated that good supervision in the hospital makes employees complete their tasks easily because supervisors are eager to know and solve employees' problems related to their work. This enables employees handle patients' health care problems smoothly. It also changes positively employees' attitudes and behavior by creating satisfaction, commitment and enthusiasm among employees while reducing work related stress. It also builds team work spirit among themselves which are the behavioral characteristics required for the provision of quality health services. In tandem to these results, previous studies suggest that supervision increases commitment and work engagement and has an impact on competency and quality of employees in a hospital (Munawar et al., 2019). In the opinion of other scholars, the way employees think about supervisory exchange relationship influences their emotions (Blau, 1964). For instance, if the exchange is deemed to be beneficial, employees' attitudes towards work improve. This is explained in terms of job satisfaction, organization commitment and motivation. But the opposite may be true if employees become dissatisfied with the supervisory exchange relationship as he/she may reciprocate with negative emotions towards the supervisor and the workplace. His/her commitment to the organization declines as well as the level of job performance thereby negatively impacting service delivery process. This implies that the more employees become satisfied with the supervision in the hospital, the more supervision instills to employees trust and influences their satisfaction, motivation and commitment to deliver quality health services.

Results suggested further that performance evaluation enables employees set performance goals to be achieved over a period of time, normally a year. The set goals provide guidelines to the employees on how their efforts are directed towards realization of hospital goals. Employees are then evaluated basing on the set goals. Working basing on the set goals triggers employee's commitment, confidence and belongingness to perform to achieve the set goals. Therefore, through performance evaluation, employees build work inspirations that make them see work more important and fascinating to enhance their work efficiency

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(Omusebe et al., 2013). It was further noted that employees' performance is evaluated through the use of OPRAS. OPRAS provide an opportunity for employees to discuss performance results with their supervisors. This helps to assess employees' strengths and weakness in performing their duties, a situation that results into improved job performance. Previous scholars also revealed that employees understand their expectations when they share ideas with supervisors about their work performance. They gain a better understanding of their weaknesses and strengths and can adjust behaviors accordingly (Torabi & Sotoudeh, 2010). Performance evaluation enables hospital management identifies deficiencies. Deficiencies are linked to the immediate and future training needs of the employee for improved performance in the hospital. This helps employees to focus more on the problematic areas and commit their efforts toward better performance.

Conclusions

The study indicated that the task of providing the highest quality health services is the responsibility of hospital employees and it is directly influenced by attitudinal and behavioural outcomes of employees. But these employees' attitudinal and behavioural outcomes are influenced by appropriate application of SHRM practices in hospital premises. These attitudinal and behavioural outcomes become indispensable ingredients to influence employees' aspirations in areas of responsiveness, reliability, tangibility, assurance and empathy. This can lead into the following conclusions. Firstly, it is concluded that when employees are committed, motivated and satisfied with their jobs, they are more likely to do their jobs to the best of their abilities to achieve highest level of service provision. Secondly, to achieve long-term goals and vitality, referral hospitals should proactively cherish a strategic approach to the management of human resources and invest in such practices as professional development, employee compensation, supervision and performance evaluation. Their struggle should be in influencing actions and behaviours of their employees and build a workforce capable of delivering exceptional health services to achieve their competitive edge.

Acknowledgements

The authors sincerely and wholeheartedly acknowledge the support given by the management of Muhimbili National Hospital, Mbeya Referral Hospital, Bugando Medical Centre and Kilimanjaro Christian Medical Centre during data collection process. Equally important, we acknowledge the support and collaborations accorded by participants during face-to-face conversation that made this study successful.

Conflict of Interest

The authors declare that no potential conflict of interest regarding the research, authorship and publication of this

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Local and International Factors Affecting Participation of Tanzanian Small and Medium Enterprises in Market Opportunity Brought by the African Growth and Opportunity Act (Agoa)

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Abstract

The study aimed at assessing local and international factors that affect participation of Tanzanian Small and Medium enterprises in market opportunity brought by African Growth and Opportunity Act (AGOA). The study focussed on Tanzania local SMEs engaged in garments and textiles, handicrafts, leather goods, footwear and agro-processing subsectors. Information was collected from the managers and marketers of SMEs located in Dar es Salaam, the officials of Ministry of Industry and Trade as well as the Tanzania Ministry of foreign Affairs and East Africa Cooperation. The study utilized both qualitative and quantitative approaches and involved a total of 129 respondents. Questionnaire and interview were the main tools for data collection. The study found that both local and international related factors were inhibiting Tanzanian SMEs from engaging in the AGOA market. Such factors have been narrated in this paper and recommendations have been given in order to increase engagement of Tanzanian SMEs in the AGOA market.

Keywords: - Small and Medium Enterprises (SMEs), African Growth and Opportunity Act (AGOA)

Introduction

Internationalization of Small and Medium local firms facilitates attraction of fortunes in the country. As one way of accessing international market; developing government has been entering into international trade economic cooperation forums and agreements with developed government (Luostarinen, 1994). One such example of trade agreement, which is practiced by many African nations, is African Growth and Opportunity Act (AGOA) of the United State of America (USA) and Sub-Sahara Africa (SSA) countries (Dzidzornu, 2017).

AGOA started in the year of 2000 when it was officially enacted by the congress of the United State of America (USA) as part of Trade and Development Act of USA (Matto, et al., 2012; Brenton and Hoppe, 2016). The AGOA was enacted in order to provide a special motivation and window for trade between the USA and Sub-Saharan African (SSA) countries (Brenton and Hoppe, 2016). The main objective of this Act is to increase trade volume as well as investment relationships between the USA and SSA, to expand and encourage economic growth, regional integration, as well as to assist the integration of SSA countries into the global economy (Osei-Assibey, 2015).

The Act emphasizes political stability and government reforms, improve access to USA credit and access to USA technology among African countries, offers export duty free to USA for the eligible products and institutes a high-level dialogue on trade and investment between USA and SSA in the form of Trade and Economic Forum (Mueller, 2018). On the other hand, to USA, the Act warrant provision of better market opportunities for the USA products in SSA, contribute to better commercial partnership between USA investors as well as traders and African elites, provides opportunities for USA companies to acquire and operate African state owned enterprises and infrastructure projects under the concept of privatization and Public Private Partnership (PPP) (AGOA, 2013; Opoku, 2016).

AGOA is categorized into two phases notably the first phase in 2000-2015 and second phase from 2015-2025. Under AGOA-I eligible products to export to USA were textile products, leather products, wood products, agricultural products and food stuff. In the AGOA-II mineral and energy products (i.e. oil and gas) were added among eligible products to be exported to USA by AGOA eligible countries (Opoku, 2016; World Bank, 2016). No restrictions have been placed on SMEs to access the USA market under AGOA. But SMEs wishing to sell goods in the United States through AGOA are required to obtain business visas from the USA embassy in their home countries and a full business registration depending on the country concerned (Mueller, 2018).

Currently, there are 38 SSA countries eligible in AGOA market. These are Angola, Botswana, Cape Verde, Comoros, Ethiopia, Guinea, Ivory Coast, Lesotho, Madagascar, Mali, Mauritius, Namibia, Nigeria, Sao Tome, South Africa, Togo, Zambia, Benin, Burkina Faso, Cameroon, Chad, Congo, Djibouti, Gabon, Ghana, Guinea Bissau, Kenya, Liberia, Malawi, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone,

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Tanzania, and Uganda (Mueller, 2018).

Tanzania signed this trade agreement in 2000 (since the beginning of AGOA-I) in order to improve trade relations with USA and improve its international market value (Seyoum, 2017). In 2016, the government come-up with the strategic plan known as “Tanzania National AGOA Strategy” that identifies four strategic subsectors/areas to rapidly develop and increase participation of Tanzanians in AGOA market. The first strategic area is garments and textile, second area is the agro-processing industry which includes edible nuts, flowers, fruits, spices and horticultural products; third area is the leather goods and footwear; fourth area is handicrafts which include home decor and accessories (Tanzania National AGOA Strategy, 2016). All these strategic areas can utilize natural resources which are locally produced as well as include both male and female entrepreneurs from both rural and urban areas.

Moreover, the USAID has been working to improve competency of the Tanzanian entrepreneurs through awareness creation about AGOA as critical efforts towards assisting Tanzanian entrepreneurs to access this important market (Kazimoto, 2014; USAID, 2019). But, existing data show that Tanzania has not benefited significantly from the AGOA trade as compared to other AGOA eligible counterparts notably Kenya and Uganda in the Eastern zone of Africa. From 2015 to 2019, Tanzania exported goods worth US\$ 121 million to USA under AGOA. Uganda and Kenya exported to the USA goods worth US\$ 169 and US\$ 601 million respectively in the same period. Under the same period, the exports of Angola and South Africa to USA worth an average of US\$ 2,382 and US\$ 7,620 million respectively. Table 1 illustrates exportation statistics of six selected countries from 2015 to 2019.

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Table 1: Total exports of selected countries to the USA under AGOA (in Million US\$)

Countries	2015	2016	2017	2018	2019	Average
Rwanda	46	26	44	67	56	48
Tanzania	105	149	124	97	130	121
Uganda	164	151	179	169	180	169
Kenya	573	552	572	643	667	601
Angola	2,806	2,856	2,603	2,698	955	2,384
South Africa	7,314	6,759	7,759	8,470	7,799	7,620

Source: <https://agoa.info/profiles> (Accessed 15th April 2020)

AGOA trade is dominated by very few SSA countries; these are Gabon, Nigeria, Angola and South Africa which together account for over 80% of the products exported to USA under AGOA. East African countries (Tanzania, Rwanda Kenya and Uganda) altogether make 11% of the products exported under AGOA; in which Kenya alone represents about 65% of the goods exported from the region (Seyoum, 2017). Hence the remaining 35% of the East Africa regional exported is shared between Tanzania, Uganda and Rwanda. The Kenyan regional share in AGOA is significantly high and is still growing. If Tanzania will not closely consider this market share gap in AGOA market; the little share it has will be engulfed by its competitors.

Tanzanian entrepreneurs have not utilized benefits offered by AGOA to the meaningful extent. Failure to exploit this market may increase problem of low job creation and low revenue in the country. Nevertheless, most literature on AGOA have been dedicated on its impact to the SSA eligible countries, undue focus lies on the extent to which SSA countries have benefited from AGOA and how it affects the economy of USA. Less has been written on factors inhibiting successful participation of some countries, like Tanzania, in AGOA market. Thus paper analysed local and international inhibiting factors for the Tanzanian SMEs to effectively participate in AGOA market.

Literature Review

Small and Medium Enterprises in Tanzania

According to Amofo (2012) there is no universal definition for Small and Medium Enterprises (SMEs) since the definition depends on who is defining it and where it is being defined. SMEs can be defined in two ways; based on the number of employees in an enterprise and/or based on the total fixed assets of the enterprise. In Tanzania's context; a small enterprise has between 5 and 49 workers with capital of between 5 million and 199 million. A medium enterprise has between 50 and 100 workers with capital of 200 million to 800 million (The United Republic of Tanzania SMEs Development policy, 2003).

Table 2.1: Classification of SMEs in Tanzania

Category	Employees	Capital Investment (in TZS)
Micro Enterprises	1 – 4	Up to 5 Million
Small Enterprises	5 – 49	Above 5 Million to 200 Million
Medium Enterprises	50 – 99	Above 200 Million to 800 Million
Large Enterprises	100 +	Above 800 Million

Source: Tanzanian SME Policy of 2003

Factors Affecting SMES' Participation in International Markets

A study conducted in Benin and Togo found AGOA has insignificant impact to the SMEs development. This was due to the weak capacity of local entrepreneurs to fully exploit market opportunity offered by AGOA. The study informed that lack of government support in terms of capital and other supportive programs to the local entrepreneurs, as well as poor physical infrastructure in these countries were the

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main constraints for entrepreneurs to fully exploit trade opportunities presented by AGOA (Zappile, 2011 cited in Adetosio and Akinseluse, 2016).

Most of SSA countries do not have clear cut implementation policies and strategies for AGOA (Seyoum, 2017). Implementation of individual National AGOA policy and strategies in SSA countries has been done in ad-hoc manner without considering strategic development plans of the country. As the results, the SSA countries are not benefiting from the AGOA; but rather, USA is the one benefiting from the trade through expansion of its economic and trade zone as well as through establishment of its military bases in Africa for its security purpose (Asante, et al., 2016)

In order to enjoy the benefits of the AGOA, governments of eligible countries are supposed to formulate business policies that empower their SMEs to engage in integration businesses. This includes establishment of policies which facilitate availability of natural raw resources in sustainable manner, policies that encourage opening of new businesses and investment, construction of the good roads and railways which connect all part of the country to the seaports and improvement of communication channels in the country (Mueller, 2018).

Low level of education/skills and financial limitation has been reported as the root causes of underdeveloped Tanzania SME sector to the international level (Msemu, 2013). Other popular mentioned factors are technological barrier (i.e. In ability to use emerging communication technologies like websites, social media, online discussion forums and other online channels), high price of the fuel and frequently power outages and lack of capital assistance from financial institutions (Yahya and Mutarubukwa, 2015).

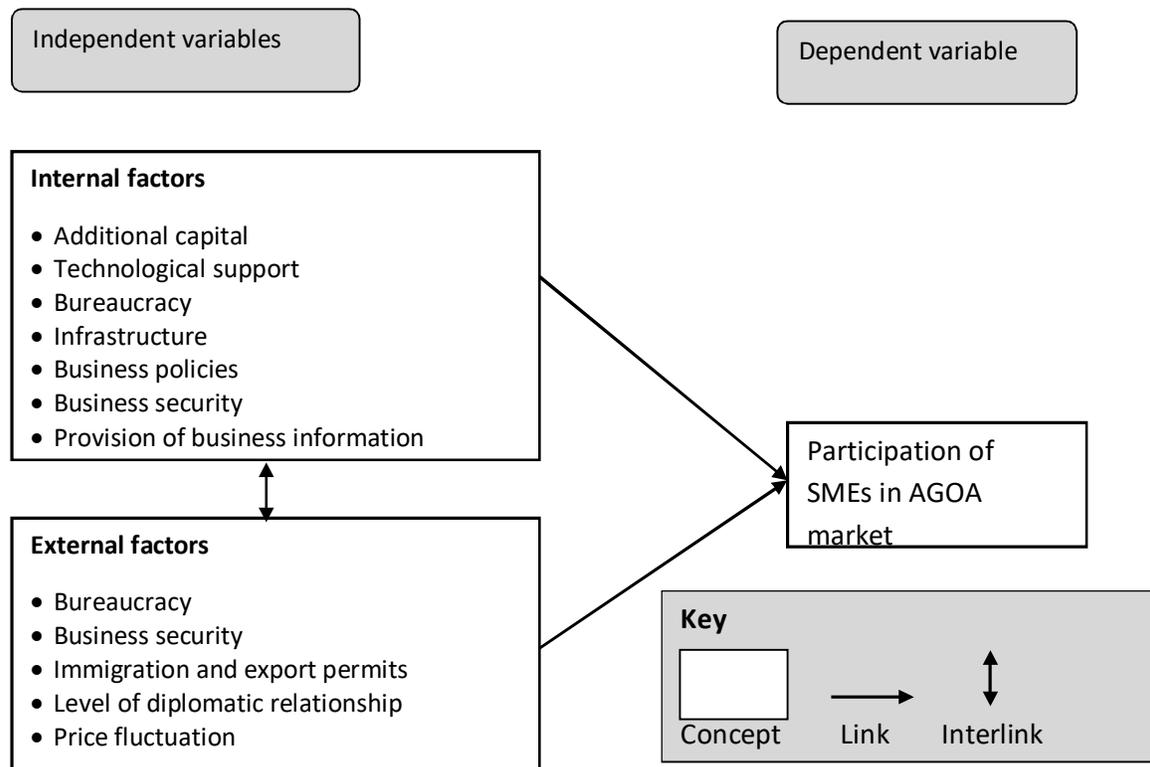
The following have been suggested to help local Tanzanian small producers to market in the international markets:- development of national political vision that support SMEs business, identification of priority areas for SMEs to develop, stimulation of e-government in all sectors, establishment of programs that improve e-security, improvement of technological infrastructure and provision of government grants to support small firms (Yahya and Mutarubukwa, 2015). Stable power supply in the country and good roads networks (Msemu,2013).

Conceptual Framework

The paper aim was to establish both local and international factors affecting participation of Tanzanian Small and Medium enterprises in AGOA market. The conceptual framework to model the whole idea of this paper was given as shown in the figure 1. In the model, the study assumed that there was relationship between SMEs engagement in international markets (specifically AGOA market) and both local and international factors in the sphere of entrepreneurship. However, there is interlinking between local and international factors in supporting internationalizations of SMEs.

Local factor assessed were availability of additional capital, technological support, bureaucracy in accessing permits and licences, technological infrastructure in the country, business related policies in the country, level of business security and provision of business information in the country. Meanwhile international factors were bureaucracy in accessing international immigration and export permits, business security at international level, as well as existing level of diplomatic relationship.

Figure 1: Conceptual framework of the study



Methodology

Research Approach

Mixed research approach was adopted, in which, both quantitative and qualitative approaches were applied simultaneously. Quantitative approach was useful in enumeration of the respondents' perspectives; hence, the extent to which the studied factors affect involvement of SMEs in AGOA market was quantified using quantitative methods. Meanwhile, qualitative approach enabled researcher to clarify (give reason behind) the obtained quantitative results. Furthermore, a qualitative approach was useful in determining what should be considered or adopted in order to increase engagement of Tanzanian local SMEs in AGOA market.

Research Design

Descriptive research design was used since it was a good design to portray an accurate profile of the SMEs, their business operations as well as associated supportive and hindering factors. This design helped researcher to have clear picture of the factors that affect participation of Tanzania local SMEs in AGOA-market.

Participants

The study was conducted in Dar es Salaam; the commercial city of Tanzania. The city encompassed large number of SMEs compared to the rest of regions in Tanzania. Participants in the study comprised managers and marketers of the randomly sampled 60 SMEs. Contacts of the sampled SMEs were obtained

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from headquarter of Small Industry Development Organization (SIDO) in Dar es Salaam. SMEs selected were those dealing with garments and textiles, handicrafts, leather goods and footwear as well as agro-processing. On the other hand officials of Tanzania Ministry of Trade and Industry as well as Tanzania Ministry of foreign Affairs and East Africa Cooperation were selected through convenience sampling technique. In each selected SME, one director and one marketer were selected; therefore, the paper had 120 individuals from sampled 60 SMEs. 10 officials were selected at the Ministry of Trade and Industry and 9 officials at the Tanzania Ministry of foreign Affairs and East Africa Cooperation. Altogether, the study selected 130 individuals.

Data Collection and Analysis

The Study used only primary data that were collected via questionnaire and interview. Managers and marketers of the sampled SMEs were subjected to both questionnaire method of data collection while government officials from the ministries were subjected to both questionnaires and interviews. The main questions in the questionnaires had Likert scale response mode that ranged from 1=strongly disagree to 5=strongly agree. Thematic analysis was used to analyse qualitative data while descriptive and regression analyses were used for quantitative data. In interpret quantitative results; the mean score were interpreted as shown in the table 2.

Table 2: Interpretation of the mean scores

Mean scores	Interpretation
4.21-5.00	Very high inhibiting factor
3.41- 4.20	High inhibiting factor
2.61 -3.40	Moderate inhibiting factor
1.81 - 2.60	Low inhibiting factors
1.00 - 1.80	Very low inhibiting factors
STD > 1.5	Indicate significance variation

Respondent's Profile

Sex of Respondents

Gender data of the selected managers and marketers of the sampled SMEs together with that of selected government officials from the mentioned ministries were presented as shown in the table 3. Male respondents involved in the study were 79 in total whereby 66 males were entrepreneurs and 13 were government officials. Female respondents were 50 in total whereby 44 of them were entrepreneurs and 6 were government officials.

Table 3: Presentation of respondents by their genders

Genders		Category of respondents		
		SMEs	G/Officials	Total
Males	Count	66;	13	79
	% within Category of respondents	60.0%	68.4%	61.2%
Females	Count	44	6	50
	% within Category of respondents	40.0%	31.6%	38.8%
TOTAL	Count	110	19	129
	% within Category of respondents	100.0%	100.0%	100.0%
Ch-Squire = 0.484 df=1 P-value = 0.487				

In percentage, male represented 61.2% of the entire respondents and female represented 38.8%. However, such difference was insignificant since probability value was greater than 0.05 (p-value = 0.487). This implied that the study contained nearly equal views of both males and females.

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Age Groups of Respondents

The results in the Table 4 revealed that respondents aged between 21-30 years old represented 24%, 31- 40 years old represented 27.1%, 41-50 years represented 28.7%, 51-60 years represented 14.7% and those who were above 60% represented 5.4%. However, p-value was 0.563 indicating no significant representation difference among the reviewed age groups. Hence, the study managed to collected views of the different age groups/generation almost equally.

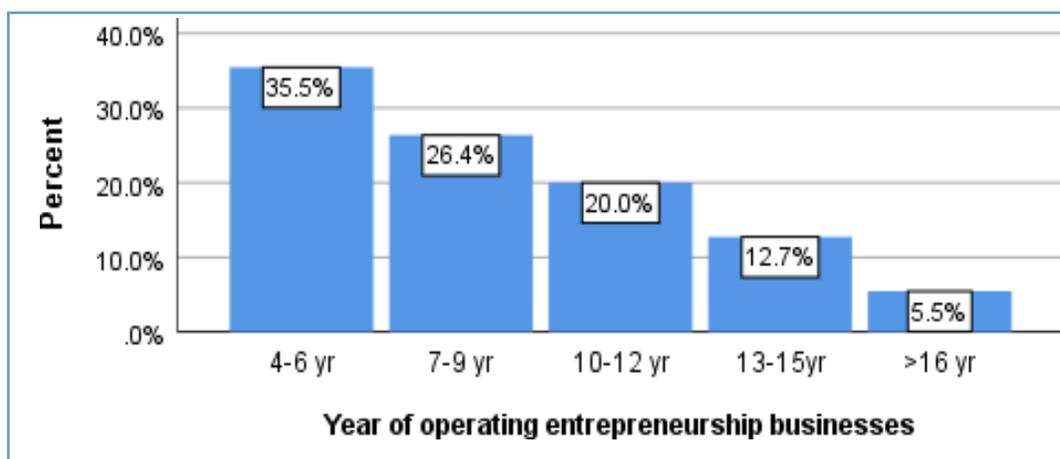
Table 4: Presentation of respondents by their age groups

Age groups		Category of respondents		TOTAL
		SMEs	G/Officials	
21-30 yr	Count	28	3	31
	% within Category of respondents	25.5%	15.8%	24.0%
31-40 yr	Count	30	5	35
	% within Category of respondents	27.3%	26.3%	27.1%
41-50 yr	Count	30	7	37
	% within Category of respondents	27.3%	36.8%	28.7%
51-60yr	Count	15	4	19
	% within Category of respondents	13.6%	21.1%	14.7%
>60 yr	Count	7	0	7
	% within Category of respondents	6.4%	0.0%	5.4%
TOTAL	Count	109	110	19
	% within Category of respondents	100.0%	100.0%	100.0%
Ch-Squire = 2.967df=4 P-value = 0.563				

Entrepreneurship Experiences of the Sampled SMES

Graph 1 shown entrepreneurs who had engaged in the entrepreneurship for the period of 4-6 years were 35.45%; for the period of 7-9 years were 26.36%; period of 10-12 years were 20%; period of 13-15years were 12.7% and period of 16 years and above were 5.4%. There were many SMEs at the beginning of the graph but very few at the end of the graph. This reflects the concept which argued that many SMEs are created every day but majority die before reach maturity stage (Zaied, 2018).

Graph 1: Presentation of SMEs by their entrepreneurship experiences



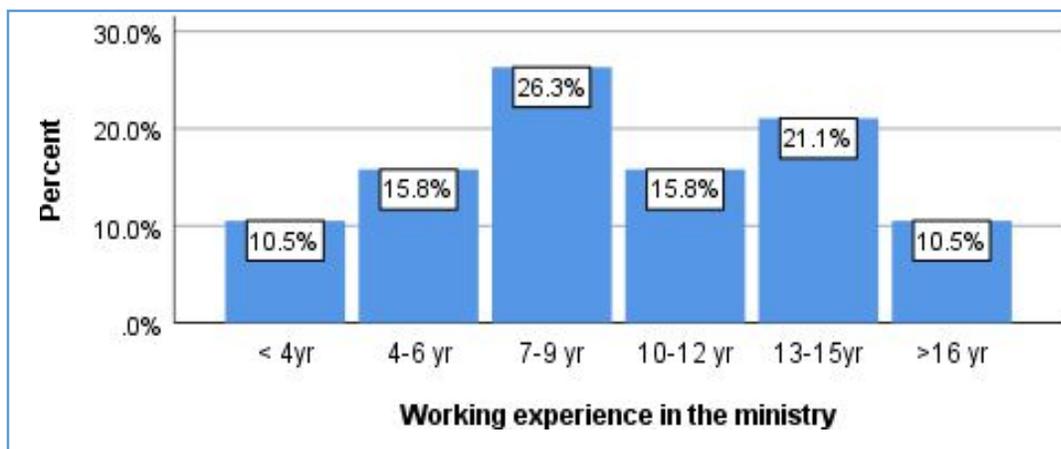
Working Experiences of The Selected Government Officials

The working experiences of the government officials in their respective ministries was captured and presented in the Graph 2.

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**Graph 2: Pre
Sentation of government officers by their working experiences**

Respondents (in Graph 2) who had worked for the period of less than 4 years presented 10.5% of all



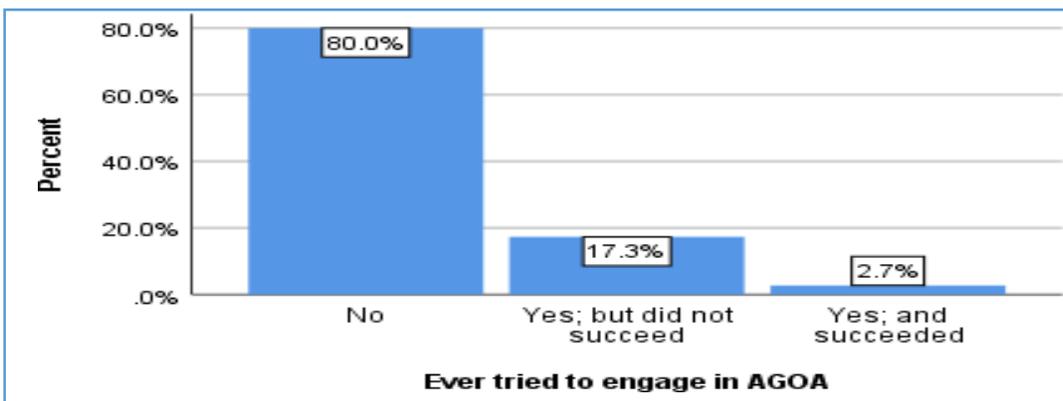
sampled government officials, those with experience of 4 to 6 years presented 15.8%, 7 to 9 years presented 26.3%, experience of 10 to 12 years presented 15.8%, experience of 13 to 15 years presented 21.1% and those with experience of 16 years or more presented 10.5% of all government officials in the study. This statistics indicated that the study was able to capture data from experienced personnel who were well informed concerning challenges face SMEs in the international markets, particularly AGOA market.

Analysis of the Findings and Discussion
SMEs Engagement in AGOA

Sampled SMEs were asked whether they had ever tried to engage in AGOA market; where they rated their answers as either “no; I have not tried” or “yes; but I did not succeed” or “yes and I succeeded”. Graph 3 presented the results of this question. It was noted that majority (80%) of the sample SMEs had never tried to do business in this market, 17.3% had tried but they did not succeeded while 2.7% had tried and succeeded. With this results, it can be generally accepted that majority of SMEs in Tanzania were not enjoying opportunities given by AGOA market. Hence, the study wanted to find out what were the main causes for the large percent of SMEs not to try this market as well as reason for failure among those who tried to push their businesses in AGOA market. This was attained through assessment of local and international factors that had effects on internationalization of the SMEs.

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Graph 3: SMEs Engagement in AGOA



Local Factors Affecting SMEs

The first objective focused on the analysis of local factors affecting Tanzanian SMEs from effectively participating in the AGOA market. Six questions were prepared and presented to the respondents to rate the extent they could agree with the statements/variables of the questions. The questions were answered by respondents from both SMEs and government institutions. The descriptive results were presented in the table 5. It was mentioned that factors which highly inhibited or lowered the efforts of local SMEs to engage in the AGOA market were lack of technological support such as seminars on how to use technological equipments (mean= 3.48 ± 1.021), week business related policies in the country (mean= 3.44 ± 0.980), low capital and lack of loans (mean= 3.43 ± 1.251). The remaining factors were noted to have moderate effect on thereof. These were long bureaucracy in accessing business permits and related government permits in Tanzania (mean=3.32±1.043), poor provision of business information in the country (mean=3.32±0.974) and poor infrastructures in the country (mean= 3.22± 1.239). The general results indicates local factors had moderate inhibiting effect (mean= 3.36) to the SMEs engagement in AGOA market.

Table 5: Local factors affecting SMEs – Descriptive analysis

Factors	N	Min	Max	Mean	Std.
Lack of technological support	129	1	5	3.48	1.021
Week business related policies	129	1	5	3.44	0.980
Low capital and lack of loans	129	1	5	3.43	1.251
Long bureaucracy in accessing business permits	129	1	5	3.32	1.043
Poor provision of business information	129	1	5	3.32	0.974
Poor infrastructures in the country	129	1	5	3.22	1.239
WEIGHTED MEAN				3.36	

Correlation analysis was performed in order to finding out whether there was significant correlation between the mentioned local factors in inhibiting SMEs from engaging to the AGOA market (see Table 6). Accordingly, the six variables ware named as follows: **LIF1** = Low capital and lack of loans; **LIF2** =Lack of technological support; **LIF3**= Long bureaucracy in accessing business permits; **LIF4**= Poor infrastructures in the country; **LIF5**=Week business related policies; and **LIF6**=Poor provision ofbusiness information in the country.

Table 6: Local factors affecting SMEs – Correlation analysis

Factors		LIF1	LIF2	LIF3	LIF4	LIF5	LIF6
LIF1	Pearson Correlation	1					
	Sig. (2-tailed)						
LIF2	Pearson Correlation	.445**	1				
	Sig. (2-tailed)	.000					
LIF3	Pearson Correlation	.475**	.466**	1			
	Sig. (2-tailed)	.000	.000				
LIF4	Pearson Correlation	.385**	.513**	.575**	1		
	Sig. (2-tailed)	.000	.000	.000			
LIF5	Pearson Correlation	.287**	.355**	.467**	.413**	1	
	Sig. (2-tailed)	.001	.000	.000	.000		
LIF6	Pearson Correlation	.349**	.234**	.240**	.366**	.378**	1
	Sig. (2-tailed)	.000	.007	.006	.000	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

The results revealed that there was strong positive significant correlation between all local factors assessed in this study. The p-values was significant at the level lower than 0.0001 for most of variables. This indicated that there was associating. With these results it can be concluded that local factors assessed in this study were significantly inhibiting ability of local SMEs to achieve AGOA market. Apart from that they were relating to each other in such a way that effect of one factor perpetuated effect of other factors.

Concerning weak business related policies in the country, the following were mentioned by interviewees:-

“....a business man can be detained by polices for several days to provide information about his/her business as well as the cargo he is transporting; and they will not even consider the life span of the cargo. At the end of their investigations the whole cargo/products may have been expired and polices would not pay for the losses caused by them.” (Interviewee 1; Sept 14, 2020).

“.....the organizations and institutions that assist SMEs are weak following uncoordinated and fragmented partly due to a lack of clear policy and guidance for the development of this sector. As a result, the potential of SMEs in advancing the national economy appears to have been underutilized.” (Interviewee 11; Oct 8, 2020).

“The sector-supporting initiatives (the programs) and actions have had a small impact. As a result, a number of gaps have developed, making it unable to address the key restrictions impeding development of SME sector. ” (Interviewee 12; Oct 16, 2020).

“Our SME development policy does not talk about what can be done to protect SMEs from inflation and other macroeconomic challenges such as cost of borrowing and production. The new policy that will address some of the current challenges facing SMEs is still under construction...the challenges are credit facilities.” (Interviewee 15; Oct 10, 2020).

Cornering low technological support there was interviewee who mentioned that

“...for the enterprise to develop, the owner had to regularly restructure its operation base on the technological advancement. He/she should always be in the moment of rethinking on how to keep pace with changes in technology and business operations. Apart from that government authorities should support entrepreneurs’ efforts of adopting modern technological in order to increase their production abilities.” (Interviewee 14; Oct 10, 2020)

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The following were mentioned concerning low capital and shortage of loans:-

“Not only in Tanzania, but in the whole African, the SMEs pay the same fixed costs as large corporations to comply with laws. However, SMEs have severely limited access to local and international financing programs. As a result, their ability to promote their products internationally is constrained” (Interviewee 3; Sep 20, 2020).

“The government should consider ways to make financial rules and policies more flexible so that SMEs can flourish in the high competitive markets outside the country.” (Interviewee 6; Sep 14, 2020).

“Government policies must create an environment that is conducive to the growth of SMEs, such as special tax, low-interest loans, and discounts. Setting up special funds for those who adhere to national development policies is an effective strategy.” (Interviewee 10; Sep 27, 2020).

The following were mentioned during interview in relation to shortage of business information:- *“I agreed to the fact that most of us are not aware of the business opportunity you have just mentioned (the AGOA market). If we could know about it, most of entrepreneurs in Tanzania could try it I am*

now going to research about this AGOA market” (Interviewee 9; Sep 27, 2020).

“Entrepreneurs lack access to appropriate sources of business information as well as the expertise to find information. Aside from that, there is no umbrella organization for SMEs that can provide them with business information.” (Interviewee 7; Sep 21, 2020).

“The government through its business agencies such as chamber of commerce and agriculture and responsible ministries have been publishing business information always. But, I accept that the information accessible to SMEs has not been fully utilized by them due to the information gap on how to develop business relationships and industry requirements.” (Interviewee 13; Oct 8, 2020).

In relation to poor infrastructure in the country the following were reported

“Better infrastructures are one of the most critical factors for the growth and development of entrepreneurs because they interact with the economy through production processes.....Poor road networks, inadequate portable water and electricity supply undermines development of entrepreneurship in the country.” (Interviewee 2; Sep 14, 2020)

“The gap in the availability of better transportation infrastructures in Tanzania has greatly impacted on the production processes within manufacturing sector. This has lowered ability of our SMEs to compete in the global market.” (Interviewee 11; Oct 8, 2020)

“We have poor roads and highways even airport facilities are not enough to support faster shipping of goods within the country and to outside the country ” (Interviewee 4; Sep 15, 2020)

“I visited China three year back and saw how it was organized in terms of transport network and shipping activities. Those people have reason to be successful in selling their products in the international markets.” (Interviewee 12; Oct 8, 2020)

International Factors Affecting

The second objective was to assess how international factors were affecting Tanzanian SMEs from effectively participating in the AGOA market. Six variables (adopted from the literature review) were used to collect data for this objective. Obtained data were subjected to the descriptive and correlation analyses. Results of descriptive analysis have been given in the Table 7.

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Table 7: International inhibiting factors – Descriptive analysis

Factors	N	Min	Max	Mean	Std.
Rapid price fluctuation	129	1	5	3.75	1.064
Higher quality standard established by AGOA	129	1	5	3.70	1.009
Long bureaucracy in access international permits from USA Embassy	129	1	5	3.52	1.094
Weakness of Tanzania currency	129	1	5	3.52	0.874
Low level of diplomatic relation between Tanzania and USA	129	1	5	3.37	1.246
Threat of business security in the international market	129	1	5	3.36	1.078
WEIGHTED MEAN				3.54	

It was revealed that factors which could impose high challenges (the high inhibiting factors) were rapid price fluctuation (mean=3.751±1.064), higher quality standard established by AGOA (mean=3.70±1.009), long bureaucracy in access international permits from USA embassy (mean=3.52±1.094), weakness of Tanzania currency (mean=3.52±0.874). Meanwhile factors which were mentioned to have moderate inhibiting effects or challenges were low level of diplomatic relation

between Tanzania and USA (mean=3.37±1.246) and threat of business security in the international market (3.36±1.078). The general result indicated that international factors could highly stop Tanzania SMEs from effectively participating in the AGOA market.

In performing correlation analysis, the variables were abbreviated as follows:- **IIF1**= Long bureaucracy in accessing international permits from USA embassy; **IIF2** = Threat of business security in the international market; **IIF3**= Low level of diplomatic relation between Tanzania and USA; **IIF4**= Weakness of Tanzanian currency; **IIF5**= Rapid price fluctuation; and **IIF6**= Higher quality standard established by AGOA. The result of such correlation analysis has been given in the table 8.

Table 8: International inhibiting factors – Correlation analysis

Factors	IIF1	IIF2	IIF3	IIF4	IIF5	IIF6
IIF1 Pearson Correlation	1					
IIF1 Sig. (2-tailed)						
IIF2 Pearson Correlation	.443	1				
IIF2 Sig. (2-tailed)	.000					
IIF3 Pearson Correlation	.329	.442	1			
IIF3 Sig. (2-tailed)	.000	.000				
IIF4 Pearson Correlation	.535	.517	.408	1		
IIF4 Sig. (2-tailed)	.000	.000	.000			
IIF5 Pearson Correlation	.458	.294	.355	.463	1	
IIF5 Sig. (2-tailed)	.000	.001	.000	.000		
IIF6 Pearson Correlation	.396	.136	.163	.335	.292	1
IIF6 Sig. (2-tailed)	.000	.123	.064	.000	.001	

From the Table 8, it can be seen that respondents who accepted long bureaucracy in access international permits from USA embassy was inhibiting factors; also significantly accepted threat of business security in the international market (p-value < 0.0001), low level of diplomatic relation between Tanzania and USA (p-value < 0.0001), weakness of Tanzanian currency (p-value < 0.0001), rapid price fluctuation (p-value < 0.0001), and higher quality standard established by AGOA (p-value < 0.0001) were inhibiting factors. Respondents who accepted there was threat of business security in the international market they also significantly accepted presence of low level of diplomatic relation between Tanzania and USA (p-value < 0.0001), weakness of Tanzanian currency (p-value < 0.0001), and rapid price fluctuation (p-value = 0.001) were inhibiting factors. But they did not significantly accepted higher quality standard established by AGOA was the factor that hindered local SMEs from accessing this market (p-value = 0.123). With these

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correlation results, the quality standard established by AGOA seemed to have doubtful impact on preventing Tanzanian local SMEs from engaging in AGOA market. But other international factors had significant impact on the matter.

Qualitative findings for this specific objective have been presented as shown below. Cornering rapid price fluctuation and weakness of Tanzania currency it was mentioned that:-

“Tanzania is now witnessing extraordinary price fluctuations and a depreciation in the Tanzaniashilling exchange rate, with exchange rate volatility being more evident as it relates to issues of macroeconomic financial stability, impacting the performance of businesses in the nation.” (Interviewee 11; Oct 8, 2020).

“Tanzania’s exchange rate has been volatile for many years, since the mid of 1980s. Inconsistent of exchange rate together with lack of entrepreneur development policy has lowered the value of products produced by local entrepreneurs.” (Interviewee 12; Oct 8, 2020).

Regarding the higher quality standard established by AGOA interviewees mentioned that:-

“If your products are low in quality compare to the products produced by other entrepreneurs across the world, the product will not sell in European countries and in United States of America.” (Interviewee 15; Oct 10, 2020).

“..... The quality they demand our local entrepreneurs cannot easily afford.” (Interviewee 2; Sep 14, 2020).

“If one wants to compete better in the USA market; then he/she should be better in quality. Those people are after quality rather than price.” (Interviewee 8; Sep 21, 2020).

“I sold my sandals two times in USA under AGOA but high quality standard and regulations became challenges to the reputation of my products. My customers were looking for sandals made with hard materials which are not easily found within our country. So I had to order material from Kenya or Ethiopia. But the benefits became very little then I stopped sending sandals to USA.” (Interviewee 5; Sep 15, 2020).

Cornering long bureaucracy in accessing international permits from USA embassy it was stated that:-

“Hardship in obtain USA business visa is not exclusive to Tanzania; it affects the African continent and every third-world country on the planet.African frequently go to the United States as traders, tourists, or scholars, and never return to their own country. Because of the high rate of visa abuse among Africans; obtaining a visa to the United States has become difficult nowadays.” (Interviewee 12; Oct 16, 2020).

“Although the application procedure for the United States visa is straight forward and fairly easy, acquiring the visa is more difficult than you would think. It is extremely difficult to obtain a visa, and it is quite expensive; the visa application price is US\$ 160, and the visa issuance fee is US\$ 50. These are non-refundable costs that must be paid to initiate the process.” (Interviewee 3; Sep 15, 2020).

The was interviewee who stated diplomatic relation

“business visa given by USA to Tanzanians last for three to six months but to Kenyans last for six

to twelve months or more. There is no plane moving direct from USA to Tanzania but there is a plane direct from Kenya to USA. All these shown that, diplomatic relationship between Tanzania and USA is not stronger like how it is between Kenya and USA.” (Interviewee 9; Sep 27, 2020)

Conclusion

All examined local factors were found to have significant hindering effect to the Tanzanian SMEs from fully engage in the AGOA market. Base on the order of the main concerning the local hindering factors

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could be arranged as follows:- lack of technological support, poor business policy in the country, low capital and lack of loans to SMEs, long bureaucracy in accessing business permits, poor provision of business information in the country and poor infrastructures in the country. The international factors that hinder SMEs to fully participate in the AGOA market were identified in the study. Factors that were discovered to highly inhibit the SMEs were rapid price fluctuation, high quality standards, long bureaucracy in accessing the international permits from the USA embassy, and weakness of Tanzanian currency. However, it was also discovered that level of diplomatic relation between Tanzania and USA was not strong to support easy accessibility of this market by Tanzanian SMEs. Lastly the study reported the threat of business security in the international market had some little hindering effect to the Tanzania SMEs in accessing AGOA. Finally the study concludes that the local and international inhibiting factors were both hindering the Tanzanian SMEs in undertaking the marketing opportunities brought by AGOA market.

Recommendation

There is a great need of revising business in the country so as to cope with the required market. Also to facilitate easy accessibility of the business permit and loans to the SMEs. There was a great need of removing business barriers within the country so as to facilitate easy importation of tools, equipments and machines that are required in processing the raw material into final products.

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Factor affecting the Implementation of E-Procurement Selected government hospitals in Tanzania

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Abstract

Automatic tender evaluation is arguably one of the most critical functions for the success of a comprehensive government e-procurement system. Poor implementation of e-procurement practices in the health sector has led to delayed procurement of materials and services. The study focused on the effect online tender evaluation of bidders on timely procurement of goods in selected government hospitals in Tanzania. A cross-section research design was adopted where a sample of 104 respondents was selected using simple random and purposive sampling technique. Data collection methods included interview and questionnaire. Quantitative data were analyzed using descriptive statistics and multiple linear regression analysis. The study found out that there is a significant and positive relationship between online tender evaluations of bidders on timely procurement of goods. This implies that, online tender evaluation of bidders was important e-procurement practice that influences timely procurement of goods. It ensures time and costs saving. It allows storage and protects privacy of the bidding documents and evaluation results. It provides transparency and timely completion of the evaluation process and results. Therefore, the study recommended that all government hospitals in Tanzania should consider full implementation of online tender evaluation of bidders to greatly improve their operational performance in terms of time and cost savings that will help to achieve timely and successful procurement of goods in selected government hospitals.

Key words: E-procurement, Timely procurement, Government hospital, Tanzania

Introduction Public procurement has a huge potential to stimulate the economy by providing opportunities to Small and Medium Enterprises (SME's), if done correctly. The major bottleneck in the procurement process is inefficient tenderer valuation and selection of bids. This paper analyses how Innovation can be used in Public Procurement to ensure true fairness, competitiveness, transparency and value for money in public projects. Technology is a powerful tool to influence business culture. This paper describes the overall Procurement Management Practices used in Tanzania, the challenges, how the procurement process affects public projects (i.e. Time and Cost), how e-evaluation as a component of e-procurement can reduce Time and Cost in Public Projects and Finally the Project Plan and scope for the implementation of an efficient e-tendering system (A. Dello & C. Yoshida, 2017).

Automation of organization's processes for procurement of goods and services through web-based applications has been noted for its potentials to rationalize organizational expenditure, reduce administrative costs, and stimulate efficiency in operations (Nasrun et al, 2017).

The development of Information and Communication Technologies (ICT) opened a wide range of opportunities for improving processes within and between organizations. Several public sector agencies worldwide have identified e-procurement as a priority for the e-government agenda and public procurement is being perceived as a major function of government. (Fernandes &Vieira, 2015).

Online tendering is an effective contracting method to achieve favorable outcomes for Public Entities. It is a complex business process that generates a series of contractually related liabilities.

Online tender evaluation is a critical activity and is normally the accepted means of obtaining a fair price and best value for undertaking procurement of goods, services and construction works.

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The primary quality into the evaluation of tender offers provide a viable means of managing the risk of non-conformance and the failure to attainment project outcomes, without violating the principles of fairness, transparency and value for money (Smita Sarker, Mohammad Salah Uddin Chowdury and Pulok Deb 2012).

Tender Selection is a multi-criteria decision making process in which project performance is influenced by time, cost and quality. The appropriate tender selection can ensure a smooth delivery process and eliminate several complexities during procurement of goods, services and construction projects.

Several case studies highlight the successful implementation of a state-wide e-Procurement platform across several government departments, public sector units, and urban local bodies in developed countries such as Malaysia. This has delivered quantifiable benefits to the suppliers and the government directly, and to society, indirectly (Kasemsap, 2017). This path-breaking initiative has provided transparency, fairness and equal opportunity to private entrepreneurs who are now able to submit bids online anywhere and anytime for government contracts and sell products or expertise to government agencies through the e-Procurement portal. Additionally, wherever e-Procurement has been applied, potential benefits have been acquired such as reduced costs, as it enables volume purchases, allows a wider choice of buyers and suppliers, brings about better quality, improves delivery, reduces paperwork, lowers administrative costs and saves time (Avedi, 2016).

In Africa, the concept of e-procurement is just gaining popularity, especially in the public sector. To deal with the problems of lack of accountability and transparency in procurement activities in the public sector, most African countries have resorted to legal reforms and the adoption of e-procurement (Rotich & Okello, 2015). For instance, in Kenya, Public Parastatals have been investing in information technology as part of the ongoing reforms in the public sector leading to the decline in the costs in some key services of World Bank Projects in the year 2007 (Hope, 2012). To eradicate matters concerned with corruption in government procurement especially in the health sector, Information and Communication Technology can be of the great purpose to reduce financial wastage by enhancing good performance. Corporate procurement can be enhanced through e-procurement yielding profits, establishing good procurement controls (Kohler and Dimancesco, 2020). E-procurement also contributes to reduced lead time, procurement cost and enhanced transparency of the procurement process especially in online tender evaluation of bidders that facilitates timely reporting of the evaluation process. The transfer of procurement functions from manual processes to internet use has a great impact on reducing cases of corruption in public sector procurement (Adjei-Bamfo, et al., 2019). Cost-benefit was the main driver among other benefits of, transparency, better supplier-buyer relations, streamlined buying process that formed the basis to implement e-procurement (Innocent and Kalaskar, 2016).

Tanzania Government has identified e-procurement as a priority in the e-Government agenda and is in the process of implementing buy-side e-Procurement systems that have been established to allow online sharing, online advertisement, online tender submission, online tender evaluation, online contracting, online payment, online communication and online checking and monitoring to ensure all public procurement activities are conducted online (Geoffrey & Barrack, 2015). The e-procurement procedure allows government contracting authorities to procure goods and services from suppliers electronically, by transforming the manual procurement procedures into an electronic, internet-based system (Lyimo, 2019).

However, the poor performance of public procurement has mostly been attributed to the ineffective and inappropriate running of public finance during procurement processes (Mrope, 2018). It is therefore a good time to be aware of the necessity to give value for money and to effectively implement performance on all levels of the public sector during the procurement process to eradicate the cases of speculative performance and achieve sustainable performance. Providing information on the performance of the procurement in the public sector can be a useful tool for the government to assess their achievements (URT, 2017). In addition, PPRA reports of 2017 cited poor performance of the Public sector which was mostly been attributed to the ineffective and inappropriate running of the public finance during procurement processes.

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To address problems of lack of accountability, transparency and timely completion of procurement activities, the Ministry of Health, Community Development, Gender, Elderly and Children as part of the public sector in Tanzania has started using an online e-procurement system known as Tanzania electronic Procurement System (TANePS) since 2019 for submission and evaluation of bids. This is done to become more transparent, efficient and eliminate corruption in tender evaluation process. Subsequently, the goal is also to slash long queues and processes that take time. The system is intended to give applicants clear instructions and guidelines on how to apply for procurement from the government. The system is expected to reduce government spending by having a level playing field for all (URT, 2020). This will also increase control and visibility over the entire life cycle of a procurement process from planning, procurement process to payment. E-procurement also ensures that procurement of goods and services is done fairly, equitably competitively and in a cost-effective manner. This is to ensure that all procurements are made public for citizens to see the transparency of the process (URT, 2020).

Some studies have been conducted on e-procurement practices, the notable ones are those of Munyao and Moronge (2018) who carried a study on the Influence of e-Procurement Practices on Performance of Procurement in Public Universities in Kenya. The findings revealed that e-tendering, e-sourcing and e-ordering positively and significantly affect procurement performance. The study recommended that there was a need for the public institutions to adopt the least practised e-sourcing practices such as e-RFQ/P and e-contracting to a great extent to reduce the transaction costs and speed up the procurement process. Another study by Waganda (2018) investigates the effect of electronic procurement on the performance of United Nations Agencies in Nairobi. The findings revealed that e-tendering, e-auctioning, e-invoicing and e-sourcing are statistically significant and influences the performance of UN Agencies in Nairobi. The study recommends that there is a need to conduct a similar study in other organizations in an attempt to compare the findings. However, most of these studies were carried out in Kenya.

In Tanzania, few studies have researched e-procurement on performance. A good example is a study by Mboya (2015) who evaluated critical assessment on the effects of e-procurement in enhancing project performance among private sectors organization. However, these studies focused on the private sector. Therefore, the current study addressed the knowledge gap by assessing the effect of e-procurement practices on the performance of public procurement in the health sector.

E-procurement has got many benefits such as saving money by preventing duplicate spending, leveraging volume buying, and costs saving organization associated with paper-based systems (Pyymäki, 2018). It is in this view that most countries in the world including Tanzania have decided to use e-procurement as a strategy to improve performance in public procurement.

According to Jackson (2019), for e-procurement to achieve effective performance, cost and time must be reduced. In Tanzania, studies have reported on the delay of procurement in the public sector (IDFI, 2018). For example, according to the report by the Controller and Auditor General of 2019/2020, 447 equivalents to 74% of constructed healthcare facilities project were not completed within the planned time throughout the country. The analysis showed that 67 out of 68 of Constructed District Hospitals, which is equivalent to 99%, delayed in completion.

The consequences of delaying the procurement of materials and services for construction as well as medical supplies particularly in the health sector include the death of patients due to lack of medical supplies and poor access to health care services. Now the question is 'has e-procurement practices made a significant improvement in timely delivery of goods and services to government hospitals in Tanzania?'

Tender evaluation as a procurement practice is the main activity and decision made by the clients in order to ensure that projects can be completed successfully. Online tender evaluation practice enables decision support system in order to improve tender assessment process as well as finding the relative importance ranking of basic criteria of best tender which help the decision maker to evaluate the best tender more precisely. The online tender evaluation system approach can help decision makers reach a robust decision (Smita Sarker, Mohammad Salah Uddin Chowdury and Pulok Deb 2012).

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Previous studies have overlooked this particular area which is important for ensuring value for money. Most studies have concentrated on e-procurement practice in the private sector and factors influencing e-procurement adoption (Jackson, 2019). The notable studies include those of Mboya (2019) and Suleiman (2015). Therefore, the current study examined the effect of online tender evaluation on the timely procurement of goods in selected government hospitals in Tanzania.

Methodology

This study has adopted cross sectional design. The population included all staff involved in procurement process in the selected five government hospitals. The sample size for this study was 104 respondents obtained by using formula provided by Yamane (1969). With regards to sampling procedures, simple random and purposive sampling techniques were used. Simple random sampling involved PMU and User Departments while Purposive sampling technique involved Key Informants (HoDs).

The study employed descriptive and inferential statistics. Descriptive statistics was used to analyze demographic characteristics as respondents presented in frequency and percentage. Inferential statistics was used to analyze quantitative data by using multiple linear regressions Model so as to establish the relationship between independent and dependent variables.

Results and Discussion

3.1 Descriptive Results

Respondents were asked to rate the extents to which the online evaluation of bidder influences timely procurement of goods. The rating was done using a Likert scale of 1-5 where: 1= Strongly Disagree 2 = Disagree 3= Neutral, 4=Agree and 5 = Strongly Agree. Mean score and standard deviation (SD) are used to rank the responses as shown in Table 9

Table 3: Descriptive results of the online tender evaluation (n=104)

Statement of online evaluation of bidder	Mean	Std. Deviation
e- procurement helps organization evaluates suppliers online	3.98	0.223
Through e-procurement, automation of Suppliers' scores is done online	4.12	0.049
Online evaluation helps to store the whole evaluation process and produce evaluation report	4.44	0.136
Aggregate Mean	4.18	0.136

Source: Research Findings, 2021

An aggregate mean of (Mean =4.18, SD= 0.136) was recorded implying that the respondents agreed that the government hospitals have practised online tender evaluation to a very great extent. This attributed to a great extent, the respondents agreed that e-procurement helps organization evaluates suppliers online and that through e-procurement automation of suppliers scores is done online with mean scores of (Mean=3.98, SD= 0.223) and (Mean=4.12, SD= 0.049) respectively. The least rated statement was that online tender evaluation helps to store the whole evaluation process and produce an evaluation report with an average score of (Mean=4.44, SD= 0.136) indicating a high level of agreement among the respondents. The standard deviations obtained indicated that the responses given did not greatly deviate from the mean scores. Findings imply that the online evaluation of bidders was an important tool in e-procurement that influences the timely procurement of goods.

Findings concur with Faheem and Siddiqui (2019) who contend that e- evaluation was important in the procurement of goods when a transaction is done the back office or the procurement management system saves the data and all the records about the transaction for keeping the history of purchasing, for evaluating

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the performance of suppliers, for analyzing the pattern of buying, for providing the foundation for associating the industrial purchases and for collecting the important information for preparing the management report and documentation.

3.2 Multiple Linear Regressions Analysis

Multiple linear regression analysis was done to determine the effect of the various independent variables on the timely procurement of goods. Through this analysis, the study was able to predict a score of one variable based on their scores on several other variables

3.2.1 Regression coefficients

The study sought to ascertain the effect of online tender evaluation variables (online bidder's selection, evaluation bidder's scores and bidder's evaluation report) on the timely procurement of goods among selected government hospitals in Tanzania. The findings are as shown in Table 6.

Table 6: Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.245	0.082		3.428	1.000
Online bidders selection	0.552	0.083	0.512	1.640	0.000
Evaluation bidders scores	0.362	0.083	0.301	3.746	0.037
Bidders evaluation report	0.104	0.083	0.108	1.259	0.011

Source: Research Findings, 2021

a. Dependent Variable: Timely procurement of goods

The equation for the regression model is expressed as:

$$Y = 1.245 + 0.552X_1 + 0.362X_2 + 0.104X_3$$

Where;

Y = Timely procurement of goods

X₁ = Online bidders selection

X₂ = Evaluation bidders scores

X₃ = Bidders evaluation report

The findings reveal that online bidders selection (Beta coefficient = 0.552, p-value= 0.001), Evaluation bidders scores (Beta coefficient= 0.362, p-value= 0.037) and bidders evaluation report (Beta coefficient = 0.104, p-value= 0.011) produced statistically significant values (p-values less than 5%). The study found out that online bidder's selection, evaluation bidder's scores and bidder's evaluation report all have a positive and statistically significant effect on the timely procurement of goods among selected government hospitals in Tanzania. These findings suggest that a unit increase in online bidder's selection, evaluation bidder's scores and bidder's evaluation report as online tender evaluation practices would improve the timely procurement of goods among the selected government hospitals in Tanzania by 55.2%, 36.2% and 10.4% respectively.

The study's findings corroborate some findings of previous studies. For instance, Calipinar and Soysal (2012) established that e-Procurement in the health sector in Turkey leads to improved drug flow from the

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doctor to the patient. Sharifai, Mbaraka and Agaba (2013) studied the effect of e-Procurement on the performance of service organizations in Uganda and established a significant association existing between e-procurement and service organizations. Kamotho (2014) established that state corporations have adopted various e-procurement practices that have had a strong effect on their performance.

4.0 Conclusions, Implication and the Area for Further Research

4.1.1 Conclusion

The study concludes that an online tender evaluation has a positive and significant effect on timely procurement of goods among selected government hospitals in Tanzania. This implies that the online tender evaluation was an important tool in e-procurement practices that influences the timely procurement of goods.

4.1.2 Implication

This study has come with practical information on the effect of electronic procurement on timely procurement of goods which acts as a reference to the procurement policymakers to initiate a good procurement performance within the organization., In this regard, the study recommends policymakers within the organization formulate relevant policies which will improve e-procurement implementation in government hospitals for timely procurement of goods.

4.1.3 Area for Further Research

The study suggests future research to the following areas

- i. The current study focused on government hospitals only. Thus, there is a need to widen the scope to also look at other parastatals as well as semi-public organizations which represent the public sector. This is because the rules and internal governing structures of the organizations are different.
- ii. Furthermore, other studies can focus on a different context other than the public sector. Such a context can be the private sector or non-governmental organizations.

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The Contribution of E-tendering Knowledge Among Procurement Staff for Public Institutions' Performance in Dodoma City

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Abstract

Currently with technological growth, public institutions and business organizations are moving from manual procurement to electronic procurement practices such as e-tendering to achieve global business competitions and improve performances. This study examines the contribution of e-tendering on improving public institutions performance in selected public institutions in Dodoma city. Specifically, the study assessed users' knowledge on the implementation of e-tendering for public institutions performance in Dodoma city. The study is qualitatively designed and uses interviews method. The study results revealed minimal knowledge on e-tendering among procurement staff on e-tendering for the performance of public institutions. The study suggests the need for the government to maximize e-tendering training among procurement staff to improve the e-tendering knowledge for proper use of e-tendering hence enabling public institutions' performance in Dodoma Tanzania.

Key words: E-tendering, Public Institutions, E-tendering knowledge

Introduction

The Problem

E-procurement is the method of buying and selling supplies and services by using the internet (Amani, 2015). E-procurement is linked to e-tendering through sending request for proposal to supplier and receive responses for procurement of goods, works and services in various sectors whereas the awarding is done electronically (Alyahya & Panuwatwanich, 2018). With an effective management policy in place for the adoption of Information and Technology and the adoption of e-tendering; the two simultaneously reduce imperfections and enhance effective procurement in government organizations (Padhi & Mohapatra, 2010). Studies on e-tendering are the response to questions on clarifications during tendering that have reduced transactions costs to both procuring entities and suppliers; and improved audit trail with and increased integrity and transparency of the tendering process (Alyahya & Panuwatwanich, 2018).

Despite the benefits attained from successful e-tendering implementation in Tanzania, some procuring entities and suppliers have been waving to adopt an e-tendering system (Suleiman, 2015). For instance, 326 out of 1,055 (30.9%) of trained suppliers for piloting the TANePS adoption in the country became reluctant to adopt the system on diverse reasons (URT, 2018). Also, there has been a drop out of the registered suppliers in TANePS by 1.2% during the financial year 2018/2019 (URT, 2019).

During the financial year 2020/2021, only 53 percent of procuring entities conducted their procurement in TANePS published their awards in the system. This implies that 47 percent of procuring entities conducted their procurement in TANePS to a certain stage and thereafter finalized the procurement process outside TANePS. This poses the need for this study to investigate The Contribution of e-tendering knowledge among procurement staff for public institutions' performance in Dodoma city.

Statement of the Problem

The replacement of manual tendering to e-tendering became important in the current era due to the weakness of manual tendering (Batoev & Schlosser, 2013). Therefore, using manual tendering process hamper company's aspects as today's world has grown and everything is technological in the process by using sophisticated equipment's like computers, internet and procurement software which are timely, less in cost and capital intensive (Meena, 2018).

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The contribution of e-tendering knowledge has many benefits including elimination of paperwork, reducing errors, visibility and transparency in transactions, efficient purchasing, better utilization of human resources, efficiency in the supply chain and improvement in customer service (Rahim, 2013). Likewise, it is reported that failure to address the effective implementation of e-procurement results might cause the issue of not addressing the client needs, job performance and job productivity effectively (Syed *et al*, 2019).

Method

Participant Characteristics

Since this study was qualitatively based, therefore the 32 participants included the Heads of PMU, IT Officers, Principal Procurement Officers, Senior Procurement Officers and Engineers.

Sampling Procedures

Purposive sampling was used to collect data for key informants. The technique was used to obtain the key informants who were the leaders and have basic knowledge about e-tendering in public institution performance.

Research Design

This study adopted qualitative research design whereby narrative research design was espoused. The design allows the collection and analyzing of stories. Usually, a narrative research design is focused on studying an individual person. The researcher becomes the interpreter of the individual's stories, as opposed to a community. **Results**

3.1 The users' knowledge on the implementation of e-tendering for public Institution's performance

The study findings indicate that PMU staff in Public Institutions lack a basic knowledge of the use of TANePS as explained below by an interviewee;

"A big number of our workers lack knowledge on TANePS because the system is newly adopted in Tanzania; therefore the knowledgeable ones are those coming from schools recently. Like the institution, we do not provide education about e-tendering but we prefer the employees' development to gain more knowledge, skills and experience about e-tendering" (Interview, respondent No. 5).

Also, the qualitative findings from interviews revealed that there is little access to training about e-tendering. This result is shown from an interview which exhibits that:

"We normally have no access to any training about e-tendering that comes from our institution, but the access comes from our efforts in extracurricular with different personnel who deals with e-tendering" (Interview, respondent No. 3).

Another respondent added that:

"Workers in our institution, access training through seminars and workshops that are prepared by the institution in a year, these training are not enough because the e-tendering system is very complex and it needs a lot of time to be covered by the users". (Interview respondent No. 24).

Discussion

4.1.1 PMU Staff's Basic Knowledge on TANePS

From the findings, PMU staff in Public Institutions lack a basic knowledge of the use of TANePS. This result implies that users of e-tendering in public institutions are not knowledgeable about e-tendering instead are more aware of traditional methods of tendering processes which hinders the implementation of the modern tendering process in the current era for public institutions performance. These results were supported by the Technological Acceptance Model which entails that using the e-tendering technological systems would enhance public institution performance (Davis, 1989). These results are in line with those of Kisanga and Ireson (2015) who revealed that lack of e-learning knowledge is one of the challenges facing Tanzania Higher Learning Institutions.

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More to the point, the lack of e-learning knowledge among users weakens the performance of new technologies like TANEPS in public institutions. This is supported by Mangitung and Novitasari (2015) who reported that the implementations of e-procurement have some constraints such as lack of human resources related to ICT (technology). Therefore, lack of knowledge of using e-tendering in public institutions resulted in difficulty of tasks and increase of duties, and thus slow the activities of the institution to attain a targeted output.

4.1.2 Training of staff on e-tendering

The qualitative findings from interviews revealed that there is little access to training about e-tendering. These results imply that users of e-tendering access little training related to e-tendering, which lead to the incompetence of users and thus affect public institution in performance to the purchasing of public goods and services by e-tendering.

These results are in line with those of Tsuma & Kanda (2017) who found that staff training on e-procurement is critical in rolling out the e-procurement system in public entities. Furthermore, Shatta *et al.* (2020) supported the study that, the top management had played the most significant role by providing the opportunity for the employee to attend the training related to the implementation of the e-tendering system. Therefore, access to employees' related training about e-tendering facilitates the acquisition of new knowledge and skills about the system and thus increase public institution performance.

Conclusion and recommendation

This study concludes that users of e-tendering in public institutions have little knowledge of e-tendering thus their knowledge in using e-tendering does not significantly result into public institution performance. Also, the study indicates that the number of trainings accessed by users about e-tendering is not enough in addressing the new system of tendering which is too complex for the users to know by themselves without having any training as suggested by Technological Acceptance Model which entails that using the e-tendering technological system would enhance public institution performance. Besides, the government should provide e-tendering related training to workers to increase the knowledge to experienced staff such that they can participate in proper use of e-tendering and enable public institutions' performance. Furthermore; a study can be conducted on the factors influencing the effective implementation of the e-tendering process in private organizations. This will enable mapping up the differences and relationships of the adoption of e-tendering in public and private sectors.

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Factors Affecting Sales of International Solar Mini-Grids In Tanzania Mainland

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Abstract

This study examined the factors that affect Sales of International Solar Mini-Grids in Mainland Tanzania. It was conducted in Arusha, Mwanza, Dodoma and Dar es Salaam. The reason for conducting this study for International Mini-Grids is because they had a decline in sales. The sample size was regarded as the total population which is 70 respondents. A cross-section survey research design method was employed. Quantitative and qualitative data were both used in this study whereby respondents were the source of primary data. Secondary data were extracted from the relevant documents. A structured questionnaire, interview guide, and document review were employed as data collection tools. Multiple linear regressions were employed in data analysis by applying the “Enter” method with the aid of a statistical SPSS. An in-depth interview was employed to collect qualitative data by using the purposive sampling technique. Content analysis was used for qualitative data analysis and information obtained from qualitative data was utilized to supplement quantitative data. The study revealed that government policies, more specifically energy policy, affect sales of International Solar Mini-Grids in Mainland Tanzania. In addition, the study revealed that regulatory framework particularly tariff affects sales of International Solar Mini-Grids in Mainland Tanzania. Likewise, this work revealed that customers’ purchasing tendencies were significantly affecting the sales of International Solar Mini-Grids in Mainland Tanzania. The findings imply that ignoring the factors affecting sales of International Solar Mini-Grid in Mainland Tanzania might worsen the power sector and solar Mini-Grids sustainability. This work recommends that to foster the sales of International Solar Mini-Grids, the government should have a suitable policy and regulatory framework geared to enhance the marketability of the electricity and enhance customer purchase.

Keywords: Customer purchase, government policies, international solar mini-grids, Sales, Tanzania Mainland.

Introduction

Energy from electricity plays a great role in industrial, commercial and residential establishments (World Bank, 2019). Global statistics show that populations of 1.1 billion do not have electricity access following high costs (Malhotraa *et al*, 2017; IEA and World Bank, 2019). The eighth Sustainable Development Goal (SDG) advocates access to renewable, safe and widely available energy sources such as solar mini-grids for all. In response to this objective, the government of Tanzania incentivized and enacted various policies and laws in favour of the power sector and private investors participation (Al-ghussain. *et al*, 2020; World Bank, 2019; EWURA, 2020). All these measures have been done to ensure proximity of power in the country including remote areas and islands. However, International Solar mini-grids operating in Mainland Tanzania has been reporting on the decline of sales and there is no thorough study carried out in investigating the factors affecting the sales. Ignorance of such factors in question might worsen the sector as demoralization of investors may affect the economy of rural areas and islands. Mainali (2018) noted that renewable technologies are at the centre of solving the challenges of rural electrification. However, higher operation and set-up costs, and institutional factors seem to hinder the process. Furthermore, political regulations and policy, social, sustainability, safety and financial capital factors such as customer purchase ability were found to affect the sector (Al-ghussain *et al.*, 2020; Malhotraa *et al.*, 2017; Williams *et al.*, 2015; Hazelton *et al.*, 2014 & Franz *et al.*, 2014). In this regard, limited relevant studies in the Tanzanian context compelled the researcher to investigate factors affecting sales of International Solar Mini-Grids in Mainland Tanzania.

Tanzania like most countries needs renewable energy like solar power mini-grids (Samoita. *et al*, 2020) as the catalyst of green development. Out of 56 million people of Tanzanians, 78.4% have access to electricity and 37.7% have been connected to electricity (EWURA, 2020). Solar mini-grids came into

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existence following the incapacitation of TANESCO. Various enabling initiatives have been made by the government to enhance the business of solar mini-grids by establishing regulatory framework, incentivizing the sector and enacting relevant policies and laws. It was expected that solar mini-grid investment would be profitably done and its performance reflected in sales size, however, this has not been the case. International Solar Mini-Grids operating in Tanzania mainland has been reporting on the decline of their sales particularly starting on the second quarter of the year 2020 where PowerGen Renewables Energy Limited, reported a drop of 83% from TZS: 36,417,221.31 to 6,079,845.85 (PowerGen, 2020), Jumeme Rural Power Supply Company Limited 86% from TZS: 52,918,221.44 to TZS: 7,656,880.27 (JUMEME, 2020), and Engie Power Corner Tanzania Limited 54% from TZS: 28,000,000 to TZS: 13,000,000 (EPT, 2020). The three (03) Mini-Grids represent 10,062 customers out of a total of 11,193 which is equivalent to 90%. Various studies mention that institutional, political factors, social-cultural, technological and economic factors such as customer purchase ability affect the electricity sector (Al-ghussain. *et al*, 2020; Malhotraa *et al*, 2017; Williams *et al*, 2015). Similarly, it has been mentioned that regulatory framework, customer purchase, and policies affect the performance of mini-grids in Tanzania mainland (Bloomberg, 2020). However, there is little information and literature to explain how the aforementioned factors affect the sales performance of International Solar Mini-Grids in Mainland Tanzania. Ignorance of these factors might worsen the power sector. The study, therefore, examined factors affecting sales of International Solar Mini-Grids in Tanzania Mainland. Specifically, the study; (i). determined the effect of regulatory framework on sales of International Solar Mini-Grids, (ii). examined the effect of customer purchase on sales of International Solar Mini-Grids, and (iii). assessed the effect of government policies on sales of International Solar Mini-Grids in Tanzania Mainland.

Literature review

Theory used is Stakeholders Theory developed by Freeman (1984). It designates the way numerous stakeholders impacts performance of the organization. These include suppliers, the public, customers, society, media, employees, investors, policymakers, regulators, and development partners (Okello & Kihara, 2019). The relevance of a theory is evidenced by its capability to explain various stakeholders in which solar mini-grid business is involved including; EWURA as energy regulator, customers who pay for the services, investors, and the Ministry of Energy as a policy maker. Therefore, in this study, regulatory framework of which tariff is its subset, customer purchase, and government policies including energy policy were independent variables while sales of International Solar Mini-Grids was the dependent variable. To get more information on the factors affecting sales of International Solar Mini-Grids, empirical review was then done.

The study examined the effect of regulatory framework on sales of International Solar Mini-Grids in Tanzania. Tanzania is considered to have developed strong regulations for the sustainability of mini-grids as compared to the remaining Sub-Saharan countries in Africa (Bloomberg, 2020). Nevertheless, current movements have called the commitment of the government into question with complaints from investors on the weak execution of regulations including the tariff. Al-ghussain *et al.* (2020) observed that political regulations of which tariff is its subset affect sales of the solar mini-grid projects in Mozambique. This observation was supported by the work of Abase (2018) in Ghana. However, both studies were less relevant to Tanzania as they were conducted in Mozambique and Ghana respectively. Studies conducted in Kenya found that solar mini-grid energy solutions are affected by the shortness of lifespan of the project, government and society support (Samoita *et al.*, 2020 & Ponde *et al.*, 2019). Besides, it was noted that the regulatory framework including tariffs affected the functionality of the solar mini-grids in Kenya. It is not known to what extent EWURA as an energy regulator affects sales of International Solar Mini-Grids in Tanzania Mainland. The researcher was eager to investigate factors affecting sales of International Solar Mini-Grids in the Tanzania Mainland context. In the case of Tanzania, Bishoge *et al.* (2018) found that government regulations enforcement had a problem in that setting of price or tariff was inconsistent. Therefore, it is evident that government regulations affect the investment of solar mini-grid in Tanzania. Even though, the research vicinity was in Tanzania, yet, this study failed to unfold factors affecting sales of International Solar Mini-Grids in Tanzania Mainland. Thus, its findings were too general and vague to be considered. Thus, the conclusive study on factors affecting sales of international solar mini-grid in

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Tanzania is limited. Instead, Bishoge *et al* (2018) considered the effect of customer purchase on sales of solar mini-grids which indeed was found to affect the sales of International Solar Mini-Grid in Tanzania Mainland as portrayed as discussed in the next section.

The decision-making procedures and actions of people who buy and use things are referred to as customers' purchase tendencies (Kotler, 2012). Customer purchase tendency is a demographic factor that shows the ability of customers to pay for the electricity liabilities. Mainali (2018) found that income poverty, lack of credits, inadequate government subsidy and institutional credibility were hindering electricity proximity and access in Nepal. This study was significant in that it provided factors causing unsatisfactory sales of solar mini-grids. However, this study was conducted in Nepal thus, its findings may not apply to Tanzania. Furthermore, Malhotraa *et al.* (2017) observed that cost of capital for renewable energy was affecting the investment of solar mini-grids. This study has pinpointed factors affecting the sale of solar mini-grids. Moreover, the study has been done in India and not in Tanzania. Based on this view, study findings cannot be generalized for the Tanzanian context. Bloomberg (2020) argued that solar mini-grids are designed for low-income families and that their customers demand is changeable as their income depends on agriculture. Also, weather fluctuating conditions and crop yield seasonality affects their capacity to pay for electricity bills, hence the sales of electricity are affected. Nevertheless, connectivity of government policies with customer purchase tendencies and ultimately alteration of sales of International Solar Mini-Grids have not been covered by Bloomberg (2020). Government policies were also suggested to affect the sales of Solar Mini-Grids in Tanzania Mainland as discussed in the next paragraph.

The policy is a government deliberate act that amends or impacts the society or economy (Barrett, 2006). This implies that the government policy sets the mannerism on appropriate problem addressing by either encouraging or discouraging certain actions to attain the goal intended. Liu *et al.* (2019) related the government supports to the selected energy firms' performance in China. Government subsidies proved to have a constructive financial performance effect on private enterprises than they do on public enterprises. The study suggested that government should correct the subsidy policy for sustainable energy enterprises performance. Mainali (2018) revealed many factors which affect sales of solar mini-grids in Nepal but, Liu *et al.* (2019) observed that the government policy of subsidies was highly emphasized. Despite the suitability of these studies, it is not known upon using other approaches apart from panel data whether the findings will remain stable. Likewise, China and Nepal differ considerably from Tanzania; therefore, such studies' findings cannot be generalized to the Tanzania context. Al-ghussain *et al.* (2020) found that in Mozambique, political regulations, low capital, and policy affects the sales of the solar mini-grids. Also found that social, sustainability and safety issues affect too. Abase (2018) and Al-ghussain *et al.* (2020) agree with the opinion that installation of the solar mini-grid system is cheaper compared to other power sources but, without government subsidy, credit facility and promotion by experts, the sector cannot be fruitful enough. This implies that there is a need to ensure that government policies on energy should be geared towards financing, offering credit facilities to investors and promotion of electricity to citizens so that they may adopt the technology and ultimately purchase the power. Similar to Al-ghussain *et al.* (2020), who conducted a study in Mozambique, Abase (2018) studied the topic in Ghana in West Africa. Thus, both pieces of research' findings were little relevant to Tanzania due to differences in vicinities. Ponde *et al.* (2019) found that solar mini-grid energy performance in Kenya was affected by the shortness of lifespan of the project, lack of government subsidies and little support from society. Like the two studies above in Mozambique and Ghana, this study has failed to link the noted factors with sales of the solar mini-grid. Similarly, Samoita *et al.* (2020) in Kenya found similar research findings to Ponde *et al.* (2019). So long Tanzania is different from other countries where studies were carried out institutionally, demographically, economically, politically and socio-culturally, thus, research findings are of little relevance to the Tanzanian context. In this way, the research gap that has been described in this document remains unaddressed in Tanzania. The following hypotheses guided this study:

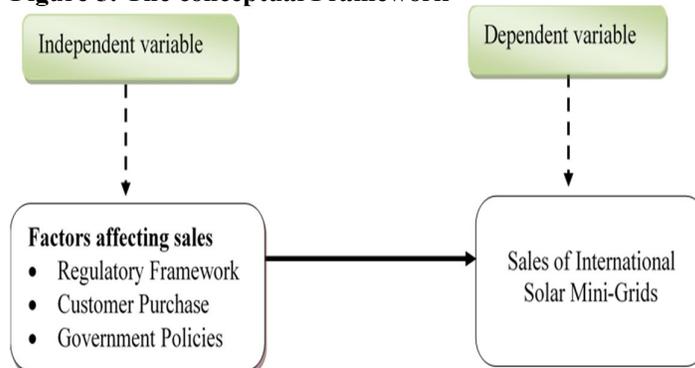
H1: The regulatory framework does not affect sales of International Solar Mini-Grids in Tanzania Mainland;

H2: The customer purchase does not affect the sales of International Solar Mini-Grids in Tanzania Mainland; and

H3: The Government policies do not affect sales of International Solar Mini-Grids in Tanzania Mainland.

From theoretical and empirical review, the research gaps were established. International investors of solar mini-grids are lamenting the recent persistent decline of sales. However, factors behind such claimed sales decline have not yet been investigated in Tanzania Mainland. The failure to ascertain such factors is attributed to the absence of conclusive and comprehensive studies regarding factors affecting sales of International Solar Mini-Grids in Tanzania Mainland. This is the research knowledge gap required to be addressed in this study. The conceptual model connects many variables derived from topic themes, research results, and hypotheses used throughout the researcher's systemization of knowledge (Adom *et al.*, 2018). It details the researcher's explanation of how the problem of the research can be addressed by showing the relationship among variables of study (Mensah *et al.*, 2020). With this in view, Customer purchase, regulatory framework, and government policies are independent variables. The dependent variable is sales. The researcher believes that customer purchase, regulatory framework, and government policies have a significant effect on the sales of the International Solar Mini-Grids in Tanzania Mainland as shown by Figure 1.

Figure 5: The conceptual Framework



Source: Literature Review (2021).

Research Methodology

The research viewpoint is positivist because the study aims at discovering the truth behind the scene on how causes, namely regulatory framework, customer purchase, and government policies determine the outcome, namely sales (Creswell, 2014). Correlation design was applied as independent variables, namely regulatory framework, customer purchase, and government policies can be correlated with a dependent variable, namely sales (Kothari, 2015). This study applied quantitative as well as qualitative approaches where objective theories were tested by examining dependent and independent variables relate. This study used a Cross-sectional type of design because the collection of data from the study area was at one point in time (Creswell, 2014). The survey research method was used as it comprises usage of uniform questionnaires in gathering data concerning people's likings, behaviours, and feelings in a systematic manner (Kothari, 2015). The collected quantitative data were then converted into numerals and analyzed using the multiple linear regression method to understand the problem of the research (Creswell, 2014). To get in-depth knowledge particularly on the regulatory framework, and government policies, the study involved a review of relevant documents and records regarding energy regulation and policies to provide supportive information to quantitative findings. This work was done in Mwanza, Dar es Salaam, and Arusha, where headquarters of the three International Solar Mini-Grids are located and hence owner and head office staff were found for interview. The study also was conducted in Lake Zone regions where branch office staffs were found.

Population remained to be the owner and respective staff of the three International Mini-Grids in Mainland Tanzania. The units of analysis were the owner and staff of the International Solar Mini-Grids. Seventy (70) owners and staff were secured, namely; Power-Gen Renewables Energy Limited - 25 respondents, Jumeme Rural Power Supply Company Limited - 19 respondents, and Engie Power Corner Tanzania

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Limited - 26 respondents. Total population has been regarded as the sample size which is 70 respondents because size of population we are interested in is typically very small, therefore, not considering the whole population would result in missing significant information the research intends to understand (Kumar, 2011).

Primary data were collected through questionnaires whereas secondary data were secured from a review of relevant documents and records. Five-points Likert Scale was adapted in grading responses in this survey research since it applied a comparable approach (IBRD, 2019). Seventy (70) structured questionnaire sets were self-administered to the earmarked respondents in Tanzania Mainland. Questionnaires comprised both open and closed-ended questions. Closed-ended questionnaires had five-point Likert scale ranging from “1= strongly agree” to “5= strongly disagree” while 2, 3 and 4 are scaled as agree, neutral, and disagree respectively. Besides, few open-ended questions were employed to apprehend a detailed understanding of the subject matter. Customer purchase data gathered through questionnaires were analysed quantitatively. In addition, regulatory framework and government policies data collected through questionnaire and document review were analysed quantitatively and qualitatively respectively to get in-depth knowledge on why respondents responded in such a manner to the questionnaire. Data collected were summarized, coded and analyzed using multiple linear regression method which is suitable for showing variable correlation (Kothari, 2015). The equation below was used,

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where: Y= Sales of solar mini-grids; β_0 , β_1 , β_2 , and β_3 are coefficients or constants; X_1 = regulatory framework, X_2 = government policies, X_3 customer purchase and ϵ = error income level.

An in-depth interview was employed to collect qualitative data by using the purposive sampling technique. Content analysis was used for qualitative data analysis and information obtained was utilized to supplement quantitative data. Qualitative data were transcribed into texts and then relevant themes were developed and the findings were matched with relevant numerical findings in this study and other empirical literature.

Findings and Discussion

Reliability and Validity

In measuring reliability of the ordered questionnaire, this study computed Cronbach alpha. In attaining this, three questionnaires were subjected to arbitrarily designated International Solar Mini-Grids in Mainland Tanzania. Results conclude that all variables may well be trusted since the attained were more than 0.7 and the same was used as reliability hurdle rate as per Table 1.

Table 1: Reliability Results

Variable	α=Alpha	Comment
Regulatory Framework	0.7543	Reliable
Customer Purchase	0.7987	Reliable
Government Policies	0.7112	Reliable

Source: Researcher own constructs 2021

In testing the validity, the research executed Kaiser-Meyer-Olkin (KMO) test. Explanatory adjectives refer to 0.90 as marvellous, 0.80's as commendable, 0.70's as middling, 0.60's as mediocre, 0.50's as despondent, and under 0.50 as intolerable. In this particular test, KMO Measure of Sampling Adequacy per a set of used variables stood to have a value of 0.771 as shown in Table 2 and this is branded 'middling'.

Table 2: Kaiser-Meyer-Olkin (KMO) test Interpretation Range

Ranges	Interpretation
0.90's	Marvelous
0.80's	Meritorious
0.70's	Middling
0.60's	Mediocre
0.50's	Miserable,
Below 0.50	Unacceptable

Source: Wu, Yu, & Weng (2012)

Given that KMO Measure met the minimum criteria of Sampling Adequacy as per Table 3, therefore the researcher had not faced the problem necessitating examining the Anti-Image Correlation Matrix.

Table 3: Kaiser-Meyer-Olkin Measure of Sampling Adequacy

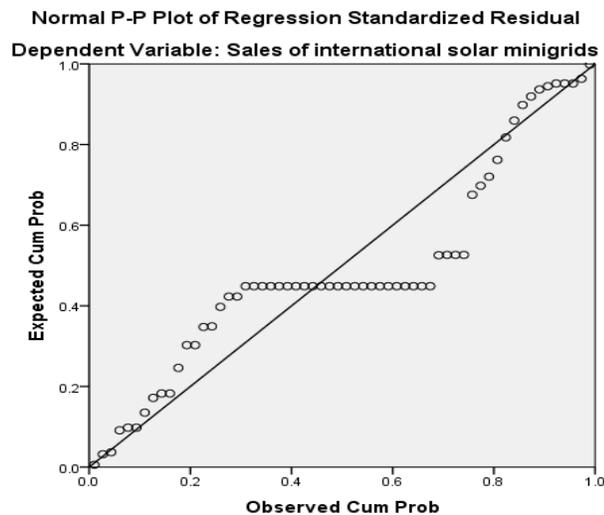
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.771
Bartlett's Test of Sphericity	Approx. Chi-Square	21.93
Df		6.0
Sig.		0.001

Source: Researcher (2021)

Research Hypotheses

Linearity assumption was first tested to know if it meets the assumption criterion. Dependent Variable (DV) and Independent Variables (IV) affiliation can correctly be approximated by Standard multiple regression if linear relationships exist. If affiliation is not linear, results will under-estimate the true relationship. Figure 2 shows scatterplots of residuals that indicate curvilinear and linear relationships.

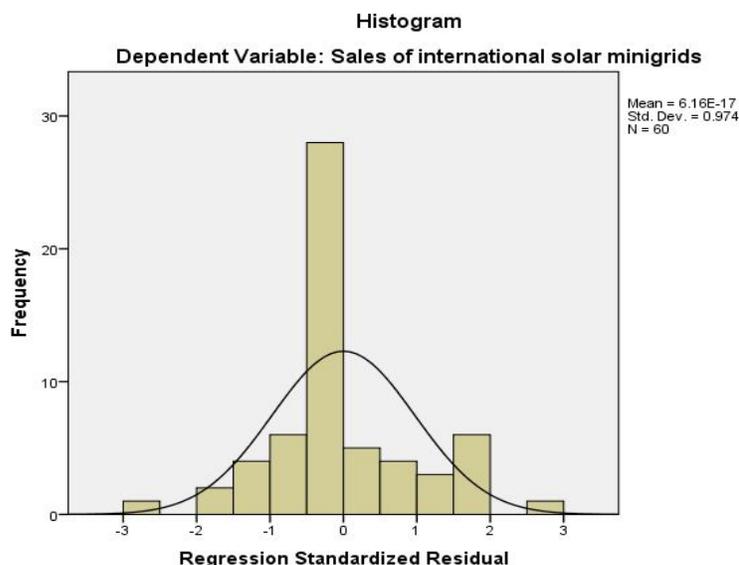
Figure 6: Scatter plots of Residuals Indicating Curvilinear and Linear Relationships



Source: Researcher constructs 2021.

Normality and multicollinearity assumptions were also tested. The assumption in multiple regression is that residuals are normally spread. No Multicollinearity—Multiple regression adopts that independent variables are not highly correlated with each other. In this hypothesis, Variance Inflation Factor (VIF) values are tested. Several authors recommended a formal detection-tolerance or variance inflation factor (VIF) for multicollinearity: where R^2 is the coefficient of determination of regression of explanator j on all the other explanatory. A tolerance of less than 0.20 or 0.10 and/or a VIF of 5 or 10 and above indicates a multicollinearity problem.

Figure 7: Variance Inflation Factor (VIF) Values



Source: Filed Data 2021

Results in Figure 3 revealed no multicollinearity between independent variables. Indexes of tolerance stood at 0.771 to 0.701. Also, Variance Inflation Factor (VIF) stood at below 1.428. Tolerance is expressed as total inconsistency of designated Independent Variables (IV) that are not clarified by additional IV. VIF is the inverse of tolerance value (Hair et.al. 2010:227). This is from the individual independent variable as $1 - R^2$. Tolerance value from 0 to 1, means it is low, hence there is the existence of Multicollinearity (Hair et.al. 2010: 227-228). Hair et.al (2010: 227) proposes a 0.10 tolerance value which is equivalent to a VIF of 10 to be a normal cut-off edge.

Correlational analysis was also done to ascertain if multiple linear regression assumptions were met. This is another assumption of multiple regression in which analysis in multiple linear regression necessitates that autocorrelation of data is slight or not at all. Autocorrelation happens once residuals are not independent (Hair et.al. 2010:227). Durbin-Watson d test is used to test the null hypothesis that the residuals are not linearly auto-correlated. While d can assume values between 0 and 4, values around 2 indicate no autocorrelation. Normally, Durbin-Watson at 1.5 is considered as the rule of thumb. In this study, it was noted that the Durbin-Watson test 2.121 indicated that there was no autocorrelation in the data. For this reason, the choice of this method was appropriate.

Coefficients of multiple linear analysis

The determination of the research hypothesis was testing the truth of the research hypothesis whether the regulatory framework, customer purchase, and Government policies can affect sales of International Solar Mini-Grids in Mainland Tanzania. Enter multiple regression method was used to test the above null hypothesis and study results show that regulatory framework, customer purchase, and Government policies can affect sales of International Solar Mini-Grids in Tanzania Mainland as shown in Tables 4 and 5.

Table 44: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.779 ^a	.607	.586	.559	2.121

a. Predictors: (Constant), Effect of government policies, Effect of customer purchase, Effect of regulatory framework

b. Dependent Variable: Sales of international solar mini-grids

Source: Researcher constructs 2021

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Table 4 indicates that adjusted R² for the overall model was 0.586. This indicates that independent variables contribute to 58.6% change in sales. Thus, variables of choice (regulatory framework, customer purchase and government policies) have a significant effect on the sales of international solar mini-grids in Mainland Tanzania.

Table 5: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error				Beta	Zero-order	Tolerance
(Constant)	.144	.185		.781	.002			
Effect of regulatory framework	.037	.083	.042	.442	.001	.392	.771	1.297
Effect of customer purchase	.217	.083	.234	2.620	.001	.464	.881	1.135
Effect of government	.674	.104	.646	6.458	.000	.747	.701	1.427

Source: Field data 2021

Results have been further shown in Table 5, indicating that independent variables have a significant effect on the dependent variable and thus the equation of the model is shown below:-

$$Y = 0.144 + 0.042 (\text{regulatory framework}) + 0.234 (\text{customer purchase}) + 0.646 (\text{government policies}).$$

Discussion Based on the Findings

The researcher used standardized beta coefficients in measuring the strength of the individual independent variable effect to the dependent variable. It shows that the unit increase of regulatory framework resulted in a 0.042 increase of the sales of International Solar Mini-Grids, likewise, a unit increase in customer purchase has individually led to an increase of the sales by 0.234, and finally, the unit increase of the government policies have led to increasing of the sales by 0.646. Generally, all independent variables (regulatory framework, customer purchase and government policies) cause a significant effect on sales of international solar mini-grids. However, government policy has shown to be the leading variable followed by customer purchase and regulatory framework. This research finding is congruent to the studies conducted in Kenya which observed that solar mini-grid in Kenya are affected by the shortness of lifespan of the project, government regulations and society support (Samoita *et al.*, 2020 & Ponde *et al.*, 2019). In this regard, the tariff of the electricity is affected by government regulations as also declared by interviewees that normally government officials provide directives which affect not only sales of international solar mini-grids but also the performance of EWURA itself (Potters, 2021). Similarly, the finding of the research was also affirmed by Bishoge *et al* (2018) who asserted that regulations enforcement affects the investment of solar mini-grid in Tanzania.

The participant stated that:

“...The regulatory framework affects sales of International Solar Mini-Grids in Tanzania Mainland as the regulator dictates the price of electricity to the companies providing electricity” (Interview held with participant R1 from firm A on 26th May 2021).

From this sentiment, the government indeed has the power to influence the tariff level of the electricity through politicians who normally provide various promises to the citizens who are their voters. The participant stated that:

“.... The government through its political leaders affects the tariff by encouraging citizens not to pay higher prices easily. For example, sympathizing with a citizen on cost contribution for electricity erodes the payment willingness hence sales of international solar mini-grids...” (Interview held with participant R1 from company A on 26th May 2021)

Also, the equation of the model proved that customer purchase had a positive significant impact on the sales of International Solar Mini-Grids whereby a unit increase of customer purchase resulted in a 0.234

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increase in the sales of international solar mini-grids, likewise, a unit increase in customer purchase has individually led to an increase in the sales of international mini-grids by 0.234. The participant stated that: “.....It has been learnt that customer purchase tendency affects the sales of international solar mini-grids by ensuring the marketability of electricity. In the business arena, sales are the last and most important stage for any business as profit cannot be realized without sales.....” (Interview held with participant P2 from company B on 25th May 2021).

This is valid in that sales volume is affected by the amount of price per unit of electricity hence when the project is appraised to see its feasibility or viability it may lead to an uncatchable payback period. Similarly, using other capital budgeting methods would prove that such projects will be unsustainable on the same basis congruent to Pandey (2015), thus, it is imperative that the price established should be at the level where the company will break even and earn the desired profit for the sustainability of solar energy provision. The participant stated that:

“.....Customers change in preferences and tastes and thereby decide whether to purchase or reject...in this way sales of the international solar mini-grids in Tanzania fluctuate. Thus, when such projects are appraised to examine their viability, it will fail to qualify based on delayed expected cash inflows which would otherwise uplift the NPV, PI and other capital budgeting techniques...” (Interview held with participant P2 from company B on 24th May 2021).

This research finding is similar to the works of Samoita *et al.* (2020) and Ponde *et al.* (2019) who found that price affects the sales of International Solar Mini-Grids in Kenya. This is so as customers decision is again affected by both intrinsic and extrinsic factors like government and other authorities. To cement this sentiment, the participant was in the opinion that:

“.....Sensible customers will compare the price of electricity with the sustainability in the installation of the solar system in their environment, even when they are ready to pay yet, they are mostly affected by the government directives whether they are constructive or not.” (Interview held with participant Q1 from firm C on 26th May 2021)

Thus, it is difficult to explain how customer purchase alone affects the sales of International Solar Mini-Grids without linking with government interventions on the tariff of the electricity through policies and directives issues either directly or through the regulator. Similarly, the finding of the research was also affirmed by Bishoge *et al.* (2018) who asserted that regulations enforcement affects the investment of solar mini-grid in Tanzania including the purchasing levels of the customers

In this regard, the tariff of electricity is affected by government regulations. Similarly, the finding of the research was also affirmed by Bishoge *et al.* (2018) asserting that regulations enforcement affects the investment of solar mini-grid in Tanzania. Impliedly, customer purchases affect sales of International Solar Mini-Grids in Tanzania Mainland by either reducing the sales or raising the sales. Thus, the government regulations may either positively or negatively affect the sales of international solar mini-grids depending on whether they promote or erode customers buying behaviour. To cement the above concern, the participant stated that:

“.....Customer purchase tendency affects the sales of the international solar mini-grids in that sales volume is associated with decisions of customers whether to purchase electricity from our companies or not.....Thus survival and existence of the power generating companies is bestowed upon the government regulations as they significantly affect the purchasing behaviour of the customers...” (Interview held with participant Q2 from firm C on 26th May 2021)

From this sentiment, customer purchase tendencies are important to trigger the level of sales volume in the international solar mini-grids in Tanzania. What makes the customer purchase or not purchase electricity is beyond this study, however, to some extent government policies and regulations do trigger customers purchasing tendencies. Moreover, it was declared that; customers’ purchase tendencies are crucial as sales are situated at the end stage of any project. Therefore, it is important to ascertain whether or not the target services suit the customers by assessing the reflection from purchasing tendencies (Managing director-Jumeme Rural Power Supply Company Limited 26th May 2021).

These research findings mirror imaged the Mainali (2018) observations which found that income poverty, lack of credits, subsidy and institutional credibility hinder electricity sales performance. Similarly, it was learnt that renewable energy capital costs affect solar mini-grids and increase in sales of electricity

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(Malhotra *et al.*, 2017). Bloomberg (2020) argued that solar mini-grids are designed for low-income families and that their customers demand is volatile because their income relies on agriculture. Fluctuating conditions of weather and crop yields seasonality, affects customer ability to pay their respective bills, hence the sales of electricity have been affected by customer income levels which are expressed in terms of the customer repulse aspect.

In addition, from the equation of the model, it is proved that government policies had a positive significant impact on the sales of International Solar Mini-Grids whereby a unit increase of government policies resulted in a 0.646 increase in the sales of international solar mini-grids, likewise, a unit increase in government policies has individually led to an increase in sales of International Mini-Grids by 0.646. *These findings were similar to* Bishoge *et al.* (2018) who revealed that government regulations and policies affect the investment of solar mini-grid in Tanzania.

Furthermore, the government being the central stakeholder of energy in the country, it is evident that these research findings are under the theory of stakeholder in that stakeholders can influence the proper functioning of the business firm. Similarly, sales of International Solar Mini-Grids in Tanzania mainland is affected by government policies. To strengthen the above sentiment the participant stated that:

“.....Government policies affect the sales of the International Solar Mini-Grids by either promoting or inhibiting customer buying behaviour thereby affecting sales of International Solar Mini-Grids.....Thus survival and existence of these companies in business terms solely depends on the kind of government policies and their implied repercussions....” (Interview held with participant Q2 from firm C on 26th May 2021)

Conclusion and Recommendations

The research objective was to investigate factors affecting sales of International Solar Mini-Grids in Tanzania Mainland. It had three defined objectives, namely; determining regulatory framework effect on sales of International Solar Mini-Grids in Tanzania Mainland, scrutinizing the effect of Customer Purchase on sales of International Solar Mini-Grids in Tanzania Mainland, and assessing government policies effect on sales of International Solar Mini-Grids in Tanzania Mainland. The study revealed that government policies, more specifically energy policy, affect sales of International Solar Mini-Grids in Mainland Tanzania. In addition, the study revealed that regulatory framework particularly tariff affects sales of International Solar Mini-Grids in Mainland Tanzania. Likewise, this work revealed that customers' purchasing tendencies were significantly affecting the sales of International Solar Mini-Grids in Mainland Tanzania.

Implication, recommendations and knowledge Contribution of the study are addressed in this paragraph. The findings imply that ignoring the factors affecting sales of International Solar Mini-Grid in Mainland Tanzania might worsen the power sector and solar Mini-Grids sustainability. The research recommends that the Government of Tanzania should ensure stable legislation to create a foreseeable business environment for an investor in the power sector. EWURA, on its part, should advise the government so that chaotic policies, rules and laws be omitted immediately so that International Solar Mini-Grids offer the quality that will stimulate the demand for that electricity which will automatically trigger customers to purchase sustainably. The researcher recommends that apart from government circulars and other media, international solar mini-grids developer in Tanzania should advertise their product to boost sales. This will not only inform the customers where such service is found more rather the quality of renewable energy services. Moreover, the researchers recommend that to avoid misconception of information in renewable energy like solar provided by international companies, the government should not politicize issues on prices of solar energy to protect the sales for sustainable investment. This study offers empirical evidence on renewable energy that will be of paramount importance to other renewable energy stakeholders including researchers and academicians.

The study also proposes the areas for further research. A comparable study should be done in other mini-grids particularly on hydro and wind mini-grids. These are also important areas regulated by EWURA. Also, the energy policy does include petroleum and natural gas as part of the energy for access by the rural population. Study in these areas is of paramount importance to the country which needs numerous

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investors, and therefore, the study may assist disclosing whether present policies, legal, and regulatory framework have encouraged their access by the rural population. Also, it is important to examine factors causing many governments to contradict interventions and directives to the existing energy policies in Tanzania.

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The Effect of Using E-Procurement during the Covid-19 Pandemic on The Profitability Of Small And Medium Enterprises In Ilala District, Dar Es Salaam, Tanzania

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Abstract

The COVID-19 pandemic disrupted business activities worldwide through restricted movement of both goods and people. Shortages increased business operating expenses thereby affecting profitability. Although e-procurement is associated with increasing business profitability of enterprises, there is hardly any evidence on the role of e-procurement on SMEs in Ilala District in Dar es Salaam. This study aimed at assessing the effect of e-procurement on the profitability of Small and Medium Enterprises in Ilala District, Dar es Salaam, Tanzania during the COVID-19 pandemic. Both quantitative and qualitative methods were used on a sample of 400 SMEs. Data were collected using questionnaires, Key Informant Interviews and Focus Group discussions. The study revealed that COVID-19 negatively affected SMEs, SMEs' adoption of e-procurement is high, and generally, e-procurement increases SMEs' profitability of SMEs. The government should increase the affordability of ICT tools and applications. It should also enhance ICT literacy.

Introduction

Trade plays an important role in the development of economies worldwide especially in the context of a global economy where the principles of competition and free movement of goods and services as well as associated information – which are believed to enhance efficiency and quality – traverses country boundaries (Gujrati, 2015). This is arguably regarded as one of the basics of business performance and survival, and in turn the performance of the countries' economies in which the private sector plays an important role through generation of revenues through taxes, employment, innovation, contribution to the Gross Domestic Product and so on (Ellis, 2010). Indeed, one of the indicators of the country's economy is the health of the private sector (Venables, 2015). However, the Covid-19 pandemic has profoundly changed the way society lives, interacts and does business (Donthu and Anders, 2020).

The pandemic has engendered an economic slowdown thereby affecting the world's economy – financial markets, tourism, import and export sectors, global supply chains and enterprises of all sizes. For example, the United Nations estimates that African economies have already lost about 29 billion United States of America Dollars due to the pandemic and the United Nations Economic Commission for Africa (2020) estimates that the continent will lose 1.4% of its 2.1 trillion dollars' worth of Gross Domestic Product due to business disruptions. In an endeavor to reduce some of the negative consequences of the pandemic, various measures have been put in place by various countries such as shutting down manufacturing companies and imposing restrictions in movements especially of people. The reduced supply vis-à-vis demand of some essential goods and services has hiked prices, and although cargo is allowed to move, transport costs and lead time has increased due to the implementation of Covid-19 mitigation measures such as testing and waiting for results, and social distancing at entry points.

More so, the Covid-19 pandemic has led to broken supply-chains, inability of workers to report to work, and restrictions and delays that have affected suppliers' ability to implement services (Sonoiki and Sidi, 2020). As a result, four out of five African businesses are being severely impacted by the COVID-19 crisis (UNECA, 2020).

Hence, businesses are required to devise ways of increasing visibility of suppliers, monitoring associated risks, coordinating with supply chain actors and improving efficiency (meeting objectives at the lowest cost possible) in order to survive (Sonoiki and Sidi, 2020).

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E-procurement, the “*sale and purchase of supplies, equipment, works, and services through an electronic platform*” (Development Aid, 2020), is seen as one of the measures of not only improving efficiency in businesses through reducing costs (Sonoiki and Sidi, 2020) but also of going about the Covid-19 management-related measures put in place by countries which affect businesses operations. E-procurement is associated with advantages such as cost savings, reduction in time to conclude transactions due to minimized displacements of people as opposed to traditional procurement, reduction in human errors, increase in transparency and accountability thereby reducing corruption incidences (Harelimana, 2018; Ruzindana and Kalaskar, 2016) among others. Despite these advantages, literature also argues that e-procurement is associated with high investment of implementing tools compared to the desired outcomes (UN, 2006) among others. Hence, the benefits are not automatic as portrayed in the literature. Besides, since businesses are not uniform in terms of size, sector and capital investment, there are variations in how e-procurement affects the performance of businesses. Moreover, e-procurement is relatively new in Sub-Saharan Africa especially in Tanzania (Harelimana, 2018) and hence its effect on businesses has not been widely researched upon especially during crises such as the Covid-19 pandemic. The Covid-19 pandemic has affected the profitability of businesses in Tanzania which are the drivers of the country’s economy. The disruption in the global economy affected Tanzania through decreased supply and demand (Donthu and Anders, 2020).

Although e-procurement is associated with the improvement of business profitability, there is little empirical evidence of this for SMEs in Tanzania especially during the COVID-19. SMEs form the backbone of the Tanzanian economy and employ the majority of the Tanzanian population. Yet, the emergence of the COVID-19 pandemic affected business operations worldwide hitting SMEs the worst. Hence, the study aimed at assessing the effect of e-procurement on the profitability of SMEs in Ilala District in Dar es Salaam, Tanzania during the COVID-19 pandemic. Dar es Salaam was chosen because it is the country’s commercial city and pandemic hotspot (Mwainyekule and Frimpong, 2020).

Among the Specific objectives included;

To assess the rate of adoption of Information and Communication Technology especially e-procurement by the Small and Medium Enterprises in Ilala District, Dar es Salaam, and the factors that are responsible for its adoption.

Empirical Review of The Literature

The effect of the COVID-19 pandemic on Small and Medium Enterprises in Ilala District, Dar es Salaam.

Covid-19 has led to economic slowdowns in economies worldwide. The United Nations estimates that African economies have already lost about 29 billion United States of America Dollars due to Covid-19. The United Nations Economic Commission for Africa estimates that the continent will lose 1.4% of its 2.1 trillion dollars’ worth of Gross Domestic Product due to business disruptions resulting from movement restriction of workers, insufficient supplies, low demand, etc. The disruption in the global economy affected Tanzania through decreased supply and demand (Donthu and Anders, 2020). The sectors that were at high risk included trade, hospitality, airline industry, finance and education due to inter alia, reduced supply of intermediate goods from China (UNDP Tanzania, 2020). This led to the revision of the economic growth rate from 6% before the COVID-19 outbreak to 2.1% in the course of 2020 (Faria, 2021). However, the COVID-19 impact on businesses is not uniform as Small and Medium Enterprises (SMEs) have been affected the most due to increase in business’ operating costs coupled with decrease sales and revenues (UNDP Tanzania, 2020; Donthu and Anders, 2020).

Rate of adoption of Information and Communication Technology especially e-procurement by the Small and Medium Enterprises in Ilala District, Dar es Salaam, and the factors that are responsible for its adoption.

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Studies have been conducted to measure the rate of ICT penetration in the United Republic of Tanzania mainly as a result of the Internet and Telecommunication Operations penetration (Msuya et al., 2017). Msuya et al. (2017) state that by 2004, ICT adoption by the SME sector in Tanzania had grown from almost 0 to slightly over 80% computer technology use. They add that the use of Internet had almost reached 60%. Their findings reveal that slightly more than half of the SMEs were strategically using ICT for communication and marketing.

Forms of e-procurement that are used by the Small and Medium Enterprises in Ilala District, Dar es Salaam for policy action

Various ICT tools and applications are used by SMEs in Tanzania. These include Mobile phones, Internet, Computer and so on (Msiya et al. 2017). Even then, there is need to identify the commonest ICT tools used by SMEs in Ilala District to inform government policy.

Role of e-procurement in improving the profitability of Small and Medium Enterprises in Ilala District, Dar es Salaam during the COVID-19 pandemic.

Although empirical research has been done regarding the role of e-procurement in improving business performance, it has majorly focused on public institutions of low-income countries like Tanzania, and businesses in high and medium income countries. For example, although e-procurement is mandated for public institutions in Tanzania, it is not a requirement for private enterprises. As such, there is still little knowledge on how e-procurement has affected the profitability of private businesses in Tanzania especially Small and Medium Enterprises.

Research Methodology

Research design and approach

The research questions were answered by adopting a descriptive research design using descriptive statistics (giving explanations/descriptions as well as computing averages, percentages and ranges of the variables) to analyze data from the administered questionnaires as well as the Key Informant Interviews and Focus Group Discussions that were conducted in Ilala. The independent variable is e-procurement and the dependent variable is the profitability of SMEs. Besides enabling comparisons of the variables of interest, the design permitted cross sectional analysis of the collected data and seeking various perceptions and knowledge from the respondents. A mixed-methods approach of using both quantitative and qualitative data was deployed.

Participant Characteristics

The population of the study are the SMEs in Ilala District in Dar es Salaam. The interviewees were: owners, co-owners or employees. Employees included accountants or finance officers or auditors. The SMEs selected were from industries such as: grocery, electronics, produce, stationery, hair salons and boutiques. Most of them were direct or indirect importers. Nonetheless, government representatives of the sectors in which these SMEs fall were also targeted as key informers due to their expertise in the topic that is the subject of the study. The majority of the respondents deal in general merchandise (34%) followed by those dealing in grocery (24%), electronics (17%), produce (13%) and stationery (7%) respectively. Others (5%) include hair salons, barbershops, boutiques and so on. Majority of the respondents were female and represented 56% of the total number of respondents. The average age of the respondents is 41 years with the youngest respondent being 19 and the oldest being 66 years old.

Sampling procedures

The study used non-probability sampling methods where respondents were selected basing on non-random criteria. As such, respondents did not have equal chances of being included. The study used convenience sampling – including respondents who were most accessible – and purposive/judgement sampling by

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interviewing respondents who were most useful for the purposes of the research especially during key informant interviews and focus group discussions.

The reason for using non-probability sampling methods is because the researcher did not have the full list of SMEs to constitute the sample frame since most of them were operating informally. Secondly, the study aimed at developing an initial understanding of an under-researched population. Even then the researcher aimed at making the sample as representative as possible. Although such techniques

Sample size

The researcher used Yamane's formula (1967) to try and generate a representative sample of SMEs. Sample size formula is denoted below.

Where;

n= required sample size;

N = population size;

e = Margin of error (percentage in decimal form)

$$n = \frac{N}{1 + N(e)^2}$$

From a population of 500,000 SMEs in Ilala District, the study generated a sample of 400 SMEs using the computation of a margin of error of 5% and a confidence interval of 95%. The computation also assumed that the population was normally distributed and the researcher expected a response rate of 100%. For enterprises which had more than one person, all the employees were interviewed if possible if they fell in the required categories (owners, co-owners, accountants and financial officers, procurement officers) in order to have a high response rate.

Data collection tools and methods

Both primary and secondary data were used. Secondary data were used for e-procurement-related theory and empirical studies reviewed in the literature. Primary quantitative data were collected using structured questionnaires while qualitative data were collected through Key Informant Interviews and Focus Group Discussions. Key Informant Interviews and Focus Group Discussions were conducted using interview schedules.

Data analysis

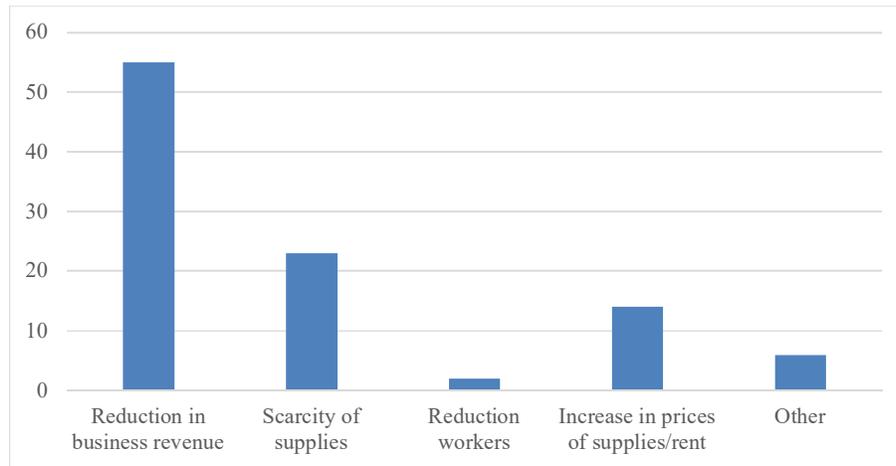
Quantitative data were analyzed through descriptive analysis using mean, mode, modal frequency, percentages and presented in form of charts and tables. Qualitative data were transcribed using Microsoft word and computed using Nvivo software basing on emerging themes. The units of analysis were individuals who were either the owners or employees of the SMEs that had been selected for the study.

Results And Discussions

4.1. Effect of COVID-19 on Small and Medium Enterprises

The vast majority of the respondents (98%) reported that the COVID-19 pandemic has had an effect on their businesses majority of whom reported that the pandemic has affected their businesses negatively. This category accounts for 90% while the 10% reported that the pandemic affected their businesses positively.

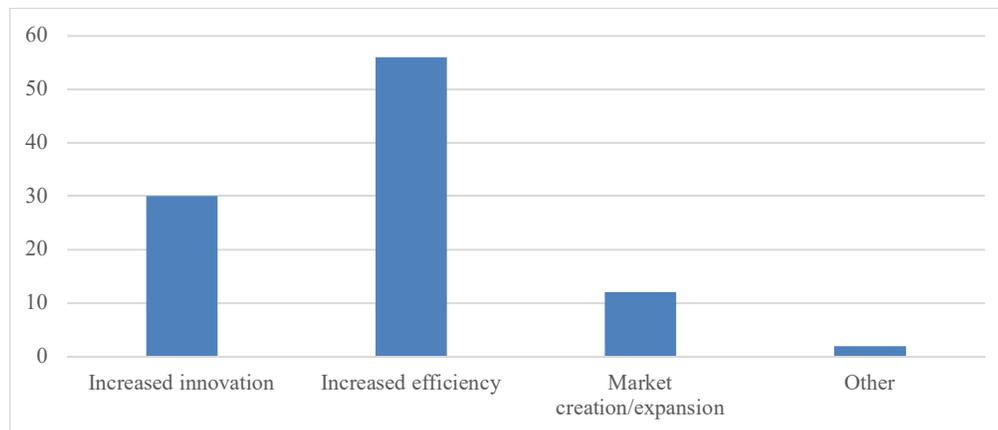
Figure 1: Percentage distribution of the negative effects of Covid-19



For the majority who reported to have negative experiences from the Covid-19 pandemic, many of them reported to have reduction in their business revenues, scarcity of supplies, increase in the prices of supplies and fixed expenses such as rent, and reduction of the workforce. The reduction in business revenue mainly arose due to the reduction in the number of tourists and foreigners within Dar es Salaam. When the Covid-19 pandemic broke out, some foreigners returned to their countries of origin, and due to travel restrictions imposed by some countries (including neighboring East African countries such as Uganda and Kenya), fewer people crossed into Tanzania and, in particular, Der es Salaam, resulting in a market that was only available to the local population.

Travel restrictions, which are closely related to the above, reduced the supply of goods originating from outside Tanzania, such as Kenya, Tanzania, Uganda, and so on, which not only disrupted business operations but also led to an increase in the prices of these commodities, particularly in the transportation sector. This affected mainly medium enterprises which import goods from other countries. The effect of the reduction of the workforce was marginal since most enterprises which participated in this study were using nationals.

Figure 2: Percentage distribution of the positive effects of Covid-19



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As the figure above states, most of the respondents reported that they benefitted from the Covid-19 pandemic because they learnt how to be efficient especially in terms of reducing their operating costs. Others were forced to become more innovative while the rest had their markets increase.

“When things were moving normally, we used to take things for granted. When the pandemic arose, however, we had to think of ways of survival especially by not being so extravagant, look for ways of cutting cost such as ordering online instead of moving in person, and so on,” one of the respondents said during a focus group discussion.

“And of course, the weak-hearted closed and temporarily ran out of business which gave us an opening,” another respondent said.

Respondents working in grocery stores reported that prices increased for citrus fruits such as oranges and lemons because they were recommended for preventing Covid-19. Hence, it was good business for them. The same applied to respondents dealing in sanitary products such as sanitizers, masks, soap and so on.

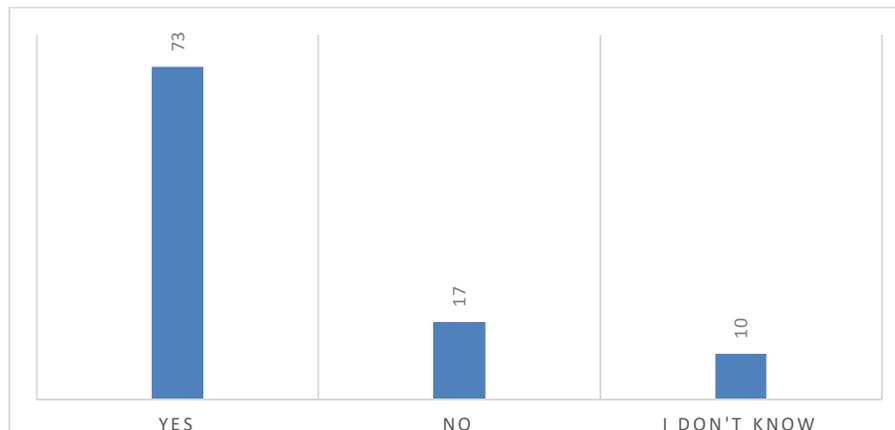
4.2. Rate of adoption of ICT by Small and Medium Enterprises

All the respondents reported that they use an electronic device in procuring goods/services for their businesses. Although the number increased on the onset of the Covid-19 pandemic, many of them were already using them before the onset of the pandemic. The interaction with the various respondents in focus group discussions and key informant interviews revealed that the use of e-procurement was greatly enhanced by the promotion of mobile phones (especially smartphones), the penetration of Internet as well as mobile telephone operating service providers such as Vodafone, and the introduction of agent-banking by most banks which – all these combined – increased financial inclusion. It can be inferred therefore that the onset of the Covid-19 pandemic was an enhancing factor to the factors that were already at play.

4.3. E-procurement and the profitability of Small and Medium Enterprises

Vast majority of the respondents, over 73%, reported that using an electronic device at any stage of the procurement process has improved the profitability of Small and Medium Enterprises. This portion of respondents was followed by 17% of the respondents who reported that the use of an electronic device at any stage in the procurement process has not had any effect on the profitability of the enterprises where they are working while 10% could not tell.

Figure 3: The percentage distribution of the effect of e-procurement on the business's profitability



Although most of the respondents stated that e-procurement has improved the profitability of their businesses during the Covid-19 pandemic, there is a portion of respondents who reported the contrary. Thus, it was worth exploring how the use of ICT in the procurement process can potentially compromise the profitability of small and medium enterprises. These risks are illustrated by figure 9 below.

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Figure 4: Percentage distribution of the effects of ICT on procurement

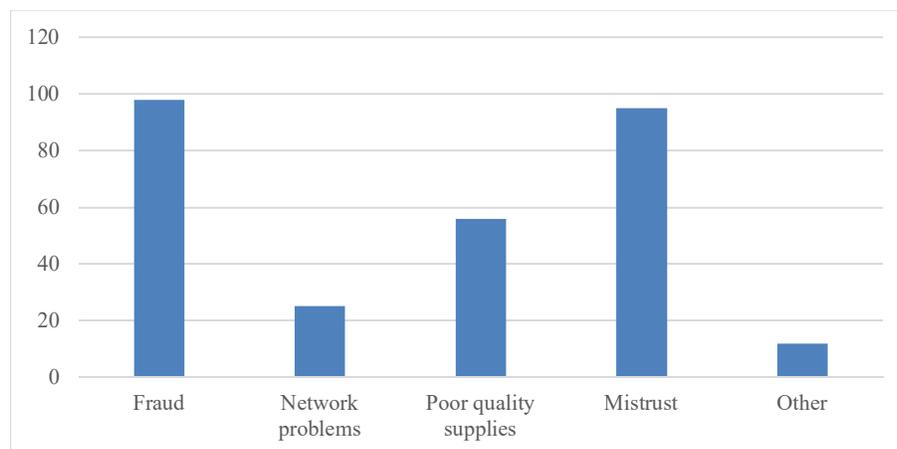


Figure 4 above that the biggest risk of using ICT in procurement is that of fraud followed by the mistrust between the various stakeholders that exist along the procurement process, poor quality of supplies and network problems respectively. Through focus group discussions and key informant interviews, respondents reported that some fraudsters pretend to be workers from the mobile telephone operators who ask for details of the client and indirectly tap their personal identification numbers (PIN). After doing that, they use the information to withdrawal all the money from the respondents' mobile wallet. Others hack the details of the potential supplier and masquerade to be the real supplier. When the payments are made, they are made to the wrong person.

"I am sure that most of them are hackers or they actually collaborate with some of the employees within these mobile telephone networks," one respondent lamented. *"One needs to be very careful and have reliable means of verification before making mobile money payments."*

Network challenges are very common during mobile money payments or agent-banking which are mainly used by micro and small enterprises. Medium enterprises which usually use large sums of money either use over-the-counter (OTC) bank services or Internet banking. When there is no network, money transactions are not possible and therefore requires to make physical payments (which may need displacement) or going directly to the bank without using agents.

Regarding poor quality goods, some of the respondents reported such challenges when they order commodities online using some of the online platforms. They complain that the items that are sometimes displayed on the online catalogue are slightly different from those that are delivered. Although some suppliers mention refunds, it sometimes becomes time-consuming and therefore end up paying for the product that has been delivered although it is slightly different from what was ordered.

Concerning mistrust, respondents reiterated that e-procurement is possible when there is trust between the enterprise and the supplier or distributor. It requires when both of them have made transactions for some time. *"Unless you ensure that the supplier is of good credibility, it is a risk making payments before meeting this person physically or having made transactions with them for some time,"* a general merchandise shop owner said.

Despite the challenges mentioned above, almost all of the respondents reported that using these electronic devices has improved their business. They have done so in terms of increasing revenue, reducing costs or both. Nonetheless, E-procurement has mainly improved the profitability of small and medium enterprises in terms of reducing costs. These costs are mainly due to physical displacement of the buyers, and saving

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time for completing transactions thereby promoting efficiency. *“You save more time when you connect to the Internet and have a wide range of products/services to choose from than moving from place to place. If you are working alone like myself, it will mean closing the business and therefore disappoint customers when they come and the business is closed. Some loyal customers will return while others will go to the competitor’s,”* a lady said.

E-procurement has also indirectly contributed to the increase of revenue especially through recommendations and referrals of clients from their suppliers or distributors who are in their social or professional networks.

“When a supplier has a friend within this area, it is enough to make a call or send a text to recommend that client to me. This is because they know that the more clients I get, the more I will procure from a particular supplier or use a particular distributor/transporter. In the end, it is a win-win for everyone involved,” another respondent said.

Overall, 83% of the respondents reported that, usage of ICT in procurement has increased the profitability of the small and medium enterprises in Dar es Salaam. This infers a positive prospect especially in the context of the Covid-pandemic where restrictions and put on movement of both goods and people.

4.4. Discussion of the findings

The findings revealed in this study are in tandem with the literature that the Covid-19 pandemic gravely impacted enterprises countrywide especially small and medium enterprises (Donthu and Anders, 2020; UNDP Tanzania, 2020). They also agree with the literature that, when all other circumstances are held constant, e-procurement has a vital role in enhancing the profitability of businesses. Nonetheless, it is associated with both risks and advantages (Faria, 2021; UNDP Tanzania, 2020; Donthu and Anders, 2020; Tundui, 2012; URT, 2012). Although the literature mainly documented the negative effects of the pandemic in business operations, this study revealed that indeed the pandemic presented some opportunities for some enterprises.

Conclusion And Recommendations

The pandemic majorly affected SMEs negatively. Since this class of enterprises is the source of employment and livelihoods for most people, the study recommends that the government of the republic of Tanzania make fiscal interventions. For example, it can reduce or suspend taxes such as Value Added Tax on the major ICT tools so they can be more affordable to SMEs with modest financial resources in order to enhance e-procurement. Additionally, it can defer income tax so that this money is re-invested to counter the effects of the pandemic.

Regarding the rate of adoption of Information and Communication Technology especially e-procurement by the Small and Medium Enterprises in Ilala District, Dar es Salaam, and the factors that are responsible for its adoption, the study recommends that the government of the republic of Tanzania keeps up the good work of increasing the penetration of Internet and Mobile communication. Even then, the government and the mobile telephone service providers and banks should keep sensitizing employees and business owners on how to reduce fraud which may otherwise make them prone to losses and eventually abandon the e-procurement trend and its associated advantages. Mobile telephone operators or banks should reduce the charges for online or mobile money payments in order to harness e-procurement.

Just like the Tanzanian government did for public institutions, it should sensitize people on the advantages of e-procurement and at the same time how the associated risks can be reduced or eliminated.

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**Determinants of successful works Contract Management in Public Institutions:
Perspectives from Tanzania Public Service College**

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Abstract

Despite the fact that proper management of works contracts results into attainment of value for money, many public institutions still experience works contracts being completed beyond the time schedule with poor quality and costs overruns. The main purpose of the study was to establish the impact of key critical success determinants of works contract management in public institutions. Specifically, the study aimed at accomplishing three specific objectives which are to identify the determinants of a successful works contracts management, to establish the effects of contract determinants on management of works contracts, and to propose the strategies for achieving a successful works contracts management.

The study was conducted at Tanzania Public Service College located in Dar es Salaam, Tabora, Mtwara, Singida, Tanga, and Mbeya. The study employed case study design whereby 193 respondents were involved. This sample size comprised of staff from Procurement Management Unit, Internal Audit Unit, Campus Managers, Accounting Officer and the user departments which included Quality Assurance, Planning and Monitoring, Human Resource and Administration, Accounts and Finance and Academic departments. Data were collected through questionnaires, Focus Group Discussion and interviews. Quantitative data was analyzed by use of descriptive and inferential statistics through the help of Statistical Package for Social Sciences (SPSS) version 20. Furthermore; content analysis was employed in analyzing qualitative data. The descriptive and inferential numeric analysis was done by using frequencies, percentages, standard deviation, and arithmetic mean and results presented in form of tables, figures and Charts.

The findings of the study indicate that the key critical success determinants of successfully managed works contracts include management of human resources, contracts risks, time, cost, quality and communications. It has also been found that effective management of these factors determines the extent of performance between the parties to the works contract.

It has been concluded that successful works contract management determinants must be indicated in that particular contract document. This will results into obtaining value for money, manage stakeholders' expectations, and minimizes contracts variations.

The study recommends pre and post qualification of contractors before entering into the contract. Monitoring and evaluation of the contract when under implementation and developing contract risk register are also important for successful management of the works contract. Furthermore; proper management of contract communications and clear force majeure clause in the contract are recommended as the best ways of ensuring any works contract is implemented as per agreed terms and conditions.

Keywords: Contract, Contract Management, Works Contract, Public Institutions .

Introduction

Works contract management is a complex activity, widely varying and many factors influencing its outcome around the world. For instance; many of the construction projects in Palestine go beyond timeline with a lot of cost overruns, and generally the contractors fail to complete the projects as per agreed terms and conditions (Shweiki, 2013).

In China; contract management in many projects is experiencing problems from planning phase to controlling the performance of contractor. Developing and coordinating contract relationship accelerate effective contractual performance. China has recently adopted formulated contract management frameworks and practices for management of works contracts (Chen and Partington, 2008).

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Kenya loses billions of taxpayers' money due to inadequate contract management practices. Furthermore; Millions of dollars get lost in Uganda because of disorganized and inadequate procurement process of which contract management is a part. It is evidenced that seventy six per cent of the projects implanted related to works are not completed within agreed parameters and therefore affect delivery of essential public services (Joyce, 2014).

Tanzania in particular; the annual performance evaluation conducted by Public Procurement Regulatory Authority (PPRA) for financial year 2019/2020 revealed several weaknesses related to quality, time and costs during contract implementation to many procuring entities in Tanzania (PPRA, 2019). The report further revealed that 55 procurement contracts from 23 Procuring entities with the value equivalent to TZS 4.56 trillion had malpractices and reflags of 20 percent and above at the phase of contract management (PPRA, 2019).

Empirically, previous studies (cf. e.g. Tekka, 2018; Shengeza, 2017; Rendon, 2010, Mchopa, 2015, Mbabazi and Mugurusi, 2016), which have been conducted on contract management within and outside the United Republic of Tanzania have focused mainly on quality, cost and time aspects of contract management. They have not dealt with the impact of key critical success determinants of works contract management in public institutions. However, all these studies agree that in many public organizations there is inadequate works contract management which eventually results into unsuccessful contract completion and delay in delivery of essential public services.

Literature Reviews

The study was guided by two theories. These were:-

The Principal-Agency Theory founded by Stephen Ross and Barry Mitnick in 1970s is grounded on agency relationship. The theory assumes the contract involve two or more parties and must be written. The relationship that results when one party (owns/shareholders/principal) delegate work to another part (management/ agents) (Ceric, 2013). Principal (the owner of the company) believe that agent (company management) will work on their best interest in making good decisions for the company and maximize their value. However; in the course of working agents fail to meet what principal expectations because of conflict of interest (Eisenhardt, 2012)

The principal find it difficult and very expensive to monitor what the agent is doing in relation to the company's objectives. Risk sharing is also a big problem in agency relationship as the principal and the agent have different attitude toward risk management. The conflict of interest results into different opinions in the course of actions to be undertaken with regard to risk management (Ceric, 2013).

In managing works contracts; the principal is the client (Procuring entity) and the agent is the contractor. The client expects the agent to deliver as per agreement and works be completed within time and quality parameters without cost overruns. The contractor (agent) on the other side might have different interest and want even to be paid for execution of works even beyond the amount certified (Eisenhardt, 2012). This can only be resolved by alignment of contractors and clients goals. Furthermore; when the contractors fails to perform can be replaced by other performing contractor. The threat of takeover makes the contractor to strive to achieve the agreed level of performance (Ceric, 2013).

Relational Contract Theory

The theory was developed by Macneil (1974). Ian Roderick McNeil was the legal scholar that challenged other lawyers that normally emphasized on contracts being just "mere transactions" (Campbell, 2004). In particular, McNeil stresses the importance of developing and managing strong relationships between the parties under the contract (Mouzas & Blois, 2007).

Relational Contract Theory requires contracts to be considered as relations rather than discrete transactions. The focus should be on the win-win relationship instead of the deal, establishing collaborations instead of arm's length relationship, mitigating contract risks, building strong social norms and creating a flexible and fair contract framework (Campbell, 2004).

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Works contracts such as those involving construction projects are good examples that require building strong contract relationships in order to be successful. The relationships between the parties under the contract need to be carefully considered. Creating good communication systems, managing contract risks and existence of strong contract management teams helps to minimize the contract relational problems (Campbell, 2004).

Empirical reviews

It was evidenced from the review of studies conducted outside and inside Tanzania that many organizations are not focusing on the impact of key critical determinants of successful management of works contracts (Mchopa, 2015; Rendon, 2010; Marco, 2013). This creates an empirical opaque as what these determinants affects proper contract management in public institutions.

In the similar vein, Tanzania Public Service College made its effort to ensure proper management of works contracts but still experienced quality, cost and time overruns in three (3) out of five (5) works contract in the financial year 2019/2020. From this scenario, the researchers found that there is a strong need to study the key critical determinants of successful management of works contracts at Tanzania Public Service College as a public institution.

Methodology

This study involved a mixed methodology technique whereby both qualitative and quantitative data were gathered. The sampling techniques were both purposive and simple random. Purposive sampling was used in selection of the respondents from TPSC HQ and Dar es Salaam Campus. This sampling strategy was adopted because most of respondents (more especially top Management and Heads of user departments) preferred interview rather than responding to formal questionnaire papers. Simple random sampling was used to select the respondents from TPSC under this study. Simple random sampling technique refers to the kind of sampling in which every study element in the population has an equal chance of being selected to form a sample (Kothari, 2004). This technique was employed to obtain information from all staff involved in contract management at TPSC. The researcher prepared and mixed in the box and then one piece of paper was randomly b picked at a time. The process was repeated until the required sample was obtained.

A total of 180 respondents altogether were involved in the study. Since the population from which the sample was dawn was finite, with 229 workers in total, sample size was calculated based on the following criteria; the confidence level assumed to be 93%, and the marginal error of 03%. Upon calculation, the required sample size was 192 respondents; however, practically, respondents who participated in the study were 180. This was due to pressure of time and that some respondents did not appear for the scheduled interview. Nevertheless; because the research was a case study, the goal was accomplished, because sufficient information was provided by respondents.

Reliability of data; questions asked through questionnaires were administered through interviews. The responses obtained through the use of different data collection methods were compared to determine their correlation and ascertain its reliability. The researcher employed Cronbach's Alpha because of multiple Likert-type questions that formed a scale and items Using Statistical Package for Social Sciences (SPSS), information from the questionnaires was processed, treated and analysed. The qualitative data obtained through the interviews was transcribed and grouped into themes, and then coded accordingly before it was analysed and synthesized.

Findings and Discussions

Determinants of a successful works contracts management

The purpose of the study under this first objective was to identify the determinants of a successful works contracts management. This information was sought because it has been firmly established in the literature that in every successful contract management there are key determinants that results into the achievement of goals and targets of that particular contract.

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Basically, there were six tasks of the inquiry in the first objective. These included management of human resources, communication, risks, cost, quality, and time in works contracts.

Political, Economic, Social, Technological and Legal Factors

The study intended to determine from the respondents whether political, social, economic, technological and legal factors affects works contracts implementation. The data are as presented in Table 1:

Table 1: Impact of Political, Economic, Social, Technological and Legal Factors

Factor	N	Minimum	Maximum	Mean	Std. Deviation
Political interference on contract management	180	1	2	1.30	.460
Economic interference on contract management	180	1	2	1.26	.437
Social interference on contract management	180	1	2	1.24	.428
Technological interference on contract management	180	1	2	1.26	.440
Legal interference on contract management	180	1	2	1.28	.449
Valid N (listwise)	180				

Table 4.6 shows that there is greater dispersion in Political interference variable of 0.460 as indicated by the highest standard deviation. The lowest dispersion is on social interference with a standard deviation of 0.428. This means that there is much political interference in works contract management activities than any other external factors. This situation affects completion of works projects as per agreed terms and conditions of the contract.

Correlation between determinants of a successful works contract management

The study used correlations to measure the linear relationships between the study variables. A correlation coefficient has a value ranging -1 to 1. The values (Pearson Correlation) that are closer to absolute value of 1 indicated strong relationship between two variables being correlated, where a value closer to 0 indicates that there is little or no linear relationship. Two-tailed significance test was used to analyse data and correlation is significant at the 0.01 level (2-tailed).

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Table 2: Correlations between determinants of a successful works contracts management

Determinants		Human Resources Management in managing a contract	Communication Management in managing a contract	Risk Management in managing a contract	Cost Management in managing a contract	Time Management in managing a contract	Quality management in managing a contract
Human Resources Management in managing a contract	Pearson Correlation	1	.480**	.338**	.310**	.197**	0.053
	Sig. (2-tailed)		0	0	0	0.008	0.478
	N	180	180	180	180	180	180
Communication Management in managing a contract	Pearson Correlation	.480**	1	.384**	0.121	.286**	0.064
	Sig. (2-tailed)	0		0	0.105	0	0.391
	N	180	180	180	180	180	180
Risk Management in managing a contract	Pearson Correlation	.338**	.384**	1	.640**	.211**	0.08
	Sig. (2-tailed)	0	0		0	0.005	0.284
	N	180	180	180	180	180	180
Cost Management in managing a contract	Pearson Correlation	.310**	0.121	.640**	1	.315**	.308**
	Sig. (2-tailed)	0	0.105	0		0	0
	N	180	180	180	180	180	180
Time Management in managing a contract	Pearson Correlation	.197**	.286**	.211**	.315**	1	.289**
	Sig. (2-tailed)	0.008	0	0.005	0		0
	N	180	180	180	180	180	180
Quality management in managing a contract	Pearson Correlation	0.053	0.064	0.08	.308**	.289**	1
	Sig. (2-tailed)	0.478	0.391	0.284	0	0	
	N	180	180	180	180	180	180

** . Correlation is significant at the 0.01 level (2-tailed).

From table 2 indicate a positive correlation coefficient of 0.480 which implies statistically significant ($p < 0.01$) linear relationship between Human Resources Management and Communication Management in managing a contract in such a way that the more competent the human resource is the more communication is effective in works contract management. Human Resources Management and Risk Management in managing a contract have also a positive correlation coefficient of 0.3380. Furthermore; the study indicates positive relationship (correlation coefficient of 0.310) between Human Resources and Cost Management in managing a contract and fairly weak correlation coefficient of 0.197 between time and Human resource management. There was no correlation human resource and quality management (Persons coefficient of 0.053).

There was a positive correlation coefficient of 0.384 (statistically significant ($p < 0.01$)) that indicates linear relationship between risk and communication management. The study indicates fair correlation between Communication and Cost Management in managing a contract (Positive correlation coefficient of 0.121). The correlation between Communication and Risk Management in managing a contract (Positive correlation coefficient of 0.384) is positive. Correlation between Communication and Time Management

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in managing a contract is fairly positive correlation coefficient of 0.286. There was no relationship between Communication and quality Management in managing a contract (correlation coefficient 0.064).

Lastly; the study indicates a positive linear relationship between Risk and Cost Management in managing a contract (positive correlation coefficient of 0.640). There was a fairly weak correlation coefficient of 0.211 between Risk Management and Time Management. Analysis indicates further absence of any relationship between risk and quality management (correlation coefficient of 0.080). There was fairly weak relationship between cost and time (correlation coefficient of 0.315), cost and quality (correlation coefficient of 0.308) and time and quality (correlation coefficient of 0.289). The positive correlation in most of the variables indicates that these variables are the key determinants of a successful works contracts management.

Effects of contract determinants on management of works contracts

The second objective was to establish the effects of contract determinants (as identified in objective one) on management of works contracts. In this facet; presentation and discussion focuses on establishing the effects of contract determinants on completion of works contracts.

Minimizing contract variations

The first inquiry on this objective was to determine from respondents on how the contracts are managed to minimize the variations in terms time, cost and quality overruns. To achieve this goal, the question that asked about how effective management of contract minimizes variations in works contract was set. The results are as presented in Figure 4.3:-

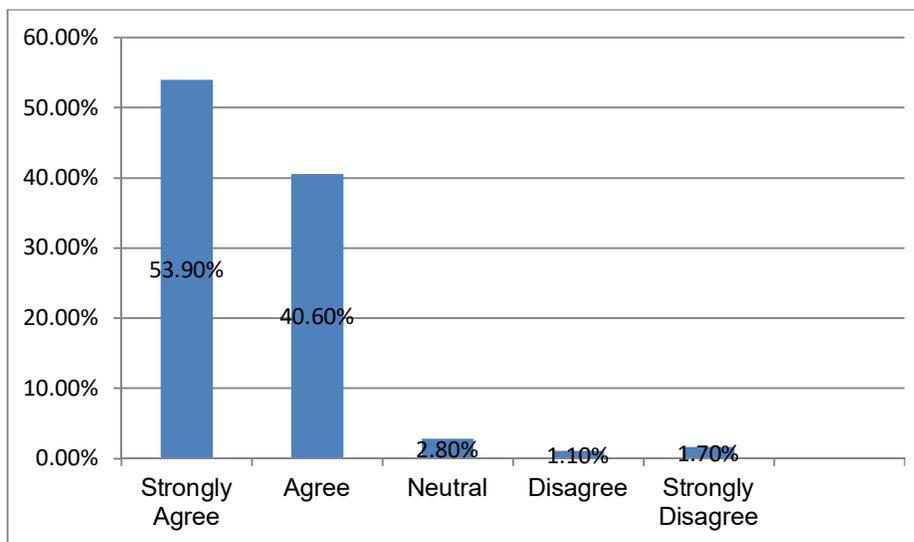


Figure 1: Minimizing contract variations

It is clearly observed in Figure 4.3 that a total of 94.5% of the total respondents agreed that proper contract management minimizes unnecessary variations. On the other hand; 2.8% of the total respondents disagreed with the fact that managing a contract minimizes variations. The majority strongly agree that proper contract management minimizes unnecessary variations in the contracts. Contract determinants results minimizing contract variations which is the result of minimizing time overruns, avoiding cost overruns, quality control and utilizing human potential as practicable as possible.

Achievement of Best Value for Money

Best value for money in this context refers to the maximum benefits from works procured with the resources available worth the cost incurred. Table 4.8 indicates the responses from the study respondents about how management of works contract results into attainment of best value for money:-

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Table 3: Attainment of Best Value for Money

Value for money	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	114	63.3	63.3	63.3
Agree	56	31.1	31.1	94.4
Neutral	5	2.8	2.8	97.2
Disagree	2	1.1	1.1	98.3
Strongly Disagree	3	1.7	1.7	100.0
Total	180	100.0	100.0	

Table 3 indicates that a total of 94.4% of the total respondents agreed that proper contract management results into value for money while only 2.8% of the total respondents disagreed with the fact that managing a contract results into attainment of best value for money. The study therefore concluded that the majority (94.4% of the total respondents) strongly agree with the fact that proper contract management results into value for money. This implies that proper management of the contract enables the procuring entity to procure works that worth the costs incurred. Value for money is very crucial factor in any contract as it indicates efficiency, effectiveness and economy in utilization of public resources.

Managing stakeholders' expectations

Data collected from the respondents indicates that works contracts are expected to meet end user expectations. End users involves all public stakeholders that are interested in the output being expected from that works contract. The results on the responses of the respondents with regard to this question are as indicated in Table 4.9:-

Table 4: Managing stakeholders' expectations

Stakeholders' expectations	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	88	48.9	48.9	48.9
Agree	82	45.6	45.6	94.4
Neutral	5	2.8	2.8	97.2
Disagree	2	1.1	1.1	98.3
Strongly Disagree	3	1.7	1.7	100.0
Total	180	100.0	100.0	

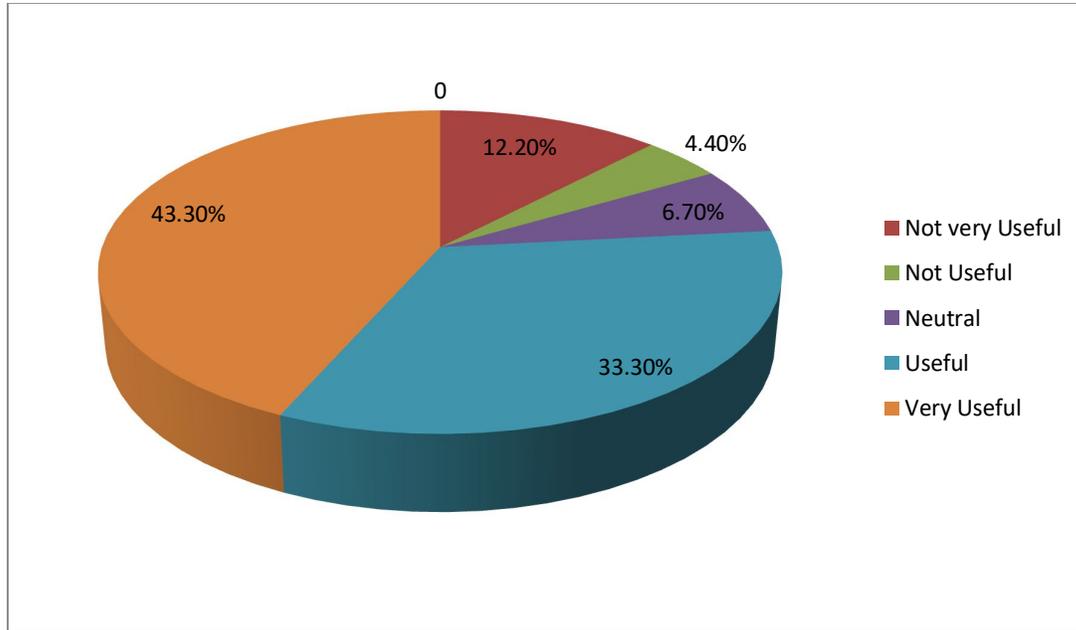
Responses from the field which are in likert scale indicate that 94.5% of the total respondents strongly agree that contract management should meet all stakeholders' expectations. On the other side, a total of 2.8% of the total respondents disagreed with the inquiry and some of the respondents were neutral. The finding clearly implies that the majority of the respondents have admitted that works contract management should meet stakeholders' expectations. These expectations include time, cost and quality aspects of the contract management.

Meeting stakeholders expectations include delivery of the project as per agreed parameters of quality, cost and time. Attainment of these variables results into minimization of complaints from different contract stakeholders.

Minimizing contract disputes

A well-managed contract is likely to result into strong and long term relationship thereby minimizing disputes between the parties. The collected data from the field with regard to how managing contract effectively results into minimization of contractual disputes are as presented in Figure 2:-

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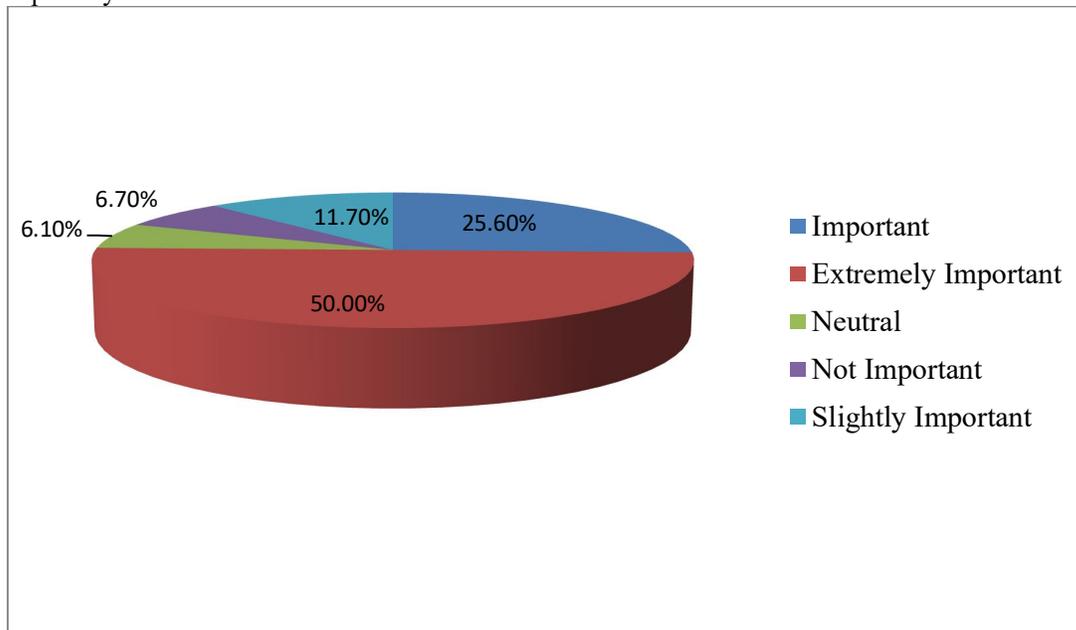


Strategies for achieving a successful works contracts management

The focus of inquiry here was to propose the strategies for achieving a successful works contracts management. These strategies once adopted results into fully implementation of the works contracts. These include:-

Assessing Contractor's Capability

The study intended to obtain information from the respondents whether assessment of contractors' capability before entering into contractual agreement is very important in ensuring the contract is successfully implemented. In this regard the question that asked about contractors' capability was filled to the respondents. Figure 3 presents the responses of the respondents with regard to assessing contractor capability:-



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Minimization of contractual disputes

Figure 4 illustrate that a total of 16.6% of the total respondents indicated that the contract determinants are not very useful in minimizing disputes that arises during contract execution. On the other side; 76.7% of the total respondents said that contract determinants minimizes disputes that arises during contract execution. This means that 76.7% of the total respondents indicated that contract determinants should be used to build strong beneficial relationship between parties to the contract. Minimizing disputes between the parties to the contract is very important for current and future benefits in managing the respective contract.

Assessment of contractors' capability

Figure 4 indicate that a total of 75.6% of the total respondents said it is very crucial to evaluate the contractors' capability before entering into contractual agreement. Evaluation of the contractor provides the insight to the procuring entity on the capability of the supplier to deliver as required. Moreover; 18.4% of the total respondents said it is not very important to assess contractors' capability before entering the contract. This means that the contractor can be appointed directly and engaged in the contract before carrying out pre and post qualifications. Therefore; these findings implies that the majority which makes a total of 75.6% of the total respondents of the total respondents said it is important agree that it is very important to asses contractors' capability before entering into contractual agreement.

In open ended responses, respondents insisted on the importance of assessing the contractors' capability in terms of personnel, equipment, and experience and litigation history before entering into the contract. This respondent puts it in this way:-

“Before entering into the contract it is very important to assess in details the contractor in terms of financial, experience, equipment and human resources capability.”

Assessing contractors' capability is very essential because competent contractors complete the works project in time, within cost and quality parameters. Employing incompetent contractors affects negatively the success of the works contracts.

Compliance with terms and conditions of contract

Every contract has terms and conditions that binds parties to the contract. These terms and conditions further indicate the duties and responsibilities of each party. The study, therefore; intended to determine whether compliance to terms and conditions of the contract by both parties can result into successful completion of the works contract. This information is as presented in Table 4.12:-

Table 5: Compliance to terms and conditions of contract

Compliance	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	5	2.8	2.8	2.8
Somewhat Important	5	2.8	2.8	5.6
Not Sure	20	11.1	11.1	16.7
Important	36	20.0	20.0	36.7
Extremely Important	114	63.3	63.3	100.0
Total	180	100.0	100.0	

It is clearly indicated by Table 5 that, a total of 83.3% of the total respondents indicated that it is very essential to comply with terms and conditions of the contract in order to achieve the intended contract objectives. This implies that in order to successfully manage works contract; both parties must comply with the terms and conditions stipulated in the contract document. Violations of the terms and conditions in the contract by any party may result into contract disputes and delay realization of the intended objectives.

Compliance with terms and conditions of the contract eliminates the possibilities of unnecessary contract variations in terms of time, cost and quality. It further reduces misunderstandings between parties to the contract during and after the works contract completion.

Correlations between long-term contractual relationships and close monitoring of works contract

The study intended to measure long-term contractual relationships and close monitoring of works contract. This was achieved through measuring the correlations between these variables. The results are as presented in Table 6:-

Table 6: Correlations between long-term contractual relationships and close monitoring of works contract

Correlational factor	Building long-term contractual relationships	Close monitoring and evaluation of contracts
Building long-term contractual relationships Pearson Correlation Sig. (2-tailed) N	1 180	.193** .009 180
Close monitoring and evaluation of contracts Pearson Correlation Sig. (2-tailed) N	.193** .009 180	1 180

** . Correlation is significant at the 0.01 level (2-tailed).

From table 4.13 indicates fairly positive correlation coefficient of 0.193 which is statistically significant ($p < 0.01$) linear relationship between building long-term contractual relationships and close monitoring and evaluation of contracts in managing a contract in such a way that the stronger the relationship between parties to the contract the more the contract is monitored and managed. This means monitoring the contract and building long term relationship between the parties are the strategies for managing successfully works contract management.

Conclusion

It is concluded that what determines successful works contract management must be indicated in that particular contract. This study concludes that management of human resources, Time, cost and quality are very crucial factors in managing works contract successfully. Furthermore; the study conclude that management of communications and contracts risks as well as external factors to the procuring entity results into successful completion of the works contract.

The study also concludes that effective works contract management results into control of all contract parameters. Achievement of all contract parameters results into successful management of contract. Furthermore; the study concludes that management of works contracts enables the parties to the contract to obtain value for money, manage stakeholders’ expectations, and minimizes contracts variations. More importantly, this objective has been achieved as the study has revealed the impact of contract determinants in managing contracts related to works.

Lastly; the study concludes that the proposed strategies revealed under this study once adopted can results into fully implementation of works contracts. These strategies includes assessing contractor’s capability before entering into works contract, close contracts monitoring and evaluation, attending contracts risks timely and professionally. Moreover; managing contractual relationships and compliance with contract terms and conditions results into timely completion of the works contract. The use of professionals in execution of the contracts and establishing tight internal controls should be considered in managing the contracts.

Recommendations

Based on the study findings, the study recommends the following to Tanzania Public Service College and any other stakeholder involved in managing works contracts:-

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- ✚ Pre and post qualification of contractors before entering into the contract. This may be on the basis of meeting minimum criteria on experience, resources, capacity and financial standing. Employment of competent contractors simplify works contract management task and the intended output is easily achieved.
- ✚ Monitoring and evaluation. It is recommended that Tanzania Public Service College and other related institutions should strengthen internal controls that simplify the process of monitoring and evaluation of the contract when under implementation.
- ✚ Develop contract risk register. The study recommends that for careful identification and management of contracts risks there should be a contract register for each works contract. The contract risk register records the type of risk, likelihood, expected impact, mitigation strategies and responsible person for each risk. This instrument enables close monitoring and control of all contract risks.
- ✚ Proper management of contract communications. The study recommends that communications during the contract lifespan should be well managed. The mode of communication can be electronic or manual provided that it provides a record. Proper channels of communications should be instituted in the contract document and followed.
- ✚ Procurement Regulatory Bodies such as Public Procurement Regulatory Authority (PPRA) and National Audit Office (NAO) should strengthen its auditing scope to cover every works contract regardless of its value and locations. Currently; large works are put much on focus leaving small and minor works contracts not audited for several years. This situation reduces the level of compliance among many public institutions.
- ✚ Clear Force Majeure Clause in the contract. It is very important to have a clause that covers force majeure events such as pandemic and any natural disaster that can happen during contract implementation. For example; Eruption of Corona Virus Disease (COVID-19) pandemic affected timely completion of works projects as many materials are supposed to be imported from other foreign countries. Counties were and some are still under lockdowns. Presence of this clause will give the solution on the measures to be taken in occurrence of these events.

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Assessing the awareness of Street Vendors on the Improved Community Health Fund towards Improving Health Services in Dodoma City

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Abstract

Globally, countries are implementing pro-poor reforms to advance their health coverage in order to make the health services available to all the people. The community health fund is part of the global strategies to attain universal health coverage and improve the utilization of the healthcare services. It is cited as possible mechanism for granting access to basic healthcare services to poor and workers in the informal sectors such as street vending without facing financial difficulties. This study is set to assess the awareness of the street vendors on the improved Community Health Fund towards improving the health services in Dodoma City. Data were collected using questionnaire from sample of 100 street vendors from Dodoma City. The descriptive analysis results revealed that 68% of the respondents were aware of the improved CHF. Similarly, the study showed that the awareness about the procedures for the registration and the benefit package was below 50%. The results further indicated that 72% of the respondents have never attended sensitizational seminar and training from CHF officials. The study conclude that the high level of awareness has not translated into high enrollment and registration of the street vendors to the improved CHF. Thus, the CHF management is called to provide education through radio to raise the awareness of the street vendors about the benefits and registration procedures of the improved CHF.

Key words: Awareness, Improved Community Health Fund and Street Vendors

1. Background

All over the world countries are implementing pro-poor reforms to advance their health coverage in order to make the health services available to all the people (Soors, Devadasan, Durairaj, & Criel, 2010; Bennett, 2004). The concept of Community Health Fund originated from developing countries following the difficulties in financing healthcare services to all the citizens (Carrin & James, 2005). The community health fund is part of the global strategies to attain universal health coverage and improve the utilization of the healthcare services (Tungu, et al., 2020). It is a pre-paid form of non-profit insurance health scheme with risk pooling and sharing characterized by voluntary membership whereby members pay a small contribution on a regular basis to offset the risk of needing to pay a much larger amount in health care user fees if they fall sick (Mtei & Mulligan, 2007; Bennett, 2004). The scheme is cited as possible mechanism for granting access to basic healthcare services to poor and workers in the informal sectors such as street vending without facing financial difficulties (Asantemungu & Maluka, 2020; Mtei & Mulligan, 2007). Street vending in Tanzania is one among the informal sector that contribute to employment opportunity to the low socio-economic groups and the economy of the country. Thus, the accessibility of the affordable health service to the street vendors through pro-poor schemes such as CHF is an issue of concern to policy makers and decision makers in the country.

The CHF in Tanzania began in 1996 as a pilot scheme in Igunga District, which was later introduced to other councils in country including Dodoma City (Asantemungu & Maluka, 2020. The pilot was as an initiative to make healthcare services available and affordable to the people residing in rural areas; and those in the informal sector in Tanzania (Kigume & Maluka, 2021). In 2001 the parliament passed the CHF act number 1 that provided for establishment and implementation of the CHF (URT, 2001). Based on the act, the main objective of the CHF was to mobilize financial resources from the community for provision of health care services to its members along with providing quality and affordable health care services through sustainable financial mechanism, similarly, the CHF was empowered to improve the health care services management in the communities through decentralization by empowering the communities in making decisions and by contributing on matters affecting their health. In an attempt to

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ensure that CHF attained its objectives in service delivery, the government of Tanzania issued circular number 1 of 2018 for the transformation of the CHF to the improved CHF (iCHF) (URT, 2018). The improved CHF was piloted in some councils including Dodoma from 2011. Thus, the improved fund came up with new strategies to upscale membership to the fund through electronic registration, expanding the benefits package beyond council level, restructure the management of the fund and improve the quality of services provided to the beneficiaries.

Studies have shown that CHF reaches a large number of low socio-economic groups including street vendors who would otherwise have no financial protection against the costs of illness (Macha, Kuwawenaruwa, Makawia, Mtei, & Borghi, 2014). Despite the relevancy of CHF to the low socio-economic groups such as street vendors, evidence from the reviewed studies show that, there is low membership registration with the CHF (Kigume & Maluka, 2021; Asantemungu & Maluka, 2020; URT, 2018c). The causes for low membership have been identified as the dissatisfaction with quality of services offered in the healthcare facilities, low level of education of the citizens on the benefits of the CHF, cost of healthcare services and distance to the healthcare facilities (Ndomba & Maluka, 2019). Similarly, it is documented that trust in scheme management, weak leadership engagement, inadequacy of resources, feedback to the citizens and responding to the expectations of the citizens are among other challenges that obstruct the CHF in attain its objectives (Kigume & Maluka, 2021; Kalolo, et al., 2021). In another study from Tanzania, it is documented that exemption policies and the behavior of the health seekers in the health facilities influence negatively the membership rate to the scheme. The study further showed that higher revenues from user fees, user fee policies and fund pooling mechanisms can set incentives for care providers to prioritize user fees over CHF revenues (Renggli, et al., 2019).

The available studies in the context of Tanzania have mainly examined the health insurance schemes with experience from the elderly (Tungu, et al., 2020; Amani, et al., 2020; Amani, et al., 2021). Thus, there is scanty evidence of CHF and improvement of health service delivery from the perspective of street vendors in Tanzania. The street vendors in Tanzania are among the low socio-economic groups who are fundamental in spearheading the economic base of the country (Rumanyika, et al., 2021). With the background laid, this study aimed to assess the awareness of the street vendors on the improved Community Health Fund towards improving the health services in Dodoma City.

2. Methodology

2.1 Study Area and Methods

The study was conducted in Dodoma City. The city was selected because the improved CHF was piloted there before a wider roll out to other councils in the country (Kalolo, et al., 2021). Thus, Dodoma City is expected to have a long experience with the improved CHF as compared to other councils. Similarly, Dodoma City is one of the councils with fast growing population resulting from the government's decision of shifting its operation from Dar es Salaam to Dodoma that will influence various economic activities including the street vending in Dodoma City (Msacky, et al., 2017). The study employed a snowball method to recruit 100 street vendors for quantitative data into the study. The data were descriptively analyzed to obtain frequency and percentage about awareness of the street vendors on the improved CHF.

3.1 Results and Discussions

This section presents the results of the study and its discussion. The results and discussion focused examining the awareness of street vendors on the improved CHF towards improving health services in Dodoma City. In this section, the researcher requested the respondents to indicate their awareness about the level of awareness, source of information about improved CHF, registration procedures, benefits of the improved CHF, training and seminars on CHF.

3.1.1 The level of Awareness

The respondents were requested to indicate the level of awareness with the improved CHF. The findings presented in Table 1 indicated that 68 (68%) respondents were aware of CHF while only 32 (32%) were not aware of CHF. The results suggests that majority of the street vendors in Dodoma have high level of

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awareness about the improved CHF. This level of awareness is essential to influence the awareness of street vendors about the registration procedures and the benefit packages obtained from the improved CHF.

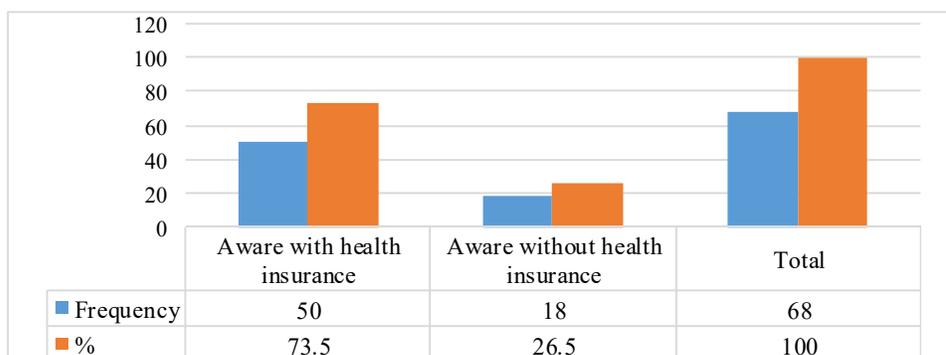
Table 1: Street Vendors' Awareness of the Improved CHF (n=100)

Awareness of CHF	Frequency	Percentage
Yes	68	68
No	32	32
Total	100	100

Source: Field Data, 2021

In relation to the results of the level of awareness about the improved CHF the researcher further assessed how many of the 68 respondents who claimed that they were aware of CHF have the Community Health Insurance. The results in Figure 1 show that out of the 68 respondents who said that they were aware of CHF, only (73.5%) had taken the insurance cover while (26.5%) who were also aware of CHF had not taken the insurance cover. This shows that majority of the respondents were aware of the CHF but they have not taken the insurance cover.

Figure 1: Relation between awareness of CHF and having CHI (n=100)



Source: Field Data, 2021

3.1.2 Source of Information on CHF

The 68 respondents who indicated that they were aware of improved CHF were asked to indicate their source of information. Table 2 shows that majority of respondents, (38%) received information about improved CHF from radio, followed by (27%) from family friends, (13%) from the television, next (13%) from employer and only (9%) learnt about CHF from the newspapers. The prevalence of radio as the main source of information compared to television and newspapers may be explained by the low level of incomes of the street vendors who may not have access to televisions and newspapers (Rumanyika, et al., 2021). Similarly, the fact that (27%) respondents obtained information from family and friends indicates the importance role played by informal communication and social networks. The results imply that in its awareness campaigns, CHF should consider using radio as the preferred media as it is evidently the leading source of information for the street vendors.

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Table 2: Source of information on CHF

Source of information on CHF	Frequency	Percentage
Radio	26	38
TV	9	13
Newspaper	6	9
Employers	9	13
Family Friends	18	27
Total	68	100

Source: Field Data, 2021

3.1.3 Awareness of CHF Registration Procedures and Benefits

High enrollment of the street vendors into insurance schemes requires that they are aware of how to register and then access benefits. The study was designed to assess the awareness of various aspects of CHF. The respondents were therefore asked to indicate whether they were aware or not aware about various aspects of CHF registration procedures and benefits. The results are presented in Table 3 and Table 4. The results show that the awareness of street vendors in Dodoma City about registration procedures and benefit packages is below 50%. The study revealed that majority of the respondents indicated that they were not aware of each of the basic statements of registration procedures and benefit packages. The results in Table 3 and 4 show that street vendors had insufficient information on how to register and to benefit if they are enrolled to the CHF. Thus, according to Jangati (2012) the deficit of information and poor understanding of the functioning of the insurance scheme have a potential of resulting into low enrolment and registration of members into the scheme. The results about the registration procedures and the benefits of the improved CHF suggest the need to launch a mass campaign for educating the street vendors on the role of insurance in health financing.

Table 3: Awareness of Registration Statements (n=100)

Awareness of registration procedures	Aware		Not aware	
	F	%	F	%
All Tanzanian over 18 years can join CHF schemes	72	72	28	28
CHF card covers one contributor, one spouse and all children under 18 years	62	62	38	38
All CHF contributors are issued with a photo card after submitting passport	31	31	69	69
One can register at any CHF office	33	33	67	67
Registration is open to people of all ages	37	37	63	63

Source: Field Data, 2021.

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Table 4: Awareness of Benefits Statements (n=100)

Awareness of CHF Benefits	Aware		Not aware	
	F	%	F	%
CHF Card covers admissions in registered hospitals only	27	27	73	73
Family can use the card for maximum of 180 days in a year(6 months	30	30	70	70
CHF does not cover out-patients medical care for self-employed contributors	26	26	74	74
Contributions are not refundable when one withdraws from scheme	24	24	76	76

Source: Field Data, 2021.

3.1.4 Attendance of Training and Seminars on CHF

Training and seminars is one way of sensitizing rural communities on the role of health insurance in healthcare financing. It offers potential members a chance to seek clarification on any aspects of the scheme. The respondents were asked to indicate whether they had ever attended any sensitization training or seminars on improved CHF. The results presented in Table 5 show that majority of the respondents, (72%) had never attended any sensitization training or seminars on improved CHF. This may imply that many people who may have been interested in enrolling have never had an opportunity for accessing detailed information on health financing and health insurance.

Table 5: Attendance of Sensitization Training or seminars on CHF (n=100)

Attendance of sensitization training/seminars	Frequency	Percentage
Yes	28	28
No	72	72
Total	100	100

Source: Field Data, 2021.

4.0 Conclusion

The study established that majority of the street vendors are aware of improved CHF. However, the level of awareness has not resulted to higher enrolment of the street vendors. It is further concluded that radio is the main source of information to raise the awareness of street vendors on the improved CHF benefits and procedures for registration. Similarly, the study concluded that the street vendors have low level of awareness of improved CHF and the procedures for registration. The study recommends to the CHF management to provide education through radio to raise the awareness of the street vendors on CHF benefits and procedures.

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Contribution of Financial Literacy on Women Micro Enterprises Performance in Moshi District, Tanzania

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Abstract

While women are increasingly engaged in micro businesses, their financial literacy level is mentioned to be the threat to their business survival and development. This study determined the relationship between financial literacy and business performance and determined relationship between characteristics of women entrepreneurs and business performance. The data were collected using structured questionnaires from 116 women entrepreneurs at Himo-Makuyu ward in Moshi district. The study employed ordinal regression model in analysis contribution of financial literacy on business performance. The study found that financial literacy significantly influence business performance. Therefore, the study conclude that the higher the financially illiteracy of women higher the business performance and vice versa is true. Thus, there is a need to provide financial education to improve financial literacy for the sake of increasing women owned business performance.

Key words; women, SMEs, financial literacy, business performance.

1. Introduction

In recent years the issue of financial literacy has gained popularity in literature worldwide (Agyei et al., 2018; Hussain, et al., 2018). The most discussed areas have been how people save and use their money when preparing for retirement (e.g., Lusardi and Mitchell, 2007) and how students understand and practice the concepts of credit, investment and savings (e.g., Carlin and Robinson, 2012). Moreover, the link between financial literacy, financial inclusion and wome empowemet have been the central issue (Sucuahi, 2013). Financial literacy is the ability of people to make financial decisions in their own best short- and long-term interests (Carlin and Robinson, 2012; Volpe et al., 2012). Therefore, the financial decision capability is important in strengthening the financial inclusion (access to financial services) to all including women entrepreneurs, as the number of financial institutions increase in the market. Thus, while the concept of financial inclusion is important in economic development, the ability to make proper and effective financial decision is becoming the central point for the financial literacy discussion.

The Bank of Tanzania report regarding the Tanzania National Financial Inclusion Framework (TNFIF) for 2014-2016 shows that there has been a reasonable financial inclusion development in Tanzania in recent years. The observation which is supported by FinScope (2017) statistics shows that, up to 2017, 35% of Tanzanians were excluded from access to financial services (i.e., from formal, semiformal and informal). According to Xu and Zai (2012), Tanzania has high levels of financial exclusion, whereas use of informal products is about three times more prevalent than use of formal products. On the same note, The TNFIF for 2014-2016 mentioned financial illiteracy as one of the demand side barriers that limit financial inclusion in Tanzania. This implies that financial inclusion drive won't be complete and sustainable by only having access to finance without proper knowledge on making proper and effective financial decisions. Small business owners are among those who lack financial literacy to understand the basic features of their business plans (Mori *et al.*, 2016). Having limited knowledge on financial issues is likely to affect their performance in business. On the other hand, recent studies on micro, small, and medium-size enterprises revealed that women are increasingly operating enterprises but they are vulnerable when it comes to financial illiteracy (Calvo et al., 2016; Beal and Delpachitra, 2003). This being the case, the current study is likely to have a significant impact on the Tanzanian society, given that the success in women enterprises might improve significantly the welfare of their families. While Tanzania has structured its financial sector

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to enhance financial inclusion development, the issue of financial literacy, especially to women enterprises is a key for enhancing and sustaining this process.

According to Tanzania census report of 2012 most of the Tanzanians (about 75%) are in rural areas. Mori *et al.* (2016) have further indicated that financial literacy is still low especially in rural areas in Tanzania. Impliedly, many Tanzanians have limited financial knowledge. They have limited knowledge on credit, credit use and low ability on investment decisions, which results in poor ability to repay loans. More importantly, the special groups including micro enterprise owners are usually vulnerable to the financial embarrassment when they borrow from financial institutions (Dupas and Robinson, 2013). More importantly, previous literature including Beal and Delpachitra (2003) and Chen and Volpe (2002) had shown that women worldwide tend to be financially illiterate as compared to their counterpart men. Consequently, more information is required to understand the status of financial literacy of women entrepreneurs in Tanzania to enhance the financial inclusion drive in the country.

Despite the noted problem of financial illiteracy, there is less also literature in case of Tanzania. To our capacity we managed to access only two literature, that is Mori *et al.* (2016) and the Bank of Tanzania's report on financial inclusion. Thus, there is limited knowledge that can be used to design the solutions. The current study intends to contribute to financial literacy literature by focusing on the women micro enterprise owners. The study focused on increasing understanding on the financial literacy and the relationship between financial literacy and performance of women entrepreneurs. While the financial literacy covers savings, investment and credit concepts, the study focuses on the factors that affect credit decisions among the women owning micro enterprises.

The study examines women entrepreneur's credit literacy and the relationship between the literacy and women owning micro enterprise characteristics. This, therefore, supports the ongoing government efforts of promoting financial inclusion through suggesting a possible way of improving financial literacy.

2. Literature Review

2.1 Financial literacy

General literacy refers to a person's ability to read and write (Zarcadoolas et al., 2006). Although several financial literacy definitions have been proposed, there is no commonly accepted meaning (Huston, 2010; Remund, 2010). Huston (2010) proposed financial literacy conceptual framework as depicted in Figure 1. In this figure financial literacy could be defined as measuring how well an individual can understand and use personal finance-related information.

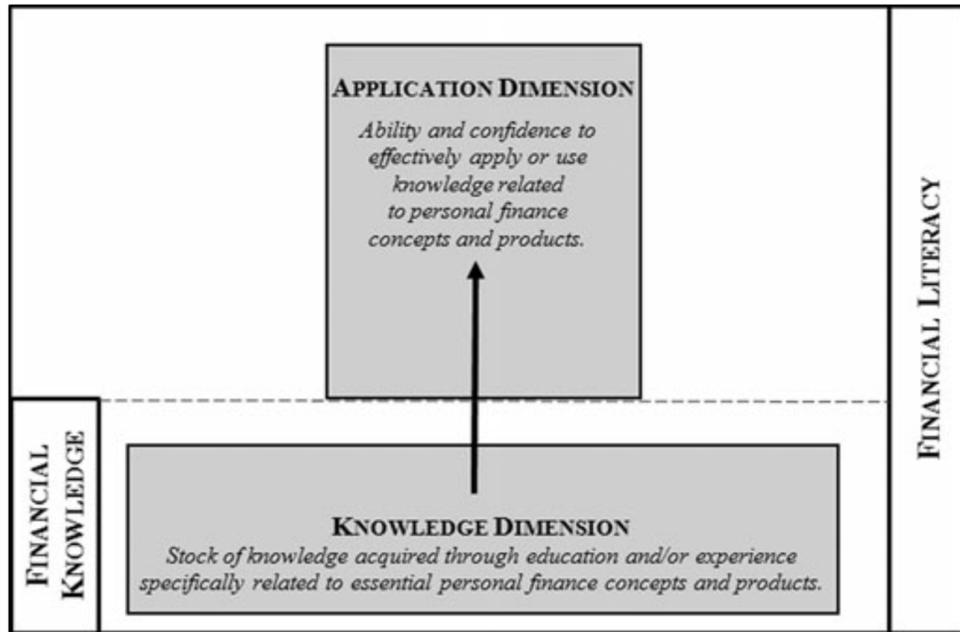
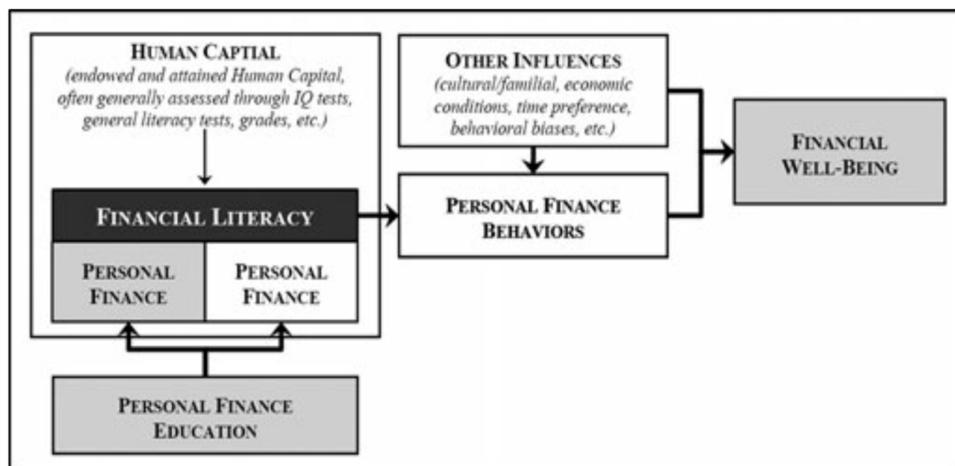


Figure 8: Concept of financial literacy

Source: Adapted from Huston (2010).

Based on Huston's conceptual framework, proposed conceptualization and definition, financial literacy and financial knowledge are both human capital but different Concept of Financial Literacy constructs. Financial knowledge is a fundamental dimension of, although not equivalent to, financial literacy. Financial literacy has an additional application dimension which implies that an individual must have the ability and confidence to use his/her financial knowledge to make financial decisions. When developing an instrument to measure financial literacy, it would be important to determine not only if a person knows the information but also if he/she can apply it appropriately.

Figure 2 shows the relationship among financial knowledge, education, literacy, behavior, and well-being. Financial literacy consists of both knowledge and application of human capital specific to personal finance. The level of overall endowed and attained human capital influences a person's financial literacy. For example, if individual struggles with arithmetic skills, this will certainly impact his/her financial literacy. However, available tools (e.g., calculators, computer software) can compensate for these deficiencies; thus, information directly related to successfully navigating personal finances is a more appropriate focus than numeracy skills for a financial literacy measure.



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Figure 9: Relations among financial literacy, knowledge, education, behavior and well-being

Source: Adapted from Huston (2010).

Financial literacy is a component of human capital that can be used in financial activities to increase expected behaviors that enhance financial well-being. The relations among financial literacy, knowledge, education, behavior and well-being, can affect financial behaviors and financial well-being. However, a person who has the financial knowledge and the ability to apply the knowledge (financially literate) may not exhibit predicted behaviors or increases in financial well-being because of these influences. These other influences include cultural, economic condition, time preferences and behavioral biases.

Financial education is an input intended to increase a person's human capital, specifically financial knowledge and application (i.e., financial literacy). A well-designed financial literacy instrument that adequately captures personal finance knowledge and application can provide insight into how well financial education improves the human capital needed to behave appropriately to enhance financial well-being. Thus, according to this study financial literacy is individual understanding on financial issues, such as why and how to save. Also, it include understanding on when and where to borrow, and at which interest rate. Moreover, it also includes knowledge on insurance and budgeting.

2.2 Small enterprise

To define enterprises, the commonly used benchmarks are total number of employees, total investment and sales turnover. As summarized in Table 1, in the context of Tanzania, micro enterprises are those engaging up to 4 people, in most cases family members or employing capital amounting up to Tshs 5 million. The majority of micro enterprises fall under the informal sector. Small enterprises are mostly formalized undertakings engaging between 5 and 49 employees or with capital investment from Tshs.5 million to Tshs 200 million. Medium enterprises employ between 50 and 99 people or use capital investment from Tshs.200 million to Tshs.800 million (URT, 2003).

Table 5: Categories of SME's in Tanzania

Category	Employee	Capital Investment
Micro enterprise	1 – 4	Up to 5 mil
Small enterprise	5 – 49	Above 5 mil to 200 mil
Medium enterprise	50 – 99	Above 200mil to 800 mil.

Source: Tanzania Small and Medium Enterprises Development Policy (2003)

In this case the small business means those with capital less than 5 million. These include retail shops, liquor business, hair salon, tailoring, food venders, textile, second based clothes, shoes and bags 'mitumba'.

2.3 Financial literacy and micro enterprises performance

The performance of the micro enterprises is viewed all along the full proportions of financial, strategic and structural development. In understanding the performance of the micro enterprises, the socioeconomic factors are widely considered in the case of developing countries (Eniola et al., 2016). But, in recent times, developing and developed nations have become more and more concerned about the level of financial literacy of the entrepreneur. This has originated from peculiar to declining public and private to support systems and wide-ranging developments in the financial marketplace. This Concern has also intensified due to the challenging faced by the micro enterprises shortage of financial literacy that has been the reason for lacks proper knowledge or information about financial decision-making and that these decisions could, in turn, have tremendous unexpected consequences on enterprises performance (Ibrahim, 2017; Eniola et

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al., 2016; Van Rooij et al. 2011). Subsequently, financial literacy is now globally recognized as a major factor of economic and financial stability and development of small enterprises performance.

2.4 Determinants of Financial Literacy

Financial literacy may vary from one group to another. For instance, in terms of gender, women are more financially illiterate than men studies (Chen and Volpe, 2002). Women have less enthusiasm, lower confidence and less willing to learn about personal finance (Van Rooij et al. 2011; Lusardi, 2008; Chen and Volpe, 2002). In developing countries this might be a more serious problem because women are vulnerable to cultural issues that may limit their ability and willingness to learn and participate in learning.

Financial literacy varies between rural and urban areas (Ali et al., 2016; Valentine and Khayum, 2005). In developing countries, financial literacy is low in rural (Mori et al., 2016; Sayinzoga et al., 2016), because normally there is low schooling. Also, the financial knowledge varies between aged and young people (Van Rooij et al., 2011). Normally young people tend to have more knowledge because they have interaction with modern technologies which help them to learn current issues.

Moreover, financial literacy may vary from ethnic groups. Lusardi (2008) for instance showed that African and Spanish have low financial knowledge in the USA. This is normally associated with low income (Bhattacharya et al., 2016), that those with low income normally have low financial knowledge. Probably the reason is low interaction in financial issues and less education. Education and experiences normally affect the level of financial literacy (Lusardi, 2008; Chen and Volpe, 2002). Normally there are courses related to financial issues including commerce and bookkeeping in secondary and in higher levels, this increases understand of the people on financial issues. Moreover, even when a person has not studied the financial courses, higher education increases interaction and understanding on general issues which might affect the knowledge on finance.

2.4 Empirical Literature

Various studies have continued to give evidence on the determinants of financial literacy. For instance, Van Rooij et al. (2011), Lusardi, (2008) and Chen and Volpe, (2002) evidenced that women have low financial knowledge than their counterpart men. Also, Ali et al. (2016) compared the financial literacy level of rural and urban students and reported that urban was better-off than rural. Moreover, Bhattacharya et al. (2016) indicated that financial literacy is influenced by income level. The income is also tended to be different between different groups of people.

Carlin and Robinson (2012) studied the impacts of financial education among the students. Their findings showed that training had a positive impact on financial literacy. Cude et al. (2006) examined college students' overall financial management practices using quantitative and qualitative data from a multi-state research project. The study investigates how college students acquire financial knowledge and behaviors and the factors that place some students at greater financial risk than others. The key findings were that parents play a key role in their children's financial socialization.

Some studies that examined financial literacy include Lusardi and Mitchell (2007) who looked at the financial literacy among the retirees, especially why most people retire with little wealth. They showed that most people had limited financial skills that limited their preparation for retirement. Other studies that looked at retirees are Anderson et al. (2016), Clark et al. (2015) and Lusardi and Mitchell (2011). They also claim that most retirees had the poor financial knowledge and thus they suggested for financial training.

Volpe et al. (2002) studied the financial literacy among the online investors. They reported the effects of the investors' characteristics on the level of finance literacy. For instance, the study showed that Investors 50 years of age or older were more knowledgeable than those who are younger. Also, Women had lower levels of investment knowledge than men and, Investors with graduate degrees were more knowledgeable than those with some high school or college education. Also, Volpe et al. (1999) examine college students' knowledge of personal investment and the relationship between the level of investment literacy and

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gender, academic discipline, and experience. Among the key results were that college students have inadequate knowledge of personal investment. The problem spreads across a broad spectrum of college students of genders, various academic disciplines, and experience groups. The results have shown that female students are less knowledgeable about investing than male students.

While there are an increasing number of studies in financial literacy worldwide, less has been said about Tanzania. Two studies found are Xu and Zai (2012) which showed that Tanzania has high levels of financial exclusion, whereas use of informal products is about three times more prevalent than use of formal products. However, they indicated that awareness of the basic financial products is low, with many people having never heard of savings accounts. Mori *et al.* (2016) studied the financial literacy among the rural Savings and Credit Cooperative Societies based in rural. They concluded that financial literacy is low in rural. In fact, we did not find any study in the case of microenterprises in Tanzania. Thus the study seeks to contribute to that line by looking at the influence of women entrepreneurs on the level of financial literacy.

Also, there studies including Gerba and Viswanadham (2016), Sebikari (2014), Rosli (2011) and Delmar et al. (2003) which have discussed the performance measures for micro and small enterprises. They suggested indicator including profits, sales and growth rates. While there are some studies on financial literacy, less has been explained on its effects on micro enterprises performance. Thus this study establishes the relationship between financial literacy of the entrepreneurs and enterprise performance.

2.5 Conceptual Framework

The assumption in Figure 1 is that higher financial literacy motivated the performance of the enterprise. The financial literacy indicators were adopted from Sucuahi (2013) and Macha, (2009). According Sucuahi (2013) record keeping is a fundamental skill a business person must possess. It is the source of valuable information vital to critical decision-making, and responsible for minimizing risks. This measure of financial literacy proposes the effective record systems considered to be critical in business operation since business owners cannot rely on their memory to summarize all transactions of the day. Savings is another component which serves as economic security and also for accumulation of wealth for an improved living standard. The financing skill is the ability to obtain capital from outside sources with minimal cost and payoff obligation. Without knowing that their obligation is getting bigger because of interest and high debts were lead to business reversal. Budgeting, on the other hand, refers to the expenditure planning and cash flow which is very important to the success of the business operation and processes. Also, we were also include assets covering (insurance) as an indicator of financial literacy.

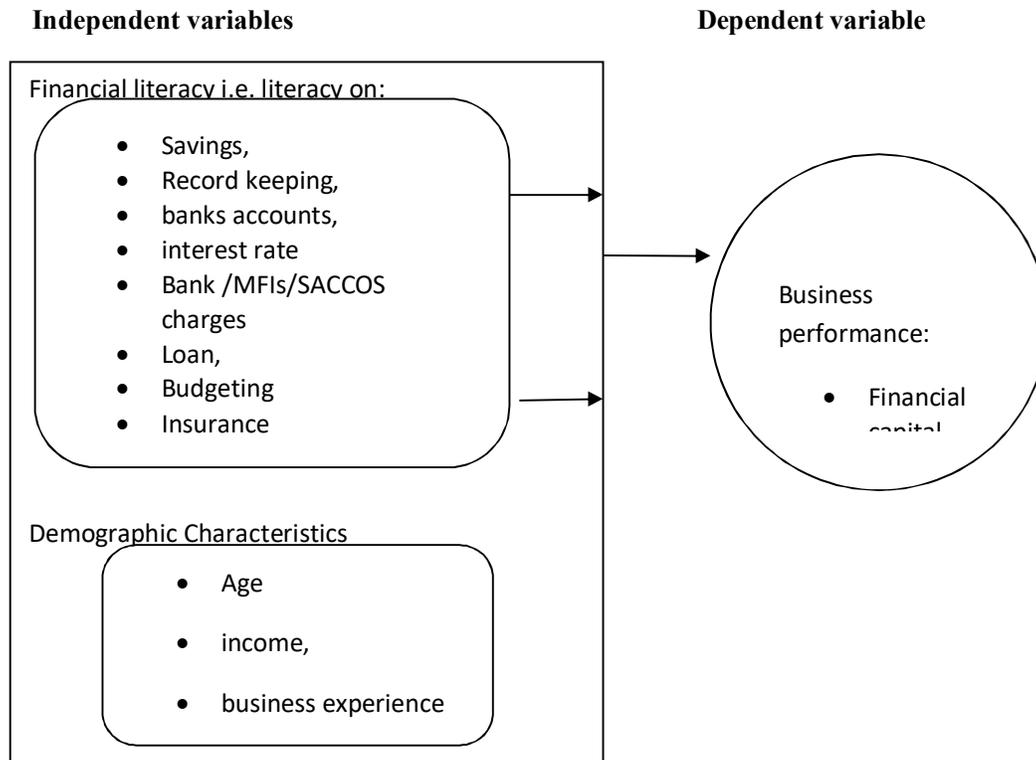


Figure 10: Relationship between socio-economic, financial literacy and performance

According to Neely (2002), the business performance is normally defined by three indicators, turnover (gross sales), the number of employees and financial capital. As the business grows, the sales, financial capital, and some people employed is likely to increase. So the growth of these indicators represents the good performance of the enterprise. In this study, we choose to use financial capital because the information was easy to capture. Lastly, Figure 1 shows that both financial knowledge and enterprise performance are assumed to be influenced by the entrepreneurs' characteristics (Volpe et al., 2002).

3.0 Methodology

3.1 study area and Research Design

The cross-sectional design was used in this study. That is, data was collected only once. It used both quantitative and qualitative data. The data used mainly was primary data. Some secondary data such as the total number of micro enterprises existing at Makuyuni ward was used to supplement primary data.

The study was conducted at Himo-Makuyu ward in Moshi district. This is one of the wards in the District that have a big population of entrepreneurs. According to the data got from the district headquarter; there are 1100 registered women microenterprises. Within the main businesses are retail shops and liquor. Others include hair salons and barber shop, tea rooms, textile, millings machines, agricultural equipment and animal feeds.

3.2 Population, Sample Size and Sampling

The sample size was determined using Cochran formula as follow;

$$n = N / (1 + N) \cdot e0.05$$

Where, n is sample size

N is population

Thus the sample size was 120. Simple random sampling was used to determine the respondents. This

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probability sampling method was given an equal chance to all the women enterprise in the study area to participate in the study.

3.3 Data Analysis

Data that was collected include:

- (i) Respondents' social, demographic, family and business characteristics. These were obtain from respondents in the study area.
- (ii) Financial literacy of women. The indicators of financial literacy included the knowledge on record keeping, insurance, savings, financing skills (loans, interest rates, bank/MFs/SACCOS charges) and budget. These indicators were generated using previous literature including Macha (2009) and Sucuahi (2013). The information on level of literacy level was obtained from respondents using the Likert scale.
- (iii) Business performance. The business performance is normally defined by three indicators, turnover (gross sales), the number of employees and financial capital (Neely, 2002). As the business grows, the sales, financial capital, and a number of people employed is likely to increase. So the growth of these indicators represents the good performance of the enterprise. In this study, we chose to use financial capital because the information on capitalization was easy to capture. The financial capital growth was the unit of measurement.

3.4 Data Collection Techniques

Structured questionnaire in the form of the 5-level Likert scale was used to gather information on level of financial literacy. The information was about knowledge on insurance, savings, loans, interest rates, bank/MFs/SACCOS charges and budget. Also, financial capital growth data was collected using structured questionnaire. The questionnaire were in Swahili (Apedix 1 and 2) language, and some of the respondents were interviewed while others were asked to fill the questionnaire.

Three different data analysis methods were applied in this study. Financial literacy level was captured as follows: The statement that test understanding of covering assets (Insurance), Savings, record keeping, financial skills (banks accounts, interest rate calculation, bank /MFIs/SACCOS charges, and loans) and budgeting were used to measure financial literacy of the respondents (Sucuahi, 2013). The researcher used questions which were in 5-level Likert scale format which had five levels from not at all (1) to very well (5). The frequency and percentage were then used to analyze the financial literacy. Also, the demographic characteristics which include age, education, income, business type and experience were analysed using frequency and percentage.

For the second and third objective, the ordered (ordinal) regression analysis was used. The functional form of the model sees Equation 1 and 2. For the second hypothesis which determine how demographic characteristics of respondents contribute to the level of financial literacy of the women entrepreneurs. To get the value of financial literacy (FinLi), as a dependent variable, the respondents' responses to the eight statements of Likert scale (about savings, insurance, loan, interest rates, bank charges and budget) was summarized, and then the mean was calculated. If a person is completely illiterate the financial literacy score was 1 and if the person is perfectly literate the score was 5. The mean score was 2.88. The respondents who scored below mean were considered illiterate (1) and those who scored mean point and above were considered literate (2). The characteristics of the women entrepreneurs were age, education, income type of the business and business experience. Both were in categorical variable as follow:

AGE1 = 1 if a participant is in the age group of under 30, 0 otherwise,

AGE2 = 1 if a participant is in the age group of 30-39, 0 otherwise,

AGE3 = 1 if a participant is in the age group of 40-49, 0 otherwise,

INCOME1 = 1 if a participant earns less than 1,000,000 annually, 0 otherwise,

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INCOME2 = 1 if a participant earns 1,000,001-3,000,000 annually, 0 otherwise,
INCOME3 = 1 if a participant earns 3,000,001-5,000,000 annually, 0 otherwise,
EDUCATION1 = 1 if a participant has primary school education, 0 otherwise,
EDUCATION2 = 1 if a participant has secondary school education, 0 otherwise,
EDUCATION3 = 1 if a participant has college education, 0 otherwise,
EDUCATION4 = 1 if a participant has college degree, 0 otherwise,
BUSINESS EXPERIENCE1 = 1 if a participant has less than 3 year experience, 0 otherwise,
BUSINESS EXPERIENCE2 = 1 if a participant has 3-5 years' experience, 0 otherwise,
BUSINESS EXPERIENCE3 = 1 if a participant has more than 5 years' experience, 0 otherwise,
BUSINESSTYPE1 = 1 if a participant owns retail shop, 0 otherwise, and
BUSINESSTYPE1 = 1 if a participant is owning liquor, 0 otherwise

The Regression model is:

Similarly for objective number four, regression analysis was applied to examine the relationship between women characteristics and business performance (BisPe). The dependent variable was BisPe while the characteristics of the women entrepreneurs include age, education, income, type of business and business experience were the independent variables. The regression model for objective three and four is as identified in Equation number 2.

$$\text{BisPe} = B_0 + B_1(\text{AGE1}) + B_2(\text{AGE2}) + B_3(\text{AGE3}) + B_4(\text{INCOME1}) + B_5(\text{INCOME2}) + B_6(\text{INCOME3}) + B_7(\text{EDUCATION1}) + B_8(\text{EDUCATION2}) + B_9(\text{EDUCATION3}) + B_{10}(\text{EDUCATION4}) + B_{11}(\text{BUSINESSTYPE1}) + B_{12}(\text{BUSINESSTYPE2}) + B_{13}(\text{BUSINESSTYPE3}) + B_{14}(\text{BUSINESSEXPERIENCE1}) + B_{15}(\text{BUSINESSEXPERIENCE2}) + B_{16}(\text{BUSINESSEXPERIENCE2}) + B_{17}(\text{FinLi}) + e_i \dots(2)$$

4. Results

4.1 Financial Literacy of Women Entrepreneurs

Financial literacy is the knowledge on financial issues, including savings, credits, record keeping, budget, insurance and interest rate. The level of literacy may vary from one person to another. Moreover, one person may have different level of knowledge on different issues. Thus in this section we present and discuss findings on eight issues of financial literacy and thereafter we determine and discuss the overall level of financial literacy. Appendix 2 summarizes the women entrepreneurs' perception on their level of financial literacy. These perceptions were gathered using Likert scale questions which had five levels from not at all (1) to very well (5). Appendix 2 summarizes women perception on their level of financial literacy.

Regarding the respondents' understanding of the importance of insuring assets, about 86% percent of the respondents indicated that they did not know why they should insure their assets. Insurance helps an entrepreneur to recover her asserts in case there is unforeseen accidents, fire or theft. Thus, this is an important observation because small business insurance is important to re-instate an entity back to where they were before the event occurred (Chinweike, 2015). An insurance firm, for example, will cover the firm from losing personal or cooperate assets if client makes a successful claim. When the small business owners are not aware of the insurance issues, they are likely to lose their properties in case of an event like fire or theft.

Concerning whether women entrepreneurs in the study area know how to keep records for their assets and financial matters, the findings show that there is fair ability to keep record, in which 69.8 percent asserts that they were fairly able to keep records. Record keeping refers to the orderly and disciplined practice of storing business records (SBA, 2017). Record keeping is one of the most important responsibilities of

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small business owner. The success of the business depends on creating and maintaining an effective record system, whether the business is a sole proprietorship, partnership, or corporation. It enables tax authorities to impose reasonable and fair tax over a business as it shows clearly sales revenue and expenses of the business. Record keeping ranges from simple manila folder filing systems to complex online electronic systems. Whether simple or complex, a record keeping system must be easy to use and provide adequate storage and retrieval of records. Most importantly, the record keeping system chosen must be suited to the particular business needs. The type, size, and complexity of the business, as well as the business' available resources, will help to determine the record keeping system best suited to the owner and business. Thus the findings indicate that most of the women entrepreneurs in the study area hardly keep records a practice which is not good when comes to decision making and future planning concerning their businesses.

On the experience with bank services, the results showed that 69.8 percent of the respondents chose 'not at all.' This means majority did not know the procedures which also imply that they did not have a bank account. Similar to Ahlén (2012), this is also indication that women entrepreneurs who own and run micro businesses depend on semiformal financial institutions like SACCOS and informal like VICOBA for financial services. Others keep the money from the business in their pockets which is dangerous as the robbers may rob it off, and also the money can be easily used for personal problems instead of using it for the business expansion.

Regarding the on knowledge on the interest rate, respondents required to indicate her level of understanding on interest rates calculation. The assumption was that these women entrepreneurs take microcredit from different institutions and friends or families. In this case, they usually pay interest for their loans. Thus understanding on the calculation of Interest rate will help them to choose the best lender and avoid being exploited by lenders. Findings indicate that 60.3 percent have little knowledge on calculation of interest rate. This is similar to previous researchers including Xu, and Zia, (2012) who indicated that most people in Tanzania do not understand simple financial concepts like interest rate. These findings show that most of the respondents have been involved in paying loans together with interest though they are not sure on how it has been calculated.

Moreover, regarding understanding the charges other than the interest rate charged by banks, microfinance, and other informal arrangements or groups, Most of the respondents (63%) showed that they fairly understand the charges. This also prove that majority of entrepreneurs have no enough knowledge on bank issues and they are vulnerable in bargaining when it can to the saving or borrowing money from both formal and informal financial institutions (Xu, and Zia, 2012).

Another issue on understood how capable are the women entrepreneurs to prepare their budget. Budgets usually represent a detailed analysis of how a business expects to spend money in future time periods. Many businesses create budgets on an annual basis so they can carefully outline the expected needs of each department in the business. Using an annual budget process also limits a number of times micro enterprises spend creating and managing capital resources. Although larger companies may have employed accountants or other professionals to create the business budget, small business owners are usually responsible for completing this function themselves (d'Amboise and Muldowney, 1988). The findings here showed that Most of the women, that is more than 75 percent, respond ended that they are capable of preparing a budget.

The last two issues focused on savings and credit respectively. In case of savings, the researcher wanted to know whether these women entrepreneurs understand how they can save more money. To answer this question more than 70% showed that they have knowledge. Similarly when they were asked whether they can determine how much loan they can afford to apply, more than 70% said they understand. The findings prove that savings and credit are the major financial services used by the small business owners in Tanzania (Ahlén, 2012).

The findings support prior researches in other countries, that majority of people have low financial knowledge. Some of the literature which reported the same includes Halabi et al. (2010) who reported low financial literacy among small scale business owners in Australia. Also, Chen and Volpe (2002) found the same among the college students. Similarly, Lusardi, et al. (2010) found low financial literacy among

youth.

4.2 Business Performance

Business performance was measured by whether the entrepreneur either experienced growth or, not in the last two years. The proxy measure of performance was capital, so the question requires the respondent to choose between growth and no growth. As indicated in Figure 9, the results showed that most of the respondent (70%) had their capital growing in the past two years. This is parallel to the Bjorvatn and Tungodden, (2010) and Kuzilwa (2005) that small business in Tanzania usually experience growth when the environment is favorable.

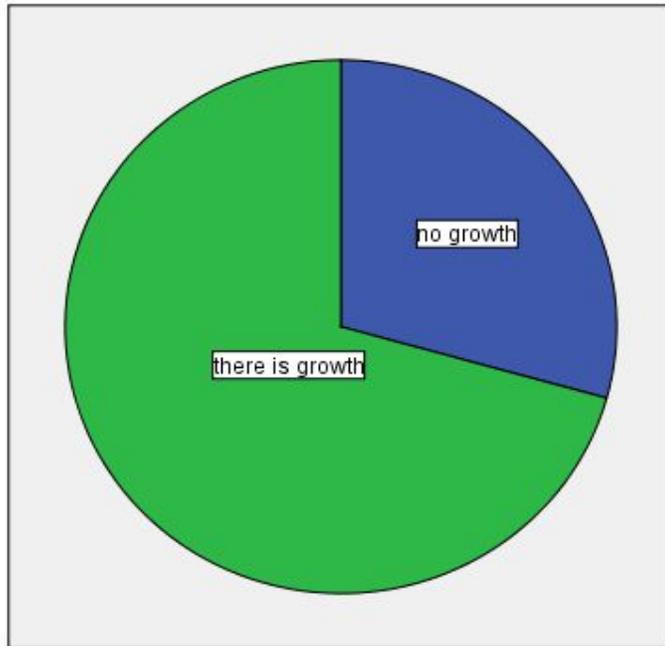


Figure 11: Financial capital growth

4.3 Regression Results

This section presents the ordinal logistic regression results for two equations. Appendix 2 shows the dependent and independent variables, the number of cases for each as used in the regression analysis. The dependents variable was binary and independent variables were both categorical.

The findings in this section present the determinants of the business performance. The firm's superior performance is the main goal of every business. Therefore, it is very important to identify the factors that lead towards the success of the business. In this section, the study has demonstrated the impact of several factors on the firm's performance. However, this study aims to investigate the influence of financial literacy and demographic characteristics of the entrepreneurs on the business performance. Table 6 presents the summary of the ordered logistic regression results in which performance is the dependent variable, and independent variables are financial literacy, age, education, income, type of business and business experience. Thus, two assumptions were tested here. One was that there is no relationship between financial literacy and business performance and two was that there is no relationship between characteristics of women entrepreneurs and business performance

That is:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 \dots\dots B_{17} = 0$$

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H1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \dots \neq \beta_{17} = 0$

Thus, the first aim of the regression analysis was to determine whether the level of financial literacy of an entrepreneur influence the performance of the business. The findings show that there is positive coefficient of financial literacy and high significant level. Thus we reject the null hypothesis that financial literacy influences the level of business performance. This finding support other researchers including (Eniola et al., 2016) who showed that financial literacy has been one of the many elements responsible for lacks of proper knowledge or information about financial decision making and that these decisions could, in turn, have tremendous unexpected consequences. Subsequently, financial literacy is now worldwide recognized as a major factor of economic and financial stability and development of micro business performance.

Table 6: Determinates of business performance

Dependent variables	B- Coefficient	p-value
FinLi	0.564	0.002***
AGE1	-17.560	0.000***
AGE2	-16.638	0.000***
AGE3	-17.127	.
EDUCATION1	-16.441	0.000***
EDUCATION2	-16.739	.
EDUCATION3	0 ^a	.
BUSINESSEXPERIENCE1	-0.817	0.378
BUSINESSEXPERIENCE2	-0.364	0.684
BUSINESSEXPERIENCE3	0 ^a	.
BUSINESSTYPE1	-0.657	0.204
BUSINESSTYPE2	-0.234	0.736
BUSINESSTYPE3	0 ^a	.
INCOME1	-16.705	0.998
INCOME2	-16.624	0.998
INCOME3	0 ^a	.

Note: ***, indicate significant level at 1%

5.0 Conclusion

Also the study analyses the influence of financial literacy on the performance of the business. Business performance was measured as financial capital. It was found that higher level of financial literacy results to higher level of business performance. This finding support previous study that, proper financial knowledge is the ability of people to make financial decisions in their own best short- and long-term interests. Thus,

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the proper financial decision is important in strengthening the financial inclusion (access to financial services) for women entrepreneurs as the number of financial institutions increases in the market and performance as well. Also, the study determines the influence of demographic characteristics on business performance (in terms of financial capital growth). The review of studies has revealed the positive and significant relationship between the age and education of the entrepreneurs and firm's performance (which measured interns of financial capital). Again not all factors can influence financial capital growth.

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**Gender Gap in Asset ownership: Tanzania State of Play
A Review**

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Abstract

Tanzania is facing disparity in asset ownership among women and men. This study, examined the gender gap that still exist in asset ownership and its associated factors. Land is used to measure the level of asset ownership. Seven (07) current papers (2017-2021) related to the study were reviewed to establish factors causing gender gap in asset ownership. The findings show that there still exists gender gap in asset ownership. Using Land as a measure of asset ownership the following factors are the source of ownership gap; lack of knowledge and awareness Lack of income and Traditions & customary norms are the most critical factors limiting women from owning assets in Tanzania. The study recommends awareness should be availed to women regarding their rights to own and use assets, families to be educated on the importance of letting women own assets like land and economic empowerment of women should be encouraged.

Key words: Asset ownership, Fender gap, Tanzania State

Introduction

Tanzania was declared as middle lower income country in 2020. This was a result of Tanzania's Gross National Income (GNI) per capita increase from \$1,020 in 2018 to \$1,080 in 2019 (this exceeds the 2019 threshold of \$1,036 for lower-middle income category). To remain in this category as a country, Tanzania needs to sustain its economic growth (Battaille, 2020). A sustainable economy should as well be inclusive economy; therefore Tanzanian lower-middle income achievement should also be inclusive economic growth where by the growth is equitably shared among women and men. Inclusive economic growth is one of 2030 agenda of the Sustainable Development Goals (SDGs) (Elson & Seth 2019).

Women economic inclusion involves reducing gender gap in the economy and its benefits. There are several barriers that exclude women from enjoying the benefits of economic growth. Idris (2018) identifies several barriers including lack of assets and access to financial services. Many women lack income of their own which limits their ownership of capital assets. Elson & Seth 2019, argue that for economic growth to benefit both women and men equally, the gender dimensions of inclusive growth should be explicit, and policies for inclusive growth should deliberately aim to improve women's well-being while addressing gender gaps. Equal ownership of different resources is important for inclusive economy. Recently, it has been advocated that women should own assets like land, should also exercise control over them because ownership of assets such as land and a house provides them with security and tends to moderate men's violent practices. Women who are economically empowered are likely to have greater access to economic assets like land (Panda and Agarwal, 2005).

In Africa, land is the most important asset used to measure wealth. Women are economically and socially denied access to land. It is for this case this review focuses on land as a symbol or measure of asset ownership among women. It is a scarce resource that is relatively inexpensive to own and requires little maintenance over ownership period. Land as an asset does not wear out or depreciate (Panda and Agarwal, 2005).

Tanzania land law provides equal rights to both women and men to own and use land as the constitution recognizes equality to own property for all citizens. The 1999 Land Act which was revised in 2019 establishes a number of principles that help to safeguard women's land rights. Although the current land laws address gender inequalities relating to women's access, ownership and control over land, the impact

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of such reforms has been minimal so far (Moyo,2017). Tanzania is known to have high gender inequality index score of 0.539 (in 2017) ranking 130 out of 159 (Vyas & Jansen, 2018).Evidence shows that there exists gender gap in land ownership as women tend to own smaller plots compared to men. This gap is due to poor implementation of land rights and lack of access to land by women (Idris, 2018).

Ownership is considered to be the remedy for all of the aid-dependent continent's development misery. Ownership is the foremost procedure for achieving aid effectiveness and a range of development outcomes (Harper-Shipman, 2019).Economic inclusion depends how equally assets are owned and used between women and men. It is therefore important to identify factors for gender gap in ownership of assets which excludes women from benefiting from economic growth.

Literature Review *Theoretical Review*

This review identified factors limiting women to own asset/land and establish the existing gender gap in the area. The study uses Theory of access by Ribot and Peluso2003 revisited in 2020. They define access as "the *ability* to derive benefits from things. This definition was broadened from classical one which defined access as the *right* to benefit from things (Ribot& Peluso, 2003). The relevancy of Theory of access to this study is centered on the fact that women needs to be able to derive benefits from different resources/assets. It is not enough to address the ownership problem through the rights. Rights alone do not give women the ability to derive benefits. Access includes bundle of powers than rights. Peluso and Ribot(2020) view power as an effect that emerges from social relations and ongoing struggles within them. The theory focuses on important mechanisms that influences who is able to enjoy benefits from resources, an environment, or other "things. This will unveil what influences women to own assets. The theory argues that formal rights, including property rights, do not guarantee access to property/asset, because not all formal claims are enforceable, as property theorists pointed out. For that reason, ownership, title-holding, or rights-based benefits are only part of the access catalog. Access in this view considers who is able to benefit from things, under what conditions, mobilizing what relations of power, and through what set of mechanisms. This would answer why gender gap exist in asset ownership.

Empirical Review

Asset Ownership is a legal ownership of material assets by an individual or entity. Assets are important because they have financial benefits, can improve people's life-chances and social relations. Balanced asset ownership is important for an inclusive economic development (Khan.2009). When women are assured of access to property rights, it transforms gender relations by empowering them to protect themselves from poverty, domestic violence and hunger (Panda and Agarwal, 2005).Therefore, asset inequality should be a concern of policymakers.

Najjar, Baruah and El Garhi (2020) conducted a research in Egypt to identify patterns, opportunities, and constraints of ownership of land and other assets like houses, livestock, poultry, and gold by women and men in the Old and New Lands of Egypt. Using survey and qualitative interview Najjar et al (2020) found that Women are disadvantaged in land ownership and that, men own and control more land and housing while women own and sometimes control (liquefiable) livestock and gold. The study found that Men underestimate women's preferences for owning immovable property (land and housing) where 20 percent of land titles are distributed to women. They further established that Women who owned land are unwilling and hesitate to enable their daughters to inherit land as compared to their sons.

Recently different programmes have been established to increase financial women financial inclusion. It is believed that if women are financially included it's likely that they would have greater access to capital assets. However financial inclusion of women has put women at risk of losing their capital assets which increase the gender gap in asset ownership (Zulfqar, 2017).

In Tanzania, most land in the informal settlements is owned by men. This leads to gender gap is asset ownership. Unequal property ownership can lead to unequal wealth distribution in households and inefficiencies in allocation of income which are can cost economic output, women control over household

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resources and decisions in spending. All these have implications on the welfare of this generation and next. For a shared prosperity and poverty alleviation, women's ownership, control and use of land, livestock, and other assets matters(O'Sullivan, 2017).

In order to establish the current status of asset ownership gender gap in Tanzania previous studies were reviewed as summarized in the **Table 1.0**.

Table 1.0: Selected Previous Studies in Tanzania and Major Findings

Author(s)	Title	Major Findings
1. Lusasi, J., & Mwaseba, D. (2020).	<i>Gender inequality and symbolic violence in women's access to family land in the Southern Highlands of Tanzania</i>	i. Women lack knowledge and awareness of the laws and regulations that affirm their rights ii. Symbolic Violence iii. Limited involvement in land transactions iv. Ineffective implementation of the existing land laws and regulation
2. Wineman, A., & Liverpool-Tasie, L. S. O. (2017).	<i>Land markets and land access among female-headed households in northwestern Tanzania.</i>	i. Women lack fund to purchase land from the market. i. Unequal participation in the land market
3. Makota, N. N. (2018).	<i>Impact of land regularization on empowerment of women in developing countries: A case of urban informal settlements in Tanzania</i>	i. Lack of awareness i. Women lack power and confidence i. Traditions and customary norms
4. Moyo, K. (2017).	<i>Women's Access to Land in Tanzania: The Case of the Makete District</i>	i. Majority of women are illiterate ii. Women lack awareness iii. Limited involvement in land administration institutions iv. Inadequate knowledge about women's property rights v. Outdated customs vi. Conflicting interests in laws
5. O'Sullivan, M. (2017).	<i>Gender and property rights in Sub-Saharan Africa: a review of</i>	i. Tenure insecurity ii. Lack of

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- | | | | |
|----|------------------------|--|---|
| | | <i>constraints and effective interventions. World Bank Policy Research Working Paper, (8250).</i> | income/low income |
| 6. | Kongela, S. M. (2020). | <i>Gender Equality in Ownership of Agricultural Land in Rural Tanzania: Does Matrilineal Tenure System Matter?. African Journal on Land Policy and Geospatial Sciences, 3(4), 13-27.</i> | i. Awareness on Land Related Laws
ii. Traditions and customary norms
iii. Ineffective implementation of the existing land laws and regulation |
| 7. | Haule, T. R. (2021). | <i>Climate Variability and Feminization of Poverty in Tanzania: The Contribution of Gendered Ownership and Access to Household Assets. Tanzania Journal for Population studies and Development, 28(1).</i> | i. Culture
ii. Access to finance |
-

Source: Literature Review, 2021

Conceptual Framework

From the reviewed literature different factors have been identified as a causative of gender gap in asset ownership in Tanzania. The dependent variable of the study is women asset ownership in Tanzania. This dependent variable is affected by independent variables which include: Lack of awareness of their rights, Lack of income,

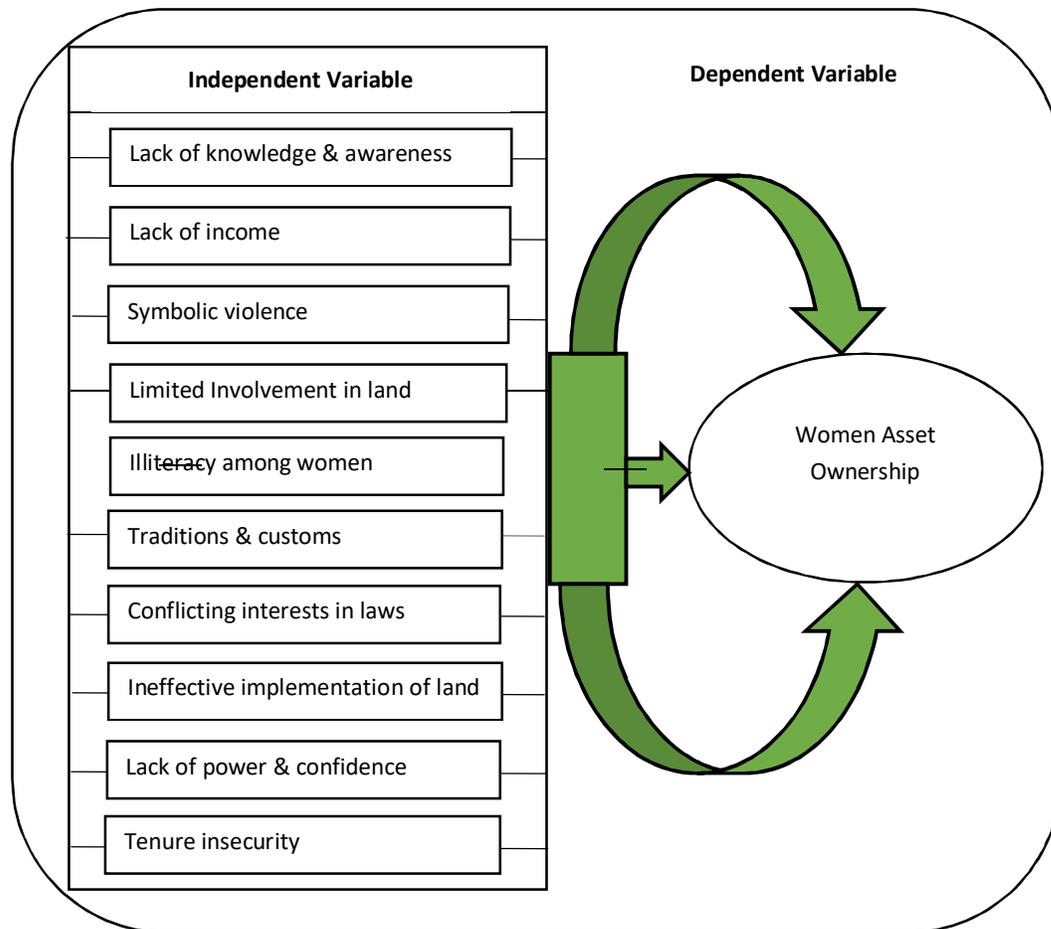


Figure 1: Conceptual Framework
Source: Literature review, 2021

Research Methodology

This review uses a quantitative approach to establish gender gap in asset ownership in Tanzania. The paper adopted a descriptive analysis. An intensive literature review was conducted in order to obtain the current status of asset ownership by women and men in Tanzania. Researchers reviewed different empirical studies from across the world relating to asset ownership disparity between women and men. Thereafter researchers focused on Tanzanian studies relating to the subject under study. Literature was limited to most recent five years i.e 2016-2021. A sample of seven (07) papers was included for their relevance to the study. These papers were used to establish the current status of asset ownership by gender and identify reasons for any existing gap. Using descriptive analysis factors contributing to existing gap are tabulated. Frequencies and percentages are calculated so as to arrive at conclusion. From the literature ten (10) variables were identified. These variables are: Lack of knowledge & awareness, Lack of income, Symbolic violence, Limited Involvement in land, Illiteracy among women, Traditions & customs, Conflicting interests in laws, Ineffective implementation of land, Lack of power & confidence and Tenure insecurity.

Findings and Discussion

From the literature reviewed the following factors in **Table 2.0** below are the major factors to the existing asset ownership gap between women and men in Tanzania. The shaded area represents the factor identified by the specific study as a source of existing asset ownership gap.

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Table 2.0 Factors affecting women’s asset ownership in Tanzania

AUTHOR	VARIABLE/FACTOR									
	LAK	LOI	SV	LIL T	ILL	T&C	CIL	IILL	LPC	TI
Lusasi, J., & Mwaseba, D. (2020).	█		█	█				█		
Wineman, A., & Liverpool-Tasie, L. S. O. (2017).		█		█						
Makota, N. N. (2018).	█	█		█		█			█	
Moyo, K. (2017).	█	█		█	█	█	█			
O’Sullivan, M. (2017).	█	█								█
Kongela, S. M. (2020).	█					█		█		
Haule, T. R. (2021).		█				█		█		

Source: Literature Review, 2021

Key: [1] LAK= Lack of Awareness and Knowledge [2] LOI= Lack of Income [3] SV= Symbolic Violence [4] LILT= Limited involvement in land transactions [5] ILL= Illiteracy [6] T&C= Traditions and customary norms [7] CIL= Conflicting interests in laws [8] TI= Tenure insecurity [9] LPC= Lack power and confidence [10] IILL= Ineffective implementation of the existing land laws and regulation

From **Table 2** above, the following frequencies of the variables are extracted and presented in **table 3** below.

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Table 3 Frequencies and Percentages of Factors affecting women's asset ownership in Tanzania

Variable	Frequency	Percentage
Lack of knowledge & awareness	4	57.1*
Lack of income	4	57.1*
Symbolic violence	1	14.3
Limited Involvement in land transaction	3	42.9
Illiteracy among women	1	14.3
Traditions & customs	4	57.1*
Conflicting interests in laws	1	14.3
Ineffective implementation of land	2	28.6
Lack of power & confidence	1	14.3
Tenure insecurity	1	14.3

Source: Literature Review, 2021

Key: * =Critical Factor

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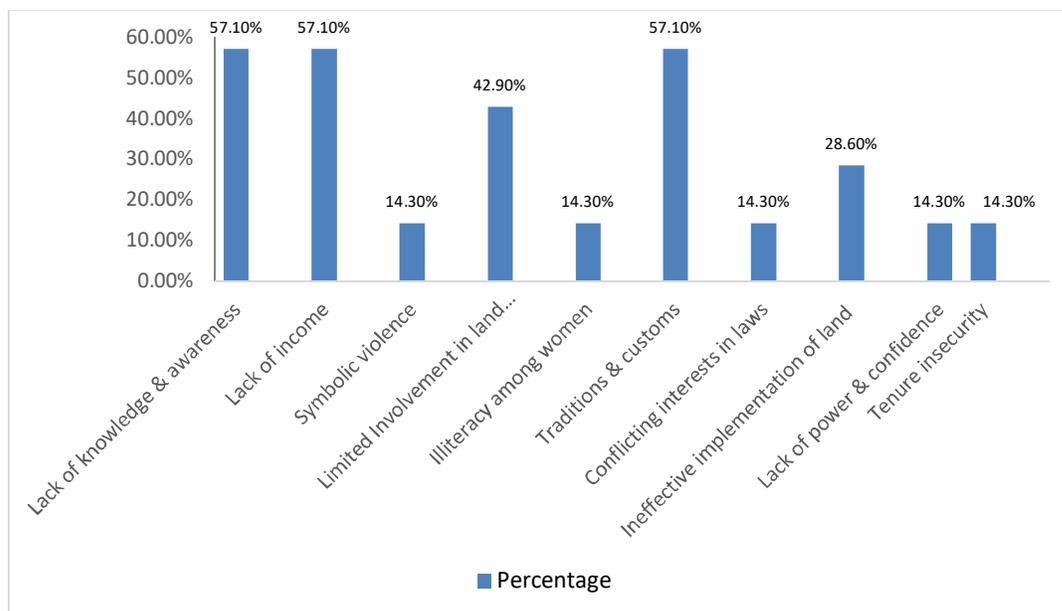


Figure 2: Frequencies of Factors affecting women’s asset ownership in Tanzania

Results in Table 3 and Figure 2 shows that Lack of knowledge and awareness (57.1%), Lack of income (57.1%) and Traditions & customary norms (57.1%) are the most critical factors limiting women from owning assets in Tanzania.

In this regard, Lack of knowledge and awareness of the laws and regulations that affirm women’s rights is one of the critical factors that limit women from owning assets/land. Understanding what laws and regulations constitute is important for women to be able to claim such rights. When women lack knowledge and awareness of property rights it opens room for discrimination and other forms of violence. This is similar to what Panda and Agarwal, (2005) found regarding awareness and knowledge limiting women from owning assets.

For the case of low income it can be argued that, for women to be able to own assets it is important for them to have financial resource that would enable them to participate in the market. Presence of rights may provide proper conditions for women to access and own land, but it may not give them the capability to own the same. Therefore, the existing gender gap in asset ownership indicates that men are far financially better than women. Lack of income denies women the ability to own assets like land. Idris (2018) also identified lack of income as a barrier to women to own their own capital assets.

Another critical factor is traditions and customs. Studies have revealed that traditions and customary norms still limit women from owning assets. Mhango, Malima, & Lukumay, (2014) found similar results that gender inequality in land ownership is mainly caused by traditions and customs which promote and perpetuate patriarchal system. Such traditions have undermined women from owning land. Land is for men because women once married do not belong to their family but rather her husband’s family. Such traditions and customs are also seen when women are widowed.

Conclusion and Recommendations

This review examined factors attributing to gender gap in asset ownership in Tanzania. It has been observed that lack of knowledge and awareness (57.1%), Lack of income (57.1%) and Traditions & customary norms (57.1%) are the most critical factors limiting women from owning assets in Tanzania. Therefore to close the existing gap the government and other stakeholders should focus on the three major

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critical factors. Awareness campaigns and knowledge provision are important. Education and awareness campaigns should be designed to build the capacity of societies as to the necessity of equity in access to property rights.

Other measures include promoting women business and other income generating activities. Women should be empowered and supported to engage in economic activities so as to raise income. This would in turn give them ability to own assets. Therefore the government should invest in capacity building among women. More intervention in ensuring statutory and customary land tenure practices are important in enhancing gender equality in accessing land. There should be participatory initiatives in Tanzania to help women make their voices heard when it comes to asset ownership.

Generally, the study recommends that, to reduce gender gap in asset ownership, women should be empowered to access, own and control assets. This empowerment should focus on dealing with the factors identified to be limiting women to own assets. The focus should not be on creating more policies, laws and regulations but monitoring the implementation of the existing ones. Furthermore, societies should be sentise to promote women right to property.

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Business linkages and their effects on firm performance: A case of Sunflower oil manufacturing firms in Tanzania

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Abstract

Business networking is perceived to be one of the key factors determining performance of manufacturing firms. Using data from a survey of 144 micro and small sunflower manufacturing firms from the central agricultural zone of Tanzania, and applying Logit and OLS estimations to address the question of choice and the effect of networking, this study finds that, edible oil manufacturing business in sunflower sub sector in the study area is dominated by Micro and Small firms. With regard to business networking among firms, results suggest that the majority of the firms, about 83.3% of the firms do practice some business networking of different nature. Motivating factors for firm commercial networking as captured in the logit model are many, but the significant ones are firm size, firm age and firm profitability. Networking however, does not contribute significantly to performance of micro and small firms in the study area. The findings suggest that development of strong and meaningful market-based networking is unlikely where the firms involved are micro or small applying more or less equal technology in their production process.

Key words: Business Linkages, Sunflower Edible oil, Firm Performance

Introduction

This work undertakes to explore the existing business linkages, if any, and their effects on performance of edible manufacturing firms in the sunflower subsector in Tanzania. Business Linkages are understood to be a tool for economic development, prevalence of a denser network of linkages in the domestic economy is a key indicator of an economy undergoing structural transformation in a sustainable manner. The more domestic enterprises intensify their supplying relationships and, as a result, develop technology collaborations and other forms of stable linkages, the more the domestic economy is able to create manufacturing value and value addition (UNIDO, 2016).

Tanzania experiences a huge deficit in the production of its cooking oil. According to the Tanzania Investment Centre (TIC, 2019), the country's annual demand for edible oil stands at 500,000 tonnes, whereas the domestic supply is only 180,000 tonnes per year. The country has to import 320,000 tonnes annually at a cost estimated currently at US \$294 million. This market situation has drawn Micro, Small, Medium Enterprises (MSMEs) and large firms into the business of oil manufacturing to help bridge the supply gap and make fortunes out of it. Commercial production of Sunflower seeds has been increasing in the recent decades, accounting for about 36 percent of national oilseed production (RLDC, 2008). Sunflower is mostly grown by small-scale farmers throughout the country. Wide production of the crop is mainly on account of the crop's adaptability to a wide range of environments and agro-ecological zones. Current raw sunflower seed production is close to 3 million tonnes per year but the country has the potential to produce up to 10 or even million tonnes per year (LIC, 2018). Tanzania has the potential to become a top producer of sunflower oil, and meet its national edible oil demand while producing excess vegetable oil for export to earn foreign currency for further capital formation in the sunflower sector and other sectors.

Sunflower oil processing in Tanzania is largely dominated by Micro, Small and Medium Enterprises (MSMEs). It is estimated that over 1000 micro, small and medium firms with varying sizes and capacities are involved in the business (URT, 2016). Few large firms are also flourishing. These include, the East Coast Oils and Fat; Mkoani Edible Oil and Detergent Limited; Mirza Wilmar East Africa Ltd, BIDCO,

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Sunshine Company, and Mount Meru Ltd Company. Most of these few large firms are located in large towns and cities whereby they manufacture not only sunflower edible oil but also other types of edible oil.

Nearly all Micro, Small and Medium oil firms engaged in manufacturing of sunflower cooking oil employ a low Technology, they can only produce filtered oil (crude oil). The crude edible oil which is produced and sold largely to local consumers is technically still containing some impurities such as wax, iron sediments, gums and water content (FAO, 2012) which render it less suitable for human consumption. It can be oxidised, and may cause health hazard if consumed consistently for a long period of time or if it is not consumed immediately after its production. It is for this reason that the product is classified by Tanzania National Bureau of Standards (TBS) as low-quality product (URT, 2017). Sales of the unrefined oil produced by micro and small firms is allowed into the domestic market only as a tentative and temporary measure to protect the infant industry and promote industrialization in the subsector and the country at large as stipulated in the Second National Five Development Plan (FYDP II 2016/17-2020/21) (URT, 2016) but also as endorsed by the current government in power whose main development agenda is industrialization. Firms would in the long run be required to develop refinery capacity to allow their products be sold competitively in both the local and distant markets including foreign markets.

Meanwhile large edible oil manufacturing firms in the subsector report acute shortage of raw materials from local markets. They have to compete with micro, small and medium firms in buying the raw seeds from the visibly under supplied local raw seed market. And some of them try to supplement their supply with imports to avoid under capacity utilization of their machineries/plants. There is, as a result a reported high operation costs and significant underutilization of capital equipment due to insufficient supply of raw materials (Mpetta, et al, 2017). In standard operations however, what micro and small firms produce and sell to final consumers, the crude oil and seed cake, constitute raw materials in oil production employing modern manufacturing technology. Large modern oil mills can carry out both solvent extraction from seed cakes and refining of crude oil and hence extract more oil from the raw seed. In a strategically established business networking and partnering, these large firms would provide immediate and profitable market for small firms through inter-firm linkages within the sub sector, but this does not currently seem to be the case.

The overall objective of this study is to provide insights into the existing business networks and their effects on performance of firms in the Sunflower Oil Manufacturing Sub-sector. To this end the study focuses on three specific research objectives

1. To investigate the level, and channels of networking among firms involved in sunflower edible oil manufacturing
2. To determine factors influencing development or failure to develop of useful business networking among firms in the Sunflower Sub-sector
3. To investigate effects of networking on performance of the firms

Conceptual Framework and Review of literature

By definition, networking refers to business linkages or as (Grierson et al, 1997) put it “mutually beneficial commercial relationships between independent profit- oriented enterprises”, in which all parties to the relationship enjoy profitable win-win business environment. In theory networking and partnering among business firms within the sector or across sectors are known to have potential of overcoming many of the market failures (OECD, 2001; UNIDO, 2009). The rationale for networking among business firms is informed by the recognition that both types of firms without collaboration constantly suffers from the known market failures. Networking among firms serve as collective institutional response to imperfections in markets for credit, insurance, information, factors of production and output, as well as a tool for reducing transaction costs of all firms associated with search, screening, exchange, bargaining, and enforcement regardless of their sizes (Key and Runsten, 1999).

According to the study by OECD (2001), networking among others increase scale and scope of activities of firms. A firm can expand its customer base; extend its technological ability (upgrade) through

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innovativeness of network partners. Firms with business linkages can share costs and risks and improve their abilities to deal with complexities in production and marketing. Networking among firms may enhance learning, whereby firms learn about new technologies or how new technologies affect existing business and how they can change their organisational approach.

Moreover, networking enhances flexibility and efficiency in knowledge management. With networking, it is possible to act timely and accurately in taking advantage of the emerging opportunity (OECD, 2001). There are certain vital technical acquaintances which are kept a prerogative of few industries for long time because they cannot be accessed or shared through market mechanisms. Business linkages allow sharing of knowledge on the basis of mutual trust. Increased sharing of technical knowledge among firms does not only upgrade their economic efficiency resulting from modification and increased specialisation but also improves levels of profits earned, and level of economic benefit distribution (Grierson et al, 1997).

The standard model for application and analysis of networking is the dualistic model (Berger and Piore, 1984). According to this simple model which basically focuses on sub-contracting approach, there are two different sets of enterprises in the economy, the large and small firms. Large firms realize benefits by contracting small firms operating often in low wages and flexible work environments, and small firms are able to benefit from guaranteed markets and technical assistance from large and international firms. Clustering of small firms becomes an important step in establishing sub-contracting relationships (UNCTAD, 1994). Thus, there are several factors which drive the need for firms' networking of different nature and level. Primarily are those factors which reflect conditions in the product and input markets, other factors are those related to characteristics of a firm and the existing functional technology (Tayzman and Kilicaslan, 2000).

Materials and Methods

The study entailed a cross section field survey carried out in the central agricultural zone of mainland Tanzania (the central Sunflower corridor). This is the area where sunflower is widely grown and cooking oil processing largely practiced by numerous MSMEs. The area comprises of three administrative regions of Dodoma, Singida and Manyara. The overall region lies between latitude 3 0 40' and 70 34" (Degrees) South Latitude, and 330 and 380 E. (Degrees) East Longitude an area of about 140,227 km² (URT, 2007a; 2007b). Sunflower is widely grown because it easily adapts to the semi-arid climatic conditions characterising the zone. The area tops all other areas in the country in contributing to the total national output of the crop. Increasing demand for edible sunflower oil and sunflower cakes for livestock feeding in domestic market has led to rapid setting up of MSMEs and large private firms venturing into sunflower oil production in the region. The estimation of a number of MSMEs in this central region by 2017 was at 300 (Dodoma) 171 (Singida) and 202 (Manyara). These MSMEs offer markets to hundreds of raw sunflower seed smallholder producers in the area². There is equally a persistent increase of refinery facilities in three regions. Firm size categorization was based on the Small and Medium Enterprise Development Policy (URT, 2003) where the size is determined by the number of workers in the firm: Micro enterprise has 1-4 employees; Small enterprise has 5-49 employees; Medium enterprise has 50-99; large enterprise has 100 and more employees.

Data Sources and Types

Field work survey of firms was the major source of both quantitative and qualitative data in this study. The data for this study were collected between December 2017 and January 2018. The interviews were conducted by two trained enumerators from IRDP and MU. The questionnaire inquired on firm characteristics and ownership. The questionnaire also included questions on networking. A sampling frame was a list of all registered establishments dealing with sunflower oil manufacturing available with the manufacturer's associations CEZOSOPA and UMAMBE. A random sampling procedure without

² Dodoma region was estimated to have 300 small processors by 2017 (LIC,2018) but only 76 were registered with CEZOSOPA by 2017), Singida, processors were estimated at 171(RAS-Singida) (only 61 were members of CEZOSOPA by 2017), Manyara 202 processors were estimated (RAS-Manyara) but only 53 were listed members of UMAMBE by 2017)

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replacement was applied to select 158 establishments (Micro, Small and Medium Enterprises) in all three areas of Dodoma, Singida, and Manyara. The sample size was determined by using a formula by (Yamane 1967), where $n = N / [1 + N(e)^2]$ where: n = Sample size estimate, N = Size of study population or sampling frame and e = Margin of error. The study intended to achieve a margin of error at 5% with the confidence level of 95%. The sample frame (list of firms as per manufacturer's associations CEZOSOPA and UMAMBE from the three areas were 76 firms, 53 firms and 61 firms respectively. This indicated that the associations had a list which was only a portion of all firms operational in the area, but the list was sufficiently large enough to generate a representative sample. Upon computation, the actual sample size from the three areas had firms (Dodoma (64) Singida (47) and Manyara (53). During actual survey however, some firms were discovered to be not operational. The number of operational firms per area were Dodoma (4), Singida (6) and Manyara (6). Thus, eventually, the actual working sample size had 146 enterprises with the distribution as follows, Dodoma (58), Singida (41) and (Manyara (47). This study therefore developed a sample consisting of 146 MSMEs.

Additional data relating to the firms experience in networking or collaborations were collected through interviews with key informants. The secondary data were searched from available published or unpublished sources worked by NGOs such as LIC, SNV, and RLDC and works of POLICOFA Project I. These NGOs are known to have had intensive researches regarding Sunflower crop in Tanzania particularly in the Central Agricultural Zone of Tanzania.

Model Specification

In order to determine and analyze the rate and the channels of business networking among firms, simple quantitative and qualitative analyses were conducted. Statistical means, and means comparison were computed, and share differences among firms over the analyzed variables presented in percentage. As for objective two, to find out the determinant of networking among oil producing firms surveyed, we adopted logit estimation in which a binary dependent variable 'networking' takes the value of 1 if a firm has networking of any level with other firms and the value of 0 if otherwise. The Logit model can be expressed as follows;

$$L_i = \left(\frac{P_i}{1-P_i}\right) = \exp(\beta_0 + \beta_i X_i) \dots\dots\dots(i)$$

Where;

$\left(\frac{P_i}{1-P_i}\right)$ - is the odds ratio of probability that a firm network to the probability that the firm does not network

L_i – is the logit (log of the odds ratio)

X_i - the value of the explanatory variable(s)

Taking a (natural) log of equation(i) we obtain

$$L_i = L_n\left(\frac{P_i}{1-P_i}\right) = (\beta_0 + \beta_i X_i) \dots\dots\dots(ii)$$

This Model in Equation (ii) states that the log of the odds ratio of the outcome is a linear function of the X_s with intercept coefficient β_0 and slope coefficient β_i . With the logarithm of the outcome odds, the model becomes linear in the predictor (Green, 2003; Gujarati, 2012)

Prediction of probability of the variable(networking) is based on a score of exogeneous predictors (X_s) as suggested in the literature (Tayzman and Kilicaslan,2000; Berger and Piore, 1984; Grierson et al, 1997; Visser, 1999), they are; Firm size, age of the firm, Firm growth rate, Annual Operational period, Labour profitability and Labour productivity. The argument from the literature on effects of these variables against firm's choice of networking are given as follows; the larger the firm the more likely it will tend to network but in some cases also, small firms which are factually disadvantaged are likely to get into networking to gain access to new opportunities as supplier in linkage contract; the growth rate has a positive effect on the choice to network, rapid growing firm is likely to receive or press orders from other economic agents

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including other firms. Older firms with regular or stable and sustainable production system are likely to get involved in networking as buyers or seller of products. And lastly, the probability of networking gets higher the higher the productivity and profitability of a firm. Detailed descriptions of the variables are as presented in Table1;

Table 7 Variables and their Measurements

Variable	Operational definition of a Variable	Expected sign
Networking	a binary dependent variable which takes the value of 1 if a firm, networks with other firms, and the value of 0 if otherwise	
Firm size	Number of employees in a firm	+ -
Employment growth	The rate at which a firm grows	+
Firm age	The number of years a firm has been in business operations	+
Operational period	The number of months a firm can fully operate in a year,	+
Labour profitability	Profitability of a firm, ratio of turnover over a number of employees	+
Labour productivity	Productivity of a firm, ratio of output over a number of employees per month	+
Skill of a manager	A manger is skilled if has education level that is higher than lower secondary education and 0 otherwise	+

As for effects of networking on firm performance inquired in objective number three, we apply multiple regression model, where we measure performance by labour productivity which is a measure of labour efficiency. This is defined as a ratio of total output to number of employees. Independent explanatory variables included in the specified model are firm size, firm age, operation period, firm profitability, employment growth, skill of workers, skill of the manager, and the condition of whether a firm does network, or not.

Results and Discussion

In this section research results are presented and discussed. Presentation and analysis are in line with the research objectives as outlined section 2. During data entry and verification two questionnaires were found inadequately filled. They were discarded. They belonged to two large firms that had been covered in the survey. This study therefore eventually dealt with a sample of 144 MSMEs in its analysis.

Descriptive statistics

Results in Table 2 show that the Sunflower Oil Manufacturing sub sector in the study area is dominated by Micro and Small firms at 49.3 and 45.8 percent respectively. Subsequent analysis takes into account this basic division of firms to see whether, being micro or small can predict outcome on variables of interest, the business linkage and profitability.

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Table 8 Firm category

Firm Category	Frequency	Percentage	Remarks
Micro	71	49.3	
Small	66	45.8	
Medium	1	0.6	
Large	0		
Unclassified	6	4.1	No information on number of workers reported
Total	144	100	

Table3: Indicates further differences in means between Micro and Small firms over selected key characteristics of firms. We make mean comparison using the Bonferroni adjustment, the *F test* is an overall test of significance for any differences between the group means.

Table 9 Mean comparison of selected variables by Firm Type

Variable name	Units	Overall mean	Micro firms	Small firms	F-test
Firm size	Number of employees	6.5	2.3	11.0	102***
Operational period	Total months in year	5.1	4.3	6.2	17.5***
Firm age	Years in business	6.5	6.0	7.0	1.60
Annual sales	Tshs	43,782,521	32,597,097	55,949,123	1.73
Labour/profitability	Total sales per labour	10,461,818	15,168,979	5,341,747.6	28.26***
Labour/productivity	Tons per labour	3.8	4.9	2.2	16.26***

Table3 indicates that there is statistically significant difference between means in terms of firm size, labour productivity and the length of time for which firms remain fully operational in a year. The results show that the average time a firm can fully operate consistently is five months, and the mean operational period for small firms is higher than that for micro firms. A short period of just five months for which firms remain operational is attributable to insufficient market supply of raw material in the area. Low material supply fails to warrant uninterrupted oil production in a year. This suggests that increased production or availability of raw materials is needed to ensure stability and sustainable oil manufacturing business.

Both the mean Labour productivity and mean profitability of small firms are significantly lower than the mean labour productivity and profitability of micro firms, this is unexpected. Previous literature (Evans, 1987; Glancey, 1998; Heshmatti, 2001) document that firms take advantage of the scale economies, and a positive relationship is expected between profitability and size of the firm. Perhaps not surprisingly, this result suggests that, the implied relatively low labour cost among micro firms rising from the fact that firm

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owners who are the only employees dedicated and motivated to achieve growth for their future benefits associated with profitability drive up their performance rate, leading to higher profitability of the firms.

Networking and its Channels among firms

Table 10 Networking Rate among Micro and Small firms

Status of networking	response	Overall sample %	Micro Firms %	Small Firms%	Chi2(1)
Networks with other firms	yes	83.3	73.24	95.45	12.5***
	No	16.6	26.76	4.55	

About 83.3 percent of the surveyed firms reported had networking of some sort and only 16.6 percent of firms reported were not involved in any kind of business networking. This indicates that networking is a widespread phenomenon among small and micro-oil manufacturing firms. Probably this is driven by benefits associated with linkages practiced or this could be a general behaviour out of influences of their associations. These firms have membership in oil processing associations namely CEZOSOPA and UMAMBE. Results also indicate that, small firms network substantially more often than Miro ones. This difference in likelihood of networking between Micro and Small firms is statistically significant. Chi2 (1) = 12.5227 P < 0.001. This could be pointing importantly to the fact that the bigger the firm it becomes, the more it is likely to develop business linkages with other firms, hence networking. Growing firms tend to economize on costs related to such activities like marketing, information access etc by working in collaboration with other firms as observed in the literature (UNCTAD, 1994; OECD 2001).

Table 11 Channels of Networking

Channels through which Networking is practiced.	Response	Percentage	Percentage
1. <i>Exchange of information and experience</i>	Yes	48	33.3
	No	60	41.6
2. <i>Product quality improvement venture</i>	Yes	21	14.5
	No	80	55.5
3. <i>Joint skill training</i>	Yes	11	7.6
	No	49	34.0
4. <i>Joint marketing</i>	Yes	21	14.5
	No	55	34.1
5. <i>Subcontracting</i>	Yes	2	1.52
	No	130	98.48

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Firms network among themselves formally and informally largely in sharing important information and experience related to production and marketing, and joint marketing at 33.3 and 14.5 percent respectively. They also link through joint venture aimed at improving production and quality of production such as joint skill development through joint training. The expected more meaningful form of networking involving sub-contracting is only prevalent at the lowest 1.5%. This suggests there is not yet a strategically developed linkages through both horizontal and vertical cooperation within firms in the sub sector. Suggesting that the kind of linkages achieved so far may not be providing development advantages generally expected of networking. As argued in the literature (UNCTAD, 1994; OECD 2001) networking among others increase scale and scope of activities of firms. Networking may enhance efficiency and productivity through refined division of labour and innovativeness cooperation and non-market information exchanges. Subcontracting in particular may allow a small firm to extend its technological ability (upgrade) through innovativeness of network partners, the large firms. Our results may also be pointing to the likely fact that, meaningful networking is unlikely in market environment there are no clearly developed categories of firms such that there are large, medium, Small and Micro firms with varied degree of technology possession which would form a base of specialization and networking. Attempts to find out why there were no meaningful networking developing among Micro and Small firms in the area revealed as indicated in Table 5, that many firms lack necessary financial resources to input into networking development, they also lack appropriate knowledge on networking.

Table 12 Barriers to networking

<i>Barriers to networking</i>	<i>Response</i>	<i>frequency</i>	<i>Percentage³</i>
1. <i>Lack of financial means</i>	Yes	92	63.8
2. <i>Perceived difficult in initiating negotiation</i>	Yes	46	31.9
3. <i>Lack of knowledge on firm collaboration</i>	Yes	88	61.1
4. <i>Perceived problem on how to share profits</i>	Yes	32	22.2
5. <i>Lack of coordination on networking</i>	yes	73	50.6
6. <i>Fear of conflicts</i>	Yes	43	29.9
7. <i>Lack of opportunities</i>	Yes	74	51.3
8. <i>Lack of government support</i>	yes	54	37.5
9. <i>Don't trust collaboration</i>	yes	30	20.8
10. <i>Collaboration/cooperation is not important</i>	Yes	62	43

Other barriers are identified as lack of coordination, probably by a non-existent third party, Lack of opportunities, lack of government support, fear of conflicts, lack of trust in networking and the sheer feeling among some firm owners that networking is not important. These findings suggest that the drive to achieve networking and inter-firm relationships, which may be a step towards concentrated industrial development in the sub sector, requires overcoming of the identified hurdles in the first place.

Determinants of networking

Logit regression results as reported in Table 7 show that, the firm size, firm age, and labour profitability are statistically significant determinants of firm networking.

³ Multi responses

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Table 13 Factors determining networking of firms

Iteration 0: log likelihood = -40.687945

Iteration 1: log likelihood = -33.123019

Iteration 2: log likelihood = -29.103404

Iteration 3: log likelihood = -28.328601

Iteration 4: log likelihood = -28.269202

Iteration 5: log likelihood = -28.268965

Iteration 6: log likelihood = -28.268965

Logistic regression Number of obs = 83

LR chi2(7) = 24.84

Prob > chi2 = 0.0008

Log likelihood = -28.268965 Pseudo R2 = 0.3052

networking	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
firm_size	.7606611	.3305947	2.30	0.021	.1127073	1.408615
firm_age	-.1311866	.0726396	-1.81	0.071	-.2735576	.0111843
emplo_grow	-.0156147	.0202749	-0.77	0.441	-.0553527	.0241233
L_profitability	-8.38e-08	4.17e-08	-2.01	0.044	-1.65e-07	-2.10e-09
lab_prodvity2	.282747	.1861278	1.52	0.129	-.0820567	.6475508
skill_manager	-.0083911	.8331822	-0.01	0.992	-1.641398	1.624616
opera_period	.0011523	.2841606	0.00	0.997	-.5557923	.5580968
_cons	.3147833	1.552313	0.20	0.839	-2.727694	3.357261

Note: 0 failures and 1 success completely determined.

The firm size has a positive coefficient meaning that the size of a firm increases the logit for a firm networking. This is consistent with what is also suggested in the descriptive statistics. In Table2 the level of participation in networking among micro and small firms is at 73.24 and 95.45 percent respectively and the difference is statistically significant Chi2 (1) = 12.5227 P < 0.001. The larger the firm size the more a firm is likely to network. It is argued in the literature that relatively larger firms tend to enjoy some stability (Coad,2007) and that enable them to plan their growth over a longer time horizon including planning for long-term business networking. On the other hand, having many years in business operation lowers the logit for networking. This is also expected, it is argued in the literature that, age has a negative effect on the growth of a firm (Dunne et al,1989). Results also suggest that the higher the labour profitability the lower the likelihood that a firm will network, this augments what is revealed in the descriptive level of analysis in *section 4.1*, where micro firms which appear to be more profitable than

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small firms, score lower networking rate. This result implies that high profit of operation in a micro firm reduces its desire to network with other firms, and that, once a micro firm achieves high profitability from its operations, it does not expect mutual benefits from networking with other firms. Besides, there tends to grow suspicions of a dishonest in networking as indicated in the descriptive statistics level where lack of trust is reported as one of the barriers to collaboration among firms.

Effect of networking on Firm Performance

We conducted diagnostic test, the Variance Inflation factor (VIF) for multicollinearity as we adopted a multiple regression model of analysis. With the mean VIF of 1.26 we concluded that multicollinearity was not a problem in our model. Multiple regression was the appropriate estimation model. We thus, pursued the standardised multiple regression to obtain standardised coefficients to see how networking and other variables are important in explaining performance of a firm. Results are as indicated in Table 8

Table 14 Factors determining firm performance

<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>Number of obs = 105</i>	
				<i>F(6, 98) = 16.87</i>	
<i>Model</i>	<i>807.981609</i>	<i>6</i>	<i>134.663601</i>	<i>Prob > F = 0.0000</i>	
<i>Residual</i>	<i>782.391902</i>	<i>98</i>	<i>7.98359084</i>	<i>R-squared = 0.5080</i>	
				<i>Adj R-squared = 0.4779</i>	
<i>Total</i>	<i>1590.37351</i>	<i>104</i>	<i>15.292053</i>	<i>Root MSE = 2.8255</i>	

<i>L_productivity</i>	<i>Coef.</i>	<i>Std. Err.</i>	<i>t</i>	<i>P> t </i>	<i>Beta</i>
<i>firm_age</i>	<i>.0269011</i>	<i>.0642712</i>	<i>0.42</i>	<i>0.676</i>	<i>.0315921</i>
<i>skill_manager</i>	<i>.7236004</i>	<i>.6631526</i>	<i>1.09</i>	<i>0.278</i>	<i>.0924523</i>
<i>L_profitability</i>	<i>2.27e-07</i>	<i>2.73e-08</i>	<i>8.30</i>	<i>0.000</i>	<i>.6607083</i>
<i>emplo_grow</i>	<i>.0089349</i>	<i>.0172579</i>	<i>0.52</i>	<i>0.606</i>	<i>.0388014</i>
<i>firm_size</i>	<i>-.1420839</i>	<i>.0529337</i>	<i>-2.68</i>	<i>0.009</i>	<i>-.2282692</i>
<i>networking</i>	<i>.3803856</i>	<i>.8145426</i>	<i>0.47</i>	<i>0.642</i>	<i>.0360036</i>
<i>_cons</i>	<i>1.145255</i>	<i>1.092466</i>	<i>1.05</i>	<i>0.297</i>	<i>.</i>

A model including networking, firm age, firm size, labour profitability, skill of a manager, and employment growth explains 50.8 % of the variance in labour efficiency (firm performance), , This relationship is strong and statistically $F(6, 98) = 16.87$ $p < 0.001$. The beta weights tell that networking along with firm age, skill of a manger, and employment growth all have a weak effect and none of them is statistically significant. Labour profitability and firm size are the strongest predictors in the model. Labour profitability has positive $\beta = 0.6607083$, $\rho < 0.001$, meaning that as firm goes up one standard deviation on profitability the firm goes up 0.661 standard deviation on performance, thus, the higher the profitability the higher the performance of a firm. The firm size variable has negative $\beta = -0.2282692$, $\rho < 0.05$, implying that firm increase in size tends to lower the performance level of a firm, as firm goes up one

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standard deviation on size, it goes down -0.228 standard deviation on performance. This is a statistically significant relationship which further conforms to what is revealed in the descriptive analysis level in *section 4.1*, where micro firms (much more smaller firms) which also score low on networking are found to be better performers than small firms (relatively large firms) in terms of profit making. This finding is in agreement with what is known in the literature, that, as firms expand beyond certain threshold in their growth process, they experience diseconomies of scale (Lotti et al., 2009; Fiala and Hedija, 2015) which affect negatively their performance.

Networking, a variable of great interest in this study does not have statistically significant relationship with performance of the firm. Our findings indicate that there exist interactive business relations among firms but the relations forged are not consolidated enough to be of great beneficial use to the firms. This could be suggesting that development of strong and meaningful market-based networking is unlikely where competing firms apply more or less equal technology of production.

Conclusions And Policy Implications

In this paper, it is explored whether there exist commercial networking/linkages among firms manufacturing sunflower edible oil in Tanzania. Data set used in the analysis consists of 144 sunflower oil manufacturing firms covered in a cross-section survey conducted in the central agricultural zone of Tanzania during December 2017 and January 2018

Results in the descriptive analysis level suggest that, edible oil manufacturing business in sunflower sub sector in the study area is dominated by Micro and Small firms. With regard to business networking among firms, results suggest that the majority of the firms, about 83.3% of the firms do practice some business networking of different nature. Motivating factors for firm commercial networking as captured in the logit model are many, but the significant ones are firm size, firm age and firm profitability. While firm size has positive effect on firm's networking, firm age and firm profitability are negatively related to firm's networking.

Results from the regression model investigating the effect of commercial networking on performance of a firm suggest that, networking has no significant effect on the performance firms. Results in this paper could be suggesting that, development of substantial and significant market-based networking is unlikely where there are no significant technological differences among competing firms. Micro firms as reported in the descriptive analysis level have lower logit for involvement in networking and collaboration. But given the potential benefit networking has in building effective industrial development as documented in the literature (Grierson et al, 1997; OECD, 2001; UNIDO, 2009 & UNIDO,2016). The government should strive to guide and lead development of clusters of oil producers. Clustering may encourage concentration and specialisation of activities, and generation of externalities that may help Micro firms grow, hence attaining the capacity to network.

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Rural entrepreneurship and industrialization: Why is carpentry business not commercially viable in Tanzania?

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Abstract

Promoting entrepreneurship and industrialization in the forest value chain calls for improving the ability of the value chain actors to commercialize their activities. In the wood furniture sector, carpenters in rural areas remained poor as they cannot create value for customers and capture a sizable value from the activity. This qualitative descriptive case study uses the Theory of Constraints to analyse factors which limit the ability of carpenters to commercialize their activities. Triangulate data collection from 18 purposively selected carpentry firms were analysed through the Current Reality Tree of the cause-and-effect technique. Limited financial resources, technology, and market-driven factors are the core limiting factors of the commercialization abilities of rural carpenters in Tanzania. Other factors include access to market, business orientation, infrastructure, legal and regulatory framework, and access to basic amenities. Carpenters in rural areas should create value to customers by accessing technology and capture a sizable value by changing their business models. The theoretical contribution of the Theory of Constraints, and the value chain theory is remarkable. Different financing model to enhance access to basic amenities and technology is important. Future research using the business model theory or industry architecture is suggested.

Keywords: Commercialization, Carpentry, Value chain, Industrialization, Tanzania.

1. Introduction

Tanzania is endowed with abundant natural resources like forests, minerals, natural gas, and water bodies which can transform her economy. Studies (Dinh and Monga, 2013; Msamula *et al.*, 2016) indicates that about 40 per cent of Tanzania comprises forests. However, despite the abundance of forests resources that serve as sources of logs and timbers for carpenters, the wood furniture industry remained unprofessional, non-commercial. Carpenters remained poor or do not show significant development in terms of economic and social wellbeing: Carpenters from rural areas have not been able to capture a sizable value from the carpentry activities.

“Forest resources do not at present provide a sufficient contribution to the Tanzanian economy. A mismatch exists between the abundance of forest resources and the socioeconomic gains from such resources” (Msamula *et al.*, 2018: 188).

The Second Five Year Development Plan (FYDP II, 2016/2016 – 2020/2021) outlines new interventions to enable Tanzania to industrialize in a way that will transform its economy and its society (United Republic of Tanzania [URT], 2016). In the forest sectors, wood furniture business, this objective can be realized if carpenters can create value for customers (Dinh and Monga, 2013) and capture part of the value: Industrialization of the wood furniture business can be achieved if the carpentry activities are commercialized. However, to capture value from customers, Msamula *et al.*, (2016) argue that customers tend to buy products that have more value. Therefore, the competitive performances of carpenters depending on their abilities to create additional value for consumers. But, the inability of rural carpenters to gain economic advantage and competitive advantage by capturing a sizable value depicts their inability to create value for customers. This industrial behaviour leaves so many questions than answers: Why are

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carpenters not creating enough value for customers? What factors hinder their value creation abilities? Why are carpenters capturing lesser value from the carpentry activities?

This study is limited to the commercialization abilities of rural carpenters in the forest resources in Tanzania. It analyses the inability of carpenters to commercialize their activities: Why is carpentry activities not commercially viable in Tanzania? Specifically, we focus on answering two questions: What are the factors constraining the value-creating abilities of carpenters in Tanzania? What are the factors constraining carpenters to capture a sizable value from the carpentry activities? This study contributes to a theoretical understanding and application of the theory of constraints and the value chain theory. Also, to the body of literature on the commercialization of forest resources, the factors constraining value creation and value capture abilities of carpenters in carpentry activities in Tanzania.

This study is organised as follows: following this introduction, first, we provide the theoretical review and conceptualize key concepts of the study. Then we present the methods and approach followed by the findings. Finally, we discuss the findings and provide the main conclusions and implications.

2. Theoretical review

This section review some work of literature and theories of the key concepts of the study.

Theory of Constraints

The Theory of Constraints (TOC) has been commonly known as a management approach that aims to initiate and implement breakthrough improvements by focusing on a constraint that prevents a system from achieving a higher level of performance (Simatupang *et al.* 2004; Tutuba & Vanhaverbeke, 2018). TOC views weak chains of activities, called constraints, as limiting any manageable system from achieving more of its goals. Dettmer (2000) argue that TOC views a system as a chain composed of many interlinked and interdependent chains which contribute to the system goal. Therefore, if the system fails to achieve its goal, the main reason will be the underperformance of at least one of the links, also called the weakest links (Goldratt and Cox, 2004; Moynihan, 2014). This is to say that, the overall performance of a system, carpentry in this case, is restricted by its weakest link because the chain is only as strong as its weakest link. So, to improve the performance of a system the first step must be to identify the system's weakest link or a constraint.

Identifying the weakest link in a system has been a challenge to most managers as most managers focus on visible negative effects, rather than the root cause of the problem. However, based on the underlying foundation of the TOC, the cause-and-effect thinking process (Dettmer, 2000; Goldratt and Cox, 2004), managers can identify the [weakest link] root cause of negative effects. Avraham, (2009) argue that the cause-and-effect thinking processes have been applied to identify, understand, and improve all systems in an organisation. The process uses three questions: What to change? What to change into? and How to cause the change? (Dettmer, 2000; Rahma, 2002; Goldratt and Cox, 2004; Junior *et al.*, 2004). However, the purpose of this study is to identify constraints that limit the ability of carpenters to commercialize carpentry activities. Therefore, the study is limited to the first question: What to change?

By using the TOC approach, *what to change?* Question is answered by the construction of a Current Reality Tree (CRT) from a list of observable symptoms (Rahma, 2002; Goldratt and Cox, 2004; Tutuba and Vanhaverbeke, 2018). The CRT is a logical structure of thinking tools that depict the reality in a given system (Dettmer, 2000; Junior *et al.*, 2004) to define the core problems found in a specific system. To do this, a scientific method based on cause-and-effect is used to identify the underlying common cause, and the core problems for all of the symptoms (Dettmer, 2000; Avraham, 2009). Since this study is limited to what to change? We used the cause-and-effect technique to identify the weakest link which limit the ability of carpenters to create value and capture a sizable value from the carpentry activities.

The Value Chain Theory

The value chain concept emerged and comes through business management after the seminal work of Porter (1985). The term value chain represents a series of activities that provide value to customers in the form of a product (Walsh, 2011; Tutuba *et al.*, 2019b). It is the full range of activities that are required to

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bring a product from conception, through the different phases of product delivery, consumption, and disposal after use (Kaplinsky and Morris, 2001; Collins *et al.*, 2015; Msamula *et al.*, 2018). Furthermore, Porter (1985) presented the value chain analysis as a model for the identification and measurement of those activities comprising a firm's value chain. He argues that “*gaining and sustaining competitive advantage depends on understanding not only a firm's value chain but how the firm fits in the overall value system*” (p. 34). In the value system, every single firm occupies a particular position within the value chain structure and adds value to the ‘inputs’ before passing them to the next actor (Jaligot *et al.*, 2016; Msamula *et al.*, 2018). What is important here is not only the position that the firm hold in the value chain but also the capabilities (Teece, 2018; Tidd and Bessant, 2018) to carry out activities to add value: The firm has to perform some activities to add value before passing it to the next actor. Therefore, the value chain creates value by a value system or value-creating system and not a single firm. For example, carpenters cannot create value alone, they have to strategically link with other actors like log and timber makers in the furniture industry so that they can deliver value to customers. It is with this understanding that we define value chain as the ability of firms to co-create value through the strategic interlinkage, and performance of a series of activities from the acquisition of the raw materials to consumption and disposal.

Moreover, the position that a firm occupies in the value-creating system can play a role in creating value than other firms as a result of 'position advantage' (Tidd and Bessant, 2018). The position advantage can be due to the size or power of the firm, complementary assets, brands and standards, and access to raw materials, distribution channel, and customers. As a result, a value chain represents a set of activities that different firm operating in a specific industry performs to deliver the product for the market: different links connects or work together to deliver value to customers. Each link in the value chain involves a source input, a process of value addition and selling the material to the next link in the chain (Collins *et al.*, 2015; Jaligot *et al.*, 2016; Kapinga, 2018): Each step adds value to the product and often generates more revenue than the previous step. The value capture abilities of the firm come in the form of profits when customers are willing to pay for that created value. Therefore, the carpentry value chain can be commercialized if firms can co-create value and appropriate value from the activities. And their commercialization inabilities can be measured from the activities they perform to create value, position in the value chain, and the complementary skills and assets they use to create value and appropriate value

The Value Theory

Value creation and value capture are widely used concepts in management sciences (Porter, 1979; Osterwalder and Pigneur, 2010; Hitt *et al.*, 2011; Msamula *et al.*, 2016) which focus on the ability of the firm to commercialize innovation (Tutuba *et al.*, 2019a). The performance of the firm is related to the way it uses its resources to create value, deliver value to customers, and capture value from the activity. Scholars (Hitt *et al.*, 2011; Msamula *et al.*, 2016) explain that value can be created for the firm or customer or society or all. Osterwalder and Pigneur (2010) made two classifications that are related to 'value creation based on the value recipient: For who are we creating value? and value capture: Value creation means presenting a value proposition to the customer while value capture involves the creation of value for the business entity. With this view of value, we consider and operationalize value in the view of Osterwalder and Pigneur (2010) as more suitable for this study. In the wood furniture industry, many of the indicators of customer value lie within a product's newness, performance, customisation, design, brand based on nature of the wood, price, cost reduction, risk reduction, accessibility and convenience.

Within the value theory, firms like carpenters have to consider some factors which affect the commercialization abilities of firms. They include strategies and market orientation (Radas and Bozic, 2009); human resources in terms of education, experience and resilience of entrepreneurs (Isagaet *et al.*, 2015; Msamula *et al.*, 2016); and investment in research and development, technological resources (Kapinga, 2018). Other factors are financial resources (Msamula *et al.*, 2016; Tutuba and Vanhaverbeke, 2018); location of the business (Tidd and Bessant, 2018; Tutuba and Msamula, 2020); physical distance between upstream and downstream actors and social capital (Lee and Phan, 2008) which includes membership in business associations. At the industry level, relationships between business enterprises and stakeholders such as suppliers, customers, knowledge and research centers, technology centers and consultants (Keizer *et al.*, 2002) are of importance as such relationships are linked to the value creation

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abilities of a business. Msamula *et al.*, (2016) argue that the intensity of competition, the extent of imports to developing countries, and the interaction of actors (Lee and Phan, 2008) through governance structures (Msamula *et al.*, 2016; Tutuba and Msamula, 2020) are all additional factors that affect the distribution of benefit across the rural economy.

These factors exist within the industries as well as within the supply chains in which commercial enterprises operate. However, the TOC argue that the system is not limited by so many links, there are only a few or one link which limits the performance of the firm. Also, TOC argue that the weakest link are internal if the demand is higher than supply and external if the supply is higher than demand (Dettmer, 2000; Goldratt and Cox, 2004; Tutuba and Vanhaverbeke, 2018). Therefore, since the demand for wood furniture is higher than supply, the weakest link should come from within the carpentry firms. It is through the understanding of the TOC that we analyses the constraining factors for the commercialization inability of carpentry activities in Tanzania.

3. Approach and Methodology

This qualitative case study (Yin, 2018) descriptive approach (Hair *et al.*, 2007; Saunders *et al.*, 2009) employs a multiple-case research design using an all-inclusive approach (Yin, 2018). By using the saturation criteria 18 cases from Kigoma (4), Tabora (8), and Iringa (6) regions were purposively selected. Their external conditions differ and therefore their diverging results can be attributed to such conditions. Tabora and Kigoma regions were selected because the regions have a sizable natural forest resources which are major sources of hard natural wood. Iringa is included in the study as is known for having a sizable planted wood. Data were collected through interviews and observations techniques. The techniques permit detailed clarifications about the studied phenomenon by research participants (Elliott and Timulak, 2005). The triangulation of data collection methods (Elliott and Timulak, 2005; Hair *et al.*, 2007) allows the collection of more information to provide a holistic view of the studied phenomenon.

Data were coded (Saldana, 2013), cleaned and analysed through the CRT of the cause-and-effect thinking process of the TOC (Dettmer, 2000; Rahma, 2002; Avraham, 2009). Pattern and linkages were developed, assesses and trends were described. The root cause of the commercialization inability of the carpentry activities in Tanzania was identified.

4. Study Findings and Discussion

This section presents the findings of the study: First, we present the descriptive characteristics of carpenters in the wood furniture industry. Secondly, factors that limit the commercialization ability of carpenters in the rural areas of Tanzania.

Description of rural carpenters

The characteristics of rural carpentry firms are provided in this section. They include the size, formalization, management, age, and capital investment. Table 1 below summarises these findings.

Table 1 Characteristics of rural carpenters in the wood furniture industry

MSEs Characteristic	Findings on the characteristic	
Size of MSEs	Less than 5 workforces 13 firms (72.2%)	5-49 workforces 5 Firms (27.8%)
Formalization	Formal firms 3 firms(16.7%)	Informal or unregistered firms 15 firms (83.3%)
Management	Sole firms 16 firms (88.9%)	Limited companies 2 firms

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Age of MSEs	Less than 5 years 10 firms (55.6%)	5-10 years 7 firms (38.9%)	10+ years 1 firm (5.5%)
Capital investment	Less than 5 million (Tshs) 14 firms (77.8%)	5-200 million Tshs 4 firms (22.2%)	

Source: Research Findings (2021).

The table 1 above shows that most carpentry firms are micro enterprises as they have employed less than five people (72.2 percent) and they have capital investment of less than five million (77.8 percent). This suggest that most carpentry firms are sole businesses (about 88.9 percent) which are mostly family based. And the capital investment suggest the ability of carpentry firms to investment in technology, machines and channel management. Also, most carpentry firms are not registered (about 83.3 percent) by any business authority, they operate without a business licence and hence they are not recognizable. This suggest their limitation in accessing business support from the government and business development organisations. Also, they are limited by legal and regulatory frameworks to access some markets as they cannot process transit pass, and they cannot bid for wood or supplies of furniture. Therefore, the descriptive features of carpentry firms in rural Tanzania play a vital role in limiting the ability of carpenters to create value, deliver value and capture a sizable value from the carpentry activity.

Value creation

Carpenters in rural Tanzania manufacture different furniture to include domestic and office furniture. Domestic furniture include beds, cupboards, and coffee table, dressing table, and sitting room sofas. And office furniture include office tables and chairs, school desks, and bookshelves. Also, apart from making wood furniture, carpenters performs some activities in construction activities by making building furniture like doors, windows, and roofing of houses. We observed that the most frequently manufactured products are beds and doors. Other furniture like tables, chairs, and cupboards are manufactured on order-to-make bases.

To commercialize the furniture manufactured by carpenters from rural areas, we found that carpenters have three perceived elements of value creation: (1) the quality of inputs that are used to make a piece of particular furniture, (2) the quality of the product's features, and (3) the quality of delivery services. The quality of raw materials is described in terms of the types and quality of timber used to manufacture a piece of furniture. The former is measured in terms of hardwoods, softwoods, woods from natural trees, and woods from planted trees while the latter is measures in terms of dryness and durability. Similarly, durable timbers are the ones coming from trees as opposed to non-timber materials such as chipboards and fibreboards.

Regarding the features of products as the element of value creation, we found that the quality of furniture designs and styles are the most important elements. The design and styling of furniture include activities such as smoothing, vanishing, colouring and decorating the furniture. Firms with the ability to smoothen the furniture, polish well the product and decorating with shapes, corners, and cuttings create more value and hence commercialization abilities (see exhibit 2 below).

Regarding the quality of the delivery services, the study indicates reliability in terms of timely delivery of products to customers as the most important factor. Other factors include trust and delivering the product in the same design and feature as agreed or displayed before receiving an order. Carpenters in rural areas use the "make-per-order" approach whereby customers choose the design, type of wood, and features that the respective furniture should have. Then, a customer agrees with the carpenter: The customer should pay in full or part of the agreed price. They do so as a way of showing commitment and empowering carpenters to buy required raw materials. In few cases, carpenters can ask a customer to buy/bring raw materials like wood, wood wax, and nails enough to make a piece of the particular furniture. Carpenters will only charge labour wages and associated human costs. Customers prefer to buy ready-made furniture because most carpenters are not reliable, cannot be trusted, and in some cases, they deliver products not in the same design as proposed or agreed with customers.

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The reasons for the value creation inability of rural carpentry firms

The TOC suggests that managers should understand the root cause for the value creation and value capture inabilities to understand the reasons for commercialization inabilities by rural carpenters in the wood furniture industry. This study indicates that the reasons for value creation inability include:

4.1.1. Competition, suppliers and legal issues

It is found that the competition, suppliers, legal concerns and access to raw materials are key elements that cause the inability of the firms to create value. Carpentry firms face all forms of competition: Price competition between competitors, competition within the local area, competition within one workshop/firm and competition with imported products:

“...competition is very high in our area, we are competing against each other. For example, the normal price for a standard bed is Tshs. 150,000. But you may find some manufacturers who sell it for Tshs. 120,000 for the same bed manufactures using the same raw materials and the same design”.

But, since competition affects all firms in the industry, this should not be the weakest link to commercialize the carpentry activities. Also, competition is an external factors, hence, based on the TOC, the weakest link should be an internal factor. This suggest that firms should build an internal ability to compete in the market by being innovative in presenting the value proposition.

4.1.2. Access to markets

The lack of access to potential markets is the principal reason for value creation and value capture inabilities of firms from rural areas. So, carpenters from these areas serve customers who are in the localities. But these customers have high bargaining power as they have potential information on costs, availability of raw materials and competitors' prices and services:

“... it is difficult for us to transport furniture like a bed from our areas to the customer who is not from here because we have to carry the bed from the workshop to the main road by the motorbike which will cost us Tshs. 3,000. Then, we have to wait for the bus to transport such bed to the customer: Buses do so only when they have spaces for such furniture. In the end, all the costs go to a customer: mostly, customers are not ready to incur such costs as they can still get the same furniture in their areas”

Most potential customers are in urban areas, and the government or commercial institutions. But, rural carpenters cannot access these markets. They cannot do so for different reasons like legal and regulatory issues, inability to compete in the market, transport costs and poor channel management. For example, how is it possible that a firm in China can manufacture and transport a cupboard to Iringa but a firm in Mafinga for example, cannot do that? This suggests that access to market is not a constraint but a symptom to other constraints.

4.1.3. Commitment and business attitude

Rural carpenters depend much on other income-generating activities outside furniture: Making furniture is not their main income-generating activity. With their involvement in other income-generating activities like farming, they become less committed to furniture making. This lack of commitment and improper business attitude limits their ability to confront the challenges which undermine their commercialization abilities. They lack creativity and innovation in creating value and delivering value to customers. Although the product's market exists, and raw materials are available, the attitude towards carpentry business and their commitment limits their productivity, creativity and innovation, and hence commercialization abilities.

Distrust between carpenters and customers

The main cause of value creation inability rests in customers' distrust of a particular carpenter for the firm. Consumer trust is undermined because carpenters are not delivering the products to their customers as promised. The owner of one carpentry firm put it thus:

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“... we, carpenters, are not trustworthy. We are losing customers because of trust. When we tell the customer that the furniture will be ready in three days, then we should deliver the furniture within time. This is important because it is the trust our customers have in us that matters. But, most customers opt for a piece of ready-made furniture because they have been turned down by some of the carpenters”

Despite of the presence of high demand for the furniture, the market is sensitive to the products' quality as well as to the quality of service. Customers have easy access to alternative furniture manufacturers in nearby areas. These are basic business issues for any firm. Therefore, the lack of commercial mindset and business skills is the major challenge as distrust is the symptoms for the same. The cause-and-effect of the TOC suggests that distrust between carpenters and customers is not the weakest link but the symptom of other factors.

4.1.4. Limited Technology

Although rare raw materials for making quality and expensive furniture, hardwood, in particular, are available at less cost due to the low level of regulations enforcement that controls timber harvesting activities, we found that the carpentry firms are limited with adequate technologies. They lack modern furniture-making machines that affect their ability to make quality furniture and also affects firms' productivity.

But, why are carpenters not able to buy the machines and hence have access to the technologies? There could be different answers to this question: (1) they do not have financial resources to pay for the machines and technologies (2) they have limited energy, electricity in particular, to run the machines (3) they have limited information about the availability of some machines and technologies (4) they have limited knowledge and skills to operate, run, and use the machines and available technologies. This also suggest that access to technologies is an output of other factors, and hence not a constraint in itself.

4.1.5. Limited technical and business management skills

Most carpenters in the wood furniture industry have limited technical and business management skills. Regarding the former skills, carpenters are limited with the use of carpentry machines and tools like jigsaw, wood spray, and smoothing tools. Regarding the business management skills, carpenters are limited with the ability to formalize business, record-keeping, customer service, channel management and innovation. For example, the use of middlemen to sell their products to urban customers limit customer knowledge, understanding of customer needs, and hence limit their commercialization abilities. Similarly, the lack of business management skills limits their ability to reach profitable markets in urban areas. The owner of one of the firms pointed out that:

“...to sell our furniture to a customer who is in cities like Dar es Salaam we are required to arrange for the transportation by hiring a truck, to have necessary government documents such as business licenses and transport pass which are very difficult for us to get...”

4.1.6. Limited access to important amenities

Access to important amenities like electricity, communication services like the mobile phone network, and reliable transport services limits the ability of rural carpenters to create value, deliver value and capture value. The potential market for such carpenters is the local customers: They sell their products to the customers who are only available in the local areas. A very limited market is available for their products. Most rural customers are farmers who have money to buy furniture after harvesting seasons. So, the peak season for furniture firms is the harvest season which is mostly three months in a year. Make-to-order is the dominant production strategy that requires customers to make advance payments for the ordered products. Such arrangements of advance payments cause consumer inconvenience and increase competition as customers will go for imported furniture or to other carpenters who have ready-made furniture.

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The findings show that different groups of cases have different reasons for the inability of rural carpentry firms in the wood furniture industry to commercialize their activities. These reasons are both internal and external to the rural carpentry firm. However, the Theory of Constraints argues that the weakest links of the system are very few. And if the demand exceeds supply, the link should be from internal. In this regard, the commercialization inabilities cannot be caused by so many factors, but only a few. In the next section, we offer the discussion, conclusion and study implication for the limiting factors.

5. Conclusion and study implication

For carpenters to commercialize their product in the wood furniture industry they should be able to create value for customers and capture part of that value from customers. To create value, carpenters should be able to manufacture quality furniture, improve productivity, improve service delivery, and use quality inputs in manufacturing. So, any chain in the production process which limits the ability of carpenters to create value will also limit their abilities to commercialize their activities. This study uses the TOC to analyse the factors for the commercialization inability of carpenters in the wood furniture industry. The TOC suggests that the firm is constrained by its internal weakest link when the demand for the product is higher than the ability of the firm to meet such demand, that is, to supply enough products for the market. However, in the wood furniture industry, the causes of commercialization inability by carpenters are interdependent and related to the characteristics of firms. Therefore, for carpenters to commercialize their activities they should consider the link between factors for value creation inability characteristics of the firms. Some of the factors are described in the next section.

Most of the carpenters are micro-level enterprises with less than Tshs. five million as capital investment. Also, they use old-style, mostly non-mechanical or not mechanized technologies. The use of such technologies limits the ability of carpenters to produce quality products in terms of design, shapes, and finishing. Also, carpenters use much time and energy/effort to manufacture a single product or part of the product which results in low productivity. Their inability to manufacture quality products and being less productive results in low sales volume and low profits. In this regard, carpenters remain relatively poor and cannot compete in the market with either imported furniture or with urban carpenters with technologies (see exhibit 1 below).

Furthermore, the inability to create value for customers as well as capturing value from customers restrict the ability of these rural carpenters to invest in more productive technologies as well as to access quality inputs. This increases the gap between these firms and their competitors which makes them remain unchanged. However, by using the TOC, this could be a symptom rather than the weakest link because different technologies are available for rural carpenters. The question could be, why carpenters are reluctant or not able to invest in technologies? For example, some carpentry groups were given basic machines for different activities, but they demonstrated no significant change in their product quality and customer service. This suggests that there is another weakest link that limits the ability of carpenters to commercialize their activities.

Most rural carpenters are constrained with financial resources to invest in their activities e.g. to buy quality raw materials and acquire more productive technologies. This limits their ability to create value in terms of both making quality furniture and improve productivity. Similarly, financial resources limit the ability of carpenters to acquire needed skills and competencies as they cannot afford to pay for the training. This limits their innovative abilities especially in designing, making, and finishing their products; improving service quality; and managing channels.

The limited skills and competencies limit the ability of carpenters to make quality products and offer quality customer services hence the inability to capture a sizable value from customers. Likewise, low productivity results in low profitability. All these impede their ability to invest in new technologies: Value capture is equally a value creation failure of which firms cannot remain sustainable. This cycle implies that the size of the firm remains unchanged (no firm growth) and the value creation inability also remains unchanged.

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Most of the rural carpenters are micro, informal, and owner-managed and serve seasonal customers. Accordingly, most rural carpenters do the furniture making activity part-time and seasonal: They are mostly engaged in other economic activities like agriculture hence considers carpentry as a secondary activity. This limits the ability of carpenters to invest in carpentry activities as they commit their limited funds to other primary economic activities. Insufficient financial capital limits the commercialisation of carpentry activities of rural carpenters. As a result, the small size of rural carpentry firms remains the same over time.

This study implies that the TOC, the cause-and-effect of the thinking tree analysis is a useful tool for analysing reasons for the commercialization inability of carpenters in the furniture industry in rural areas. However, other theories like the Resources Based Theory and dynamic capabilities can be used to analyse such conditions of resources like valuable, rare, inimitable and non-substitutable. Similarly, the findings and conclusion of this study signify that carpenters performance in value creation is reliant on strategies to acquire some basic knowledge and skills on both business and furniture making. Also, access to machine and skilled manufacturers while capitalising on existing resources such as raw materials (timber) and social capital is important. That also implies the need for collaboration across such organizations that are meant to empower rural carpentry firms to be able to create customer value. To policymakers, especially those engaged in the SME development policy, national forestry policy, and rural development policy, this study provides important information and finding which they can rely on decision making and policy formulations.

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Exhibit 1: The Use of Technology



Fig 1: Unprocessed logs



Fig 3: Jig-saw machine



Fig 2: Hand tools for carpenters

Figure 1: poor technology to process logs leads to high waste and ineffective utilization of logs. This limits the ability of rural carpenters to create more value from logs and consequently capture a sizable value.

Figure 2: the use of hand tools limits the number of works that a person can finish. For example, it takes about three days to make a bed with hand tools, and a day when machines are used.

Figure 3: one of the important machines for carpenters which can enhance woodcuts in different shapes, angles, and parts. The machines improve the ability of carpenters to create value by improving the design, shapes, and style. Also, it improves productivity as it speeds up the works.

Effectiveness of Fare Media for Enhancing Financial Sustainability of DART System

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Abstract

The study assessed the fare media used in BRT Systems in the World and proposed the most effective fare media that would enhance financial sustainability of the DART System. The study used quantitative and qualitative research approaches which deployed purposive and probability sampling techniques to select respondents for data collection. Data were collected using questionnaires, interviews, documentary review and observation. A total of 200 research instruments were administered to selected respondents whereby 110, 80 and 10 were distributed to commuters, staff and consultants. Among them 95 were responsive of which 40, 50 and 5 were commuters, staff and Consultants of DART System respectively. The results show that respondents assessed fare media used in BRT Systems in the World which are Cash, Paper ticket, QR Codes, Tokens ,Magnetic ,Smart card, Debit card ,Credit card ,NFC Mobile Wallet , Bluetooth In and Out, Face Recognition and Palm Vein Scanning. From the study, commuters and staff suggested the requirements including purchase of fare media on stations and outlets, self-recharge and validation on barrier gates. It was further suggested by staff that the key features should include improve security on AFCS, generation of revenue and transport data, transfer of fare balance, reduction of paper tickets, high throughput, support for multiple payments and use mobile network operators (MNOs) and Banks to recharge and validation of fare media on barrier gates in DART System. The study based on commuters and staff requirements and consultants assessment of fare media with focus in Tanzania context and proposed the use of smart card, QR Code and NFC as the first, second and third choices respectively as the effective fare media that would enhance financial sustainability of DART System. The study recommends that DART System fare media to ensure interoperability, integration and open architecture, offline performance, high throughput, accessibility and comfort to users. It was further suggested to use Mifare Desfire, Aztec barcode and contactless EMV standards, develop technical standards specifications for the fare media in order to avoid vendor lock in, use closed loop (card based), personalization, valued, flexible fare media and best practices. Also encourage self-top-ups and recharging during off peak, improve revenue security and use of differentiated fares.

Key Words: Fare Media, Automated Fare Collection System, urban mobility, Financial Sustainability, DART System.

Introduction

There are claims of uncollected fare revenue, fare leakage, evasion and high cost of fare collection in DART system where the fare media used have been alleged as of the main sources of poor revenue collection (National Audit Office 2021). The Prime Minister's visit in the DART system on 19th April, 2021 instructed DART system to have fare media which controls fare leakage and evasion practices. According to reports by DART Agency, fare revenue collected in DART System was insufficient to cover running costs without external support (DART Agency 2021). Without effective strategies, these challenges are likely to continue and make DART system less attractive, financially unsustainable and dependent on subsidies from the Government and development partners (WB 2019).

The government of Tanzania strongly believe that the DART system can generate revenue that guarantee financial independent and sustainability. The fifth phase President of the United Republic of Tanzania, the late Hon.Dr. John Pombe Magufuli on January 25th , 2017 at the inauguration ceremony for infrastructure and bus service of DART Phase I reiterated on financial sustainability of the DART system saying that: *"the Government will not allow fare leakage, miss use of the fare revenue and insisted on financial sustainability and transparency of the fare collection to the general public"*(Ikulu 2017). To implement

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this directives the Minister of State in the President's Office Regional Administration and Local Government revealed in 2017 Budget speech in the parliamentary session that DART Agency will from 2017/18 financial year stop receiving subsidies from the Government (Bunge 2017). Financial sustainability of DART system can only be attained when effective fare media in the context of Tanzania is instituted.

The challenge facing most urban transportation including DART System is to design BRT systems where the capital and operational costs are covered by fare and non-fare revenue to enhance financial sustainability, business and services continuity. In order to attain financial freedom by using fare collection, DART system has to institute the right fare media based on different factors including environment, standards and best practices that are germane to the Tanzania environment. It is urged that effective fare media can generate sufficient fare revenues for sustainable, and convenient and timely delivery of BRT services at optimal cost, technology and efforts to meet its objectives and ultimately attract ridership, reduce fare collection costs and enhance fare revenue controls (EBRD 2017).

Literature Review

The world demographic statistics show that urban places are facing high urbanization challenges where 54 per cent of the population is living in cities and is expected to reach 66 per cent in 2050 (UNDP 2000). Public transport is an important mode of urban mobility especially for low-income populations. Urban transport services are necessity for cities to ease mobility of people, lessen congestion and delays (Melbye et al. 2015). The Governments are responsible for financing infrastructure, operational costs and ensuring services continuities. There are many modes of urban transports including metro, rail, subways, Bus Rapid Transit (BRT) and traditional modes with varying aspects such as total cost of ownerships (TCO), technologies, capacities and implementation strategies. Urban authorities struggle to provide public transport services at affordable and sustainable cost (OECD/ITF 2016).

BRT is defined as a bus-based rapid transit system that can achieve high capacity and speed at relatively low cost by combining segregated bus lanes that are typically median aligned, off-board fare collection, level boarding, bus priority at intersections and other quality of service elements such as information technology and strong branding (ITDP 2016). BRT system is an efficient tool to achieve the goal of providing high quality public urban transport which is relatively cheaper to plan and implement compared to other modes of urban transport (ITDP 2018).

BRT Systems use off board fare collection systems to collect bus fare which plays vital role in success or failure of public transport systems (WB 2019). It is urged that, unsuitable fare media may result to fare leakage and dissatisfaction to passengers. Effective fare media is likely to attract commuter, control leakage and enhance financial sustainability of the transit system (TRB 2015). Technological innovations have led to electronic means of fare collection using automated devices, making fare collection processes faster and secured (WB 2016); however, technology should be understood before adoption on a given environment (ITDP 2018).

The fare revenue collected is used to fund BRT infrastructure costs, capital investment on vehicles, fare collection system, operational costs and control systems.

Operational costs include all the operating costs, capital costs that fare revenue can reasonably be expected to cover on a sustainable basis. They include vehicle procurement, financing, maintenance, fare collection equipment, operational control system equipment and system administration costs (ibid).

According to MDPI study, BRT system is termed as financial sustainable when revenue generated covers its costs such as investment, procurement of vehicles, fare collection and operational control systems (MDPI 2018). Financing BRT costs from fare revenue depends on many factors including fare media deployed and ridership.

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Automated Fare Collection (AFCS) systems have been deployed to collect fare revenue in BRT systems worldwide using different fare media and technology (FTA 2009). In order to bring efficiency in BRT systems, AFC systems are used to automate the ticketing system of transit authorities. Generally, AFC systems consist of five (5) components (tiers) namely Tier 0 - Fare media, Tier 1 - Devices to read/write media, Tier 2 - Depot/station computers, Tier 3 - Back office systems and Tier 4 - Central clearing house. Tier 0 represents fare media for processing fare transactions; they are instruments that are accepted by a transit system to grant commuters access to transit services; it is the most visible technological component that interacts with all other components of the AFC system that have direct impacts on dwell times, fare collection costs, customer convenience and transit data collection (TRB 2017). Therefore, the choice of fare media is an important factor in designing and implementing public transit fare payment systems.

Public transport services are paid by passengers through sales of fare media that generate fare revenues which are a source of income for transit authorities and make significant contributions to the system's financial sustainability. According to MDPI study, fare evasion and ticket forgery are main key challenges for the financial sustainability of BRT systems (MDPI 2018).

Dar es Salaam city was characterized by poor infrastructure, small and dilapidated commuter buses, and decided to use BRT system locally christened Dar es Salaam Rapid Transit (DART) to address the urban mobility challenges which were facing the city.

Urbanization challenges have an impact on urban mobility, environment, sustainability, social and economic affairs (Ahferom 2009). From an environmental perspective, there is a need to find solutions and keep pace with the rapid change in urbanization like establishing sustainable urban mobility with effective fare media for the DART system. It is worth emphasizing that provision of DART services depends on fare revenue as the main source of revenue for their survival and sustainability (ibid).

Conceptual Framework

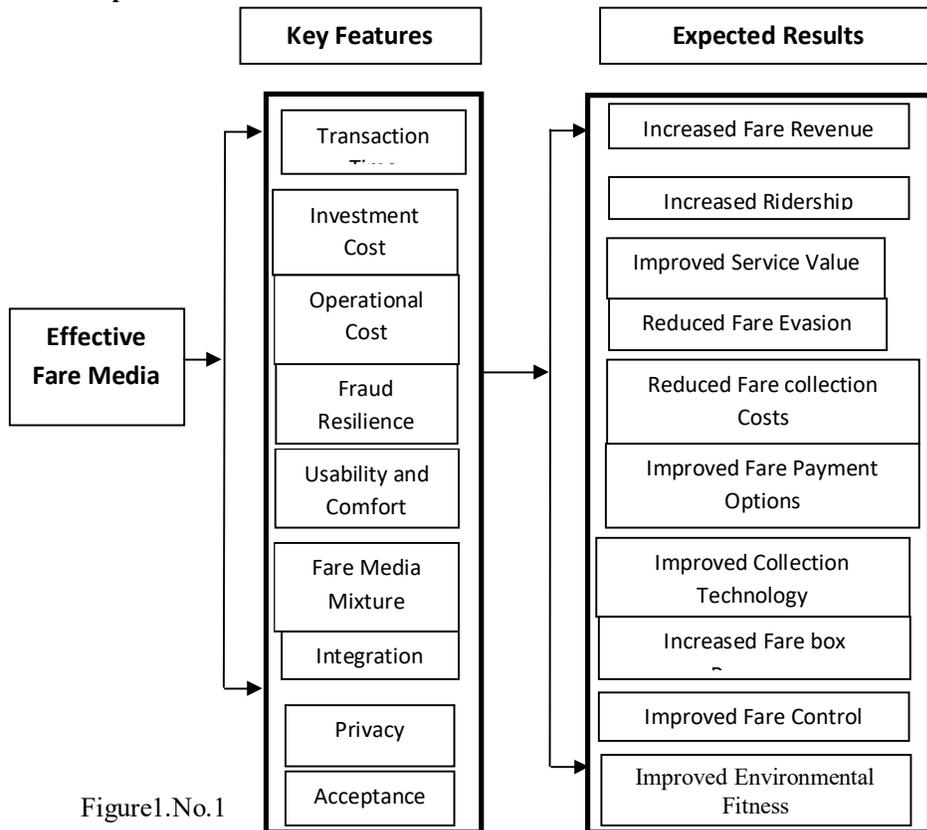


Figure 1.No.1

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From Fig.1, fare media is said to be effective when it optimizes transaction time, investment and operational costs, usability and comfort, fraud resilience, integration, media mixture, privacy and acceptance by users (IADB 2019). It is further urged that the use of effective fare media would lead to increased revenue, ridership, fare payment options, fare box recovery and environmental fitness, improved fare control, fare collection technology and integration and reduced fare evasion, collection costs (TRB 2015). Moreover, the success of fare media and collection systems depends on struggle between rapid technological change and natural barriers to new product or service acceptance (Lai 2017).

Many theories have been proposed to explain financial sustainability, consumers' readiness, acceptance of new technologies and their intention to use. The financial sustainability theory holds that the success of an enterprise is centred on the resources and capabilities it holds in control which may become a source of competitive advantage (World Bank 2005).

Empirical evidence indicates that there have been reasonable efforts to establish BRT systems worldwide where Tanzania started in 2004 (WB 2017). People using BRT services are affected by fare media, policies and operating procedures since fare transaction is the most direct contact between service provider and the commuter (TRB 2015). According to TRB (2015), transit authorities have challenges on their fare media, fare policies, enforcement procedures, fare media validation and transfers. Fare policy addresses the transit fare media, structure, prices, tariff rules and transit authority's goals and objectives (MyCiTi 2014). Studies on fare media show that transit authorities lose major revenue due to fare evasion and abuse of transfer policies (MDPI 2018), hence a need for reasonable care to control.

Generally successful AFC Systems need effective fare media, policy, affordable fare structure and payment options which would lead to reduced fraud, accurate data and reduce the need for subsidy (MDPI 2018). Usually, without sufficient fare revenue, ridership and internal controls, implementation of an AFC system is not financially viable, will not recover the costs it creates for the transport system (WB 2012). ITDP, (2018) urges that sustainable implementation of AFC system needs effective fare media to provide quality services, control fare revenue and have operational costs efficient (ibid).

Researches show that implementation of effective fare media and related technologies in BRT Systems may offer opportunity for increased passenger convenience, added passenger satisfaction, improved efficiency and seamless transfers among modes of transportation, multiple applications and integration, improved passenger and transport data in urban transport ecosystem (FHWA 2009).

However, small transit authorities cannot afford the expensive proprietary AFCS solutions offered by the major suppliers whereas deployment of standard AFCS and fare media reduces the cost of implementation compared to the proprietary solution (WB 2016). Moreover, it is asserted that acceptance of Technology is a challenge in some BRT systems where some passengers are not familiar with technologies, biased using some fare media, lack monetary resources and reasons to prepay transit fares. In such situation there is a tendency to reject high technology solutions and usage of some fare media (TRB 2016). Motivations for using a certain fare media vary among rider segments, thus a need for specific incentives to BRT commuters (KCM 2013).

There are many fare media, the challenge is to make informed selection of effective fare media for DART System in the Tanzania context; this is the main objective for doing this research. Therefore, thorough review and analysis of fare media performance including challenges, strengths and appropriateness in DART system will add value to quality of BRT Services, usability, comfort financial and sustainability.

Methodology

The study area is DART system whereby commuters, staff and consultants dealing with fare media, fare collection and buses operations provided research data required.

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The respondents were selected from DART Agency, UDART who is currently the buses operator and fare collector, NMB the fund manager. The consultants were selected from GSD Plus S.A.S of Bogota Colombia, LEA associates South Asia Pvt, India in Joint Venture with LEA Consulting ltd, Canada in Association with Ray Associates Ltd, Tanzania, TECHSO (PTY) of Pretoria, South Africa, Trans Consult Asia Ltd, of Hong Kong SAR China, Rebelgroup and Velma Law Consortium of Rotterdam, Netherlands and an individual consultant working at DART Agency.

The study comprised of 200 questionnaires administered to selected commuters, staff and consultants of DART System. Among them 110, 80 and 10 were distributed to commuters, staff and Consultants respectively. Total of 105 (52.5%) questionnaires were filled and returned where 10 of them were not filled properly and others were not returned. The analysis used 95 questionnaires whereby 40, 50 and 5 were from commuters, staff and Consultants respectively. The response rate was above 70 per cent, thus acceptable and satisfactory to make conclusions for the study (Belaya and Mutual, 2016).

The research deployed quantitative and qualitative approach whereby data collection was conducted on the selected respondents. Data collection used questionnaires, interviews guiding questions for primary data and secondary data used documentary review, interviews and focused group discussion. The study used purposive and probability sampling techniques to select respondents who have influence or influenced by fare media and fare collection system in their day to day activities life.

Primary data were used to answer research questions and secondary verify and validate the information obtain by the study. Triangulation and convergence of data collection methods were used to obtain research data from the sampling frames and reduce biasedness. Secondary data was reviewed from the same sampling frames for the validation, verification and ensuring reliability and validity of the research.

The research selected sample size that fairly represented the study population at given level of confidence and marginal errors confidence interval. The formula below is used to determine the minimal number of respondents to be included in the study using the following formula, Sample Size n,

$$n = \frac{z^2 \cdot p \cdot (1-p)}{e^2} \tag{1}$$

Where: Z = Standard score (Z score), e = Margin error, n = Sample Size, p = Expected sample proportion and N = Our Population (N) = 180,000 passengers per day(DART Agency 2021). Using the following data: - Confidence Level = 95%, Margin of error (e) = 5% = 0.05 Confidence Interval (p) = 8% which is expected sample proportion From Z Score table, Z score for 95% Confidence level is, Z Score (Z) = 1.96

We can then calculate Sample Size (n) from the formula:

n = 90.3814, Hence, Sample Size, n = 90. The calculation gives a minimal sample size of 90 respondents where 45 are commuters and 45 non-commuters.

Findings and Discussions

The research involved respondents with diverse demographic characteristics such as gender, age, education, specialization, occupation and experience in DART System. The findings were analysed and discussed basing on the objectives of the study which are exploration, assessment of fare media used in BRT Systems and proposed the effective fare media to enhance financial sustainability of DART System.

Assessment of Fare Media used in BRT systems.

Commuters provided general requirements which are purchasing, recharging and validations of fare media. Staff provided special requirements and capabilities of the desired fare media which are sales, recharging and

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validations. The Consultant critically assessed the capacity of each fare media using seven attributes which are BRT Performance, BRT Benefits, value added services (VAS), fare integration, support for multiple fare product and structures, and other fare media key attributes.

Staff Requirements of Fare Media for DART System

Staff proposed capability and features of fare media for the DART System. Findings indicate that about one quarter (8, 20%) wanted generation of fare revenue and enhancement of fare balance transfer as the first priority capabilities of fare media. Also, one fifth (8, 20%) said the need to reduce paper ticketing and about quarter (8, 20%) of respondents needed enhancement of offline performance as the second priority capabilities of DART System fare media. While more than one tenth (6, 15%) said high throughput and support for multiple payments as the third priority capabilities of fare media. Moreover, quarter (10, 25%) of respondents suggested that fare media should be sold at DART stations, about half (19, 47.5%) suggested recharging (top-ups) of fare media in DART System to be done using mobile network operators (MNOs). Almost all staff (37, 92.5%) suggested validation of fare media to be done using barrier gates.

Consultants Assessment of Fare Media for BRT systems

The consultants assessed fare media used in BRT Systems seven (7) urban transit mobility attributes and indicators as follow: -

i. Contribution of Fare Media on BRT Performance

The contribution of each fare media on achieving the six BRT performances attributes which are travel time, reliability, image and identity, passenger safety and security, system capacity and accessibility was assessed by consultants.

Findings indicate that all respondents (5, 100%) found smart card is very useful for optimizing travel time, accessibility and identity and image. It was found that more than three quarters (4, 80%) said smart card ensures passenger safety and security, reliability and accessibility.

Comparing the findings with other studies, contribution of fare to BRT System performance seemed to differ with the study conducted by Andersen (2018) who recommended that debit card was the best fare media for Reye Vaya in South Africa. According to FTA(2009), the better the performance of BRT systems perform attributes the more transit passengers benefit from the implementation of BRT (FTA 2009). The fare media have impact on the time for passengers' board, alight, spent waiting for subsequent services required to complete their trip and transfer time. Melbye et al (2015) argue that the use of manual fare media uses much more time compared with semi and automated fare media(Melbye et al. 2015). According to IADB (2019) the offline fare media (card based) use shorter travel time while the online media (account based) takes longer especially during power and network challenges, while the biometric fare media such as face recognition and palm vein take relatively longer travel time(IADB 2019).

Moreover, FTA report (2009) argue reliability represents the variability of travel times which is affected by the ability to maintain consistent travel times, ability to board and alight within a set time frame and the availability of consistent service. Reliability depends on fare media used by the transit system, the smart card provide higher reliability compared with other fare media since it is a card based system working offline and sending later data to central system while debit and credit cards are account based system working online and on real time validating from the central system (TRB 2016). According to smart card alliance (2016), smart card, debit and credit cards provide the best accessibility, identity and image and safety compared to other fare media(Smart Card Alliance 2016). Moreover, smart card is more secured since it is a low value fare media compared to debit and credit cards which contain higher value hence bring a security risk. Furthermore, smart cards being a lower value is possessed by banked and unbanked commuters hence enhancing services capacity and transport inclusion to all commuters (EBRD 2017).

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ii. Usefulness of Fare Media on BRT Benefits in DART System

The usefulness of each media on achieving higher ridership, capital cost effectiveness, operating cost efficiency, transit support land development and environment quality. The results indicate that four fifth (4, 80%) of respondents found smart card is very useful on attracting higher ridership, operating efficiency, capital cost effectiveness. More than three quarters (4, 80%) said smart, debit and credit cards are very useful to support environment and more than three fifth (3, 60%) said smart card is very useful to supported transit supportive land development.

The findings from DART system, has resemblance with FTA (2009) report conducted in USA which showed that, fare media used in a transit system have impact on the BRT benefits whereby effective fare media attract commuters by providing quality BRT services, thus higher ridership is the key component of transit service. The increase of commuters is a good indicator that the service is attractive and appropriately designed. FTA (2009) further argues that the effective fare media in BRT systems attract existing transit trips to the new BRT, new trips that were not serviced, trips that were serviced by other modes such as self-drive, shared transport, motor cycle and non-motorized (NMT) like walking and bicycle. Commuters are ready to use BRT system if it is attractive compared to other modes of transport(National Academy of Sciences 2005).

Furthermore, cost effectiveness of a given project is measured in achieving stated goals and objectives per unit investment. The main advantage of BRT technology is its adaptability to meet the needs of the operating environments and ability to scale service to meet future ridership growth. According to FTA (2009), BRT designing has to balance design and operational elements at reasonable justified capital costs as per expected service output and ridership levels. Fare media deployed has to align and ensure capital investments meet service quality and throughput requirements in a cost-effective manner. According to ITDP (2018), capital cost effectiveness measures the capital cost to deploy a BRT system per service output such as per commuter, per service-mile or per user travel time savings. FTA (2009) argues that cost-effective investments deliver more investment benefits per dollar invested, moreover cost effectiveness is not the same as the lowest-cost investment alternative. In most transit investments, the higher cost alternatives are more cost-effective if they deliver sufficiently higher benefits such as passenger throughput or travel time savings, as compared to a lower cost alternative. For example, cash fare media need less investment than smart card, but smart card is cost effective than cash fare media. Generally, fare media deployment capital costs vary widely; hence the use of capital cost effectiveness measures is used to assess and determine to the effective fare media options to meet transportation needs of BRT System.

FTA (2009), further argue that another key aspect is operating efficiency which advocates how BRT system elements support effective deployment of resources in serving transit passengers. Measures of BRT operating efficiency and productivity enable a comparison between BRT systems and other modes of transport systems whereby performance indicators used include subsidy per passenger mile, subsidy per passenger, operating cost per passenger and operating cost per vehicle service mile. ITDP (2018) also stated that the benefit of BRT operating efficiency has two key attributes which are adaptability to meet specific needs of an existing transit system and ability to achieve high levels of operational efficiency at relatively low capital costs. Hence, it is worth to assess the operating cost efficiency on investment in fare media in order to know investment cost of any given travel corridor.

Another BRT benefit attribute is transit supportive land development, according to FTA, (2010); it is investment in public transit facilities such as stations or other transit infrastructures which improve accessibility and attracts new development such as changes to land use and development policy, higher densities, intensity of mix of land uses, housing, employment, retail, and leisure activities. Transit-supportive land development in many BRT systems is used as a tool to encourage business growth, establishment of business centres along BRT Systems and to improve tax revenues. The benefits contribute to economic growth such as income generating activities, increased access to jobs, other services and improved mobility(FTA 2009).

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According to UITP (2018), fare media have impact on transit supportive land development in BRT system whereby if poor fare media is used BRT system become unproductive while an effective fare media attracts transit land support development, ridership and revenue in the BRT System. Other factors affecting Transit Supportive Land Development are policy, planning and economy (UITP 2018).

FTA (2009), further explains environmental quality is an indicator of quality of life, supporting the health and wellbeing of general public, attractiveness and sustainability of the urban, natural and the global environment. It is further insisted BRT affect environmental quality through various means such as fare media used, fuel, engines, vehicle technology, ridership and modes shift and traffic system effects. Some fare media such as paper tickets, QR codes produces papers which are mostly scattered on the environment, while others have impact on environment emission and disposal after their useful life time. DART System has to consider the need to mitigate environmental impact resulting from fare media, BRT operations and ensure the BRT system design improves the environment quality.

iii. Capability of Fare Media to Offer Value Added Services of AFCS

The capability of each fare media to offer values added services apart from facilitating mass transit was assessed. The BRT value added services (VAS) assessed were parking, micro purchase, recreational services, identification, controlled access, access to government benefits and loyalty rewards program.

Findings indicate that four fifth (4, 80%) of respondents said that smart card is very useful for parking services, fourth fifth (4, 80%) of respondents found that smart and debit card are very useful for recreational services while three fifth (3,60%) said NFC mobile wallet, smart card, credit cards and debit cards were very useful capable of micro purchase services, identification, controlled access, access to government benefits and offer loyalty reward programs in DART System.

BRT commuters have other needs which include services and products. According to Yuzdog (2018), some commuters use cars to go to the BRT systems where they need to park and take ride to their destinations and vice versa. Commuters need to use the fare media to purchase the BRT services, pay for other modes of transport and pay for parking services near the BRT.. User convenience is also enhanced by using the same fare media for micro purchase such as beverage, bites recreational services, identity and access to controlled areas.

Governments usually provide some benefits to citizen such as concessionary fare at off peak time to pensioners and disadvantaged residents, pensions funding from the government. In some countries employers have obliged to pay extra cost of an employee's transport when exceeds a certain percent of the salary (OECD/ITF 2016).

Moreover, concessionary fares are used to attract targeted passengers for social or economic reasons, this could include fares for senior citizens, children, pupils, students, disabled people, unemployed people and other categories defined by a particular fare policy (MyCiTi 2014). Bus operators are compensated for implementing concessionary fares that determine subsidy and compensation for the BRT System. Electronic fare media like smart cards can manage and track effectively the transactions of concessionary fares while manual like cash, paper, QR codes can do inefficiently and impact the performance of the BRT system (AECOM 2011).

UITP (2018) urges that BRT Systems can use fare media to accumulate points and track fare media used each time they use for transport, micro purchase and payment of other services. The effective media capable of tracking and keeping all the transactions that are used to reward commuters. Thus, through a partnership with some business organizations passengers accumulate mileage points when purchasing services which can be transferred, converted and reused for public transport.

iv. Capability of Fare Media to support integration in DART System

The capability of each fare media to support transit integration using the attributes of multiple modes, multiple operators, route validation, interchange with the same and between operators, discount from

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standard fare media and trunk to feeder integration was assessed. The findings indicate that fourth fifth (4, 80%) of respondents found smart card is very useful and capable of integrating with multiple modes of transport, operators and enable routing validation. It was further found that four fifth (4, 80%) of respondents said smart card allow interchange with the same and between operators, discount from standard fare and trunk to feeder integration.

These findings were similar to ITPD study (2018) showed that, integrated fare media enhance seamless transport and linking the operational characteristics of modes of transport, enabling commuters to transfer between BRT services and access services of other modes. It is further argued that transport integration is the compatibility and the linkage of scheduled services, communicated through integrated information systems, such as timetables and maps, real time passenger information and the use of an integrated fare media that determine the level of passengers and balance transfer in case of change of fare media (UITP, 2018).

According to UITP (2018), fare media enables integrated fare schemes initiatives on automated fare collection for ticketing integration easier to implement, manage complex fare system without necessarily harmonizing amongst fares of different operators. Yuzidog (2018) , urges transit systems have to deploy effective fare media capable of physical and fare integration with same and multiple operators, modes of transport , allow interchange and transfers within and among modes of transport and operators, route validation and generate transport data as per fare policies (UITP 2018).

v.Capability of Fare Media to support Fare Product Range

Fare media were assessed the capability to support different fare products using the attributes of single trip, multiple trips, time-based fare products, concessional fare products and transfers in DART System.

Findings indicate that four fifth (4, 80%) of respondents found that smart card and QR Code were very useful for single trip, four fifth (4, 80%) of respondents said smart card was very useful for multiple trips. It was further found that four fifth (4, 80%) of respondents said smart card and debit card were very useful to offer time-based fare products such as off peak, peak hours, weekends, working days and special event fare prices. Moreover, four fifth (4, 80%) of respondents said smart card allowed concessional fare products such as students, staff, social disadvantaged and elder citizen special fares and all respondents (5,100%) said smart card is very useful for seamless transfers within and between different modes, routes and zones of transports and enable balance transfers.

The findings complement to other studies which show the need and importance of fare media to offer many product ranges such as single trip, multiple trips, weekly, monthly and annual fare products which enable commuter to purchase tickets in advance for a specific number of trips or time interval to use unlimited trips within the specified time. According to World Bank report (2012), availability of multiple products have advantage to commuters since it adds to their convenience as well as help them to pay in advance to enable commuters to travelling even when they do not have money by using the preloaded fare media; for the transit authority receive cash in advance, realize the benefits of time value of money (WB, 2012).

Fare media differ in their capacity to manage fare products, for instance smart card is capable of handling multiple fare products while others like cash, paper and QR codes have limitations; on the other hand debit and credit cards are good but depends on network and power availability which are still challenges in Tanzania, more over credit and debit cards are only available to banked commuters hence they lack financial inclusion aspect to unbanked commuters (EBRD, 2017).

vi.Capability of Fare Media to support Fare Structures

Each fare media was assessed on its capability to support fare structures like flat fare, distance based, time based, zonal and hybrid fare in DART System.

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Findings indicate that four fifth (4, 80%) of respondents found that smart card is very useful in handling flat fare, distance based, zonal and hybrid fare structures. It was also found that three fifth (3, 60%) of respondents said smart card is very useful to support time-based fare structure.

According to Dorbritz et al. (2009), in flat fare structure commuters are charged the same fare regardless of the length of the trip, time of day, speed, or quality of service. On the other hand, differentiated fares can be distance-based, zonal, and time-based including peak and off-peak differential, service-based differential such as express surcharge, ordinary. Each of the fare structures has unique features which are mainly related to ease of use, administration, impact on ridership and revenue; whereas differentiated fares focus on issues related to efficiency and equity. According to Guenther and Hamat (1988) higher fare should be charged to cover the higher operating costs associated with serving longer trips, operating peak period service and providing premium service, such as express buses. Tanzanians are familiar with distance based fare system which is used to calculate commuters and Buses fare (SUMATR,2011).

On the other hand hybrid fare is the combination of at least two fare structures such as flat and zonal, distance and time based, usually based specific BRT System requirements to take advantages of the combination of each fare structure(UITP 2018). In this respect some fare media and smart card technologies are used to provide both flat and differentiated fares with actual distance travelled.

vii. Fare Media Performance on key considerations for Deployment

The performance of each fare media was assessed using pre-requisite key factors for successful deployment of fare media which are transaction time, comfort and usability, operational cost, investment costs, fraud resilience, control fare evasion, integration with other services, fare media mixture and privacy.

The study findings show that four fifth (4, 80%) of respondents found smart card is very useful to optimized the transaction time, comfort and usability and operational cost while three fifth (3, 60%) of respondents said that NFC Mobile wallet and smart card has optimal investment costs. Moreover, it was established that all (5, 100%) respondents said NFC Mobile wallet, credit, smart and debit smart cards are effective to fraud resilience, control fare evasion and integration with other services. However, all (5,100%) the consultants pointed out that smart card, QR-Codes and NFC Mobile wallet were very useful for working together as fare media mixture and four fifth (5, 80%) of respondents recommended smart card as usefulness fare media to enhance commuter privacy in DART System.

The research findings resemble in some areas, however each BRT System is unique. According to Kumar et al. (2011) transaction time is one of the most important factors influencing the choice of fare media since it is critical to ensuring smooth mobility within stations, especially during peak hours and at key roads intersections? Fast reaction time is more crucial for high volume, gated stations. Integration with other services in a card-based system (open loop system) allow fare media to pay for other services such as micro purchases, utilities and to be used as official ID or other purposes, this makes the fare media popular, valuable and improves usability, comfort and commuters' experience.

Moreover, decisions on fare media mixture which is the use of more than one fare media have impacts on speed of operations, fare evasion and associated costs, enforcement and control practices and enforcement of fare payment among users (MDPI 2018).

Furthermore, IADB insisted that, in a mixed system such as cash and electronic fare media payments to ensure that un(der)banked or those with small, irregular, or cash based income streams are access public transportation conveniently; this determines access to economic opportunities and other critical services(IADB 2019). This duality, on the other hand, complicates enforcement and may limit the operations efficiency and data collection benefits accruing to a fully digitized fare media system(United Nations 2021).

Moreover, it is pointed out that when paying for transit services, commuters would like to know if the payment was successful , fare charged for the trip, remaining balance on the fare media and un prolonged

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processes ; this enrich fare media usability, comfort and feedback (Pradeep Kumar SHRESTHA, Fumihiko NAKAMURA 2011).

According to APTA (2004), amongst the fare media the cheapest one to produce is QR codes, which can be generated on a screen of the user's devices such as mobile phone or printer. Smart cards are more expensive and the EMV debit and credit cards are most expensive particularly the advanced products like MiFare Desfire smart cards (APTA 2004), however, initial investment can be offset by the operating cost.

According to Imhanzenobe (2019), the best way to assess fare media is by using total cost of ownership (TCO) which consist of the investment and running costs, whereby operational costs include the recurrent costs of the system, such as license, maintenance and upgrades required from time to time is essential for the long term sustainability of the solution to consider, therefore the TCO smart card is smaller than that of QR codes (Imhanzenobe, 2019).

Olivková (2017), portrays that fare collection media plays vital role in fraud and fare evasion controls like stolen, unlawfully use of devices and misuse of transfer discounts on fare media in some BRT Systems (Olivková 2017). The new fare collection systems are opening up new loopholes mainly for account based systems (open loop) that allow riders to use their cards, even with insufficient funds due to the need for online transactions when operating offline (United Nations 2020b). Thus, before deployment of fare media is necessary to analyse thoroughly the environment, local conditions, risk of fraud, evasion and readiness (MDPI 2018).

The perception of privacy is based on the fare media used, which vary across BRT System depending on legal and social awareness. The smart card, debit and credit cards are least invasive, biometric like face recognition and palm vein scanning fare media are associated with monitoring and criminal investigations (IADB 2019).

According to United Nations (2020), Tanzania ranks 152 with E-Government Development Index (EGDI) of 0.4206 in 2020 which tracks progress of e-government development where the minimal and maximum values are zero and one respectively. The EGDI is a combined index of three equally standardized indices of Telecommunications Infrastructure Index (TII), Human Capital Index (HCI) and Online Service Index (OSI) that assesses the national online presence of all 193 United Nations Member States. EGDI is used to measure the readiness and capacity of national institutions to use ICT to deliver public services. EGDI measure is useful to gain a deeper understanding of the relative position of a country in utilizing e-government for the delivery of public services before deployment (United Nations 2020a).

Therefore, Tanzania being among the countries with least EGDI need to assess critically its capabilities to equitably use, adopt and adapt these technologies including modern fare media before deciding to choose one (United Nations 2021).

Moreover, ITDP (2018) recommended that decision on fare media selection has to include the timing, choice implementation strategy and of fare media. In general, gradual approach with voluntary acceptance, multiple fare media for modern and traditional fare media allows evaluating the acceptance rate of various fare media enforcement and ensures that access is maintained for financially and digitally excluded commuters. However, the approach of mixed fare media in most cases is more expensive since infrastructure, training, slower adoption with extended transition period and systems investments will be required for each fare media that is introduced, therefore it is necessary to limit the fare media mix in a transit system (IADB 2019). On the other hand Olivkova (2017), urges that mandatory transition is generally more cost effective, though it requires effective communication, sufficient time for adaptation and support services to commuters with challenges on adapting to new procedures and fare media (Olivková 2017).

Since DART System is a people centric BRT System then it has to ensure the its fare media has the key capability of an effective fare media including generation of revenue and financial data, offline performance, reduce paper tickets, enhance self services and guided services at stations as proposed by staff

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who received suggestions from DART system commuters. Moreover, UITP (2018) suggested that modern BRT Systems, have to deploy multipurpose fare media that apart from facilitating transport services can be used to access other functionalities and attributes for BRT Performance, BRT Benefits, Value Added Services of AFCS, integration, fare product, fare structures and the performance of each fare media on key factors pre-requisite for a successful deployment of fare media.

Furthermore, the DART System envisioned fare media have to meet the desire for one national Transport Fare Media like Octopus for HongKong, Oyster for United Kingdom and Touch n Go for Malaysia.

Proposed fare media for financial sustainability of DART System

The study proposed the most effective fare media to enhance financial sustainability of DART System. The respondents provided comments that enhance financial sustainability of DART System. The effective fare media would maintain and attract ridership, meet commuters' comfort, usability, expectations and requirements and technical and socio-economic needs of DART system. Consultants Proposal.

Consultants provided recommendations of the most effective fare media for the DART System, reasons for the choices, standards, best practices for each DART recommended fare media and other comments that would enhance financial sustainability in DART System were also provided. The findings indicate that all (5,100%) consultants suggested smart card as their first choice, four fifth (4, 80%) suggested QR Code as their second choice and more than one third (2, 40%) suggested both NFC mobile wallet and debit cards as third choice of most effective fare media in DART System.

Furthermore, one fifth (2, 40%) of consultants said interoperability and user accessibility were the first reasons for the first choice, more than half (3, 60%) said guarantee for integration with multiple services and operators is the second reason for the effective fare media recommended and two fifth (2, 40%) of consultants said offline performance and high throughput of the fare media would enhance financial sustainability in DART System.

Moreover, it was found that all the consultants (5,100%) suggested Mifare Desfire standards for smart cards, about two third (3, 60%) suggested Aztec barcode standards for QR-Codes tickets and more than half (3, 60%) suggested contactless EMV standards for debit card. Furthermore, it was found that one fifth (1,20%) of consultants advised development of technical standards specifications for the fare media, integration with multiple services, using closed loop (card based), personalization and valued smart cards, flexible and owned QR Codes were the first best practices suggested to be used in DART System. Also, two fifth (2, 40%) of consultants suggested fare differentiation as secondary best practices and about half (2, 40%) of consultants suggested multi- payments system capability as the third priority that would enhance financial sustainability in DART System.

The study also observed that two fifth (2, 40%) of consultants suggested to encourage self-top-ups, improve revenue security and encourage top ups during off peak hours that would enhance financial sustainability in DART System.

Trends on Fare Revenue and Ridership

The research requested DART staff to provide views on trend of ridership and fare collection data generated during operations in DART system since 2016 to 2021.

Primary Data

Results show that more than two thirds (28, 70%) of respondents reported that there was decrease in fare revenue and one quarter (10, 25) said the decrease in fare revenue was caused by uncollected fare revenue and decline in ridership. Moreover, it was found that more than two thirds (28, 70%) of respondents said ridership was decreasing and about one third (13, 32.5) said the decline of ridership was caused by the use of QR code fare media which caused DART System to be unattractive and caused massive fare revenue leakage.

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Secondary Data

The research used ridership and fare collection data generated during operations in DART system since 2016 to 2021. The secondary data analysis of fare revenue and ridership reports in DART System showed that operations started in May 2016 with revenue TSH 0.97 billion and an average ridership of 75,754.87 passengers per day which gradually increased to Tsh 3.06 billion and 169,051.93 passengers per day in November 2016. In December 2017 fare revenue raised to Tsh 3.34 billion with corresponding ridership of 198,000.00 passengers per day before dropping to Tsh 2.60 billion and 121,491.00 passengers per day in April 2018. In November 2018 the trend changed to TSH 3.18 billion and 182,183.93 passengers per day before dropping to 0.939 billion and 49,682.03 passengers per day in May 2020 whereas in July 2021 2.33 billion 135,443.32 passengers per day. In general since 2016 revenue and ridership started to grow and later on dropped unpredictably all the time up the time of this study. The plummeting in revenue and ridership is a bad indicator for transit system and a deterrent towards sustainability of the DART System. Therefore, purposeful initiatives need to be done in order to enhance financial sustainability of DART System.

Generally, the secondary data trend of revenue and ridership were in agreement with field result which shows that there is decreasing in fare revenue and ridership which jeopardize the sustainability of DART System (DART Agency 2021). This challenge requires an urgent attention to address it in order to have growth in revenue, ridership and enhance financial sustainability of DART System. This can be achieved by deploying an effective fare media that would make DART System the best public transit system in Dar es Salaam (OECD/ITF 2016).

Conclusion and Recommendations

Exploration of an Effective Fare Media in BRT Systems.

The respondents identified and ranked the fare media used for fare revenue collection in BRT Systems were Cash, Paper ticket, QR Codes, Tokens, Magnetic, Smart card, Debit card, Credit card, and NFC Mobile Wallet. Other fare media which were identified include, Bluetooth In and Out, Face Recognition, and Palm Vein Scanning.

Assessment of Fare Media used in BRT systems.

Fare media were found to be important elements of the Bus Rapid Transit (BRT) system in the world. The type of media deployed in BRT systems mainly determines sustainability, quality of services and business continuity of BRT systems. The study showed that majority of the respondents argued that it was important to have an effective fare media that would fit a particular environment and culture, level of technology used, maturity and readiness of BRT users.

Commuters recommended fare media requirements which are purchasing on stations and other outlets, allow self-recharge, validation on barrier gates and improvement of security of AFCS that could enhance financial sustainability in the DART System. Staff recommended key features for the effective DART fare media including generation of revenue, fare balance transfer, reduction of paper tickets, and generation of transport and revenue data, high throughput and support for multi payments. Staff also recommended that fare media should be sold at DART stations and other outlets, use mobile network operators (MNOs) services to recharge and validation of fare media on barrier gates in the DART System.

The consultants commended the DART System fare media which enhance BRT Performance attributes such as travel time, reliability of bus operations, image and identity of the DART system, safety and security of passengers, good system capacity and accessibility. Other features that were recommended by consultants respondents for the most effective fare media which would enhance achievement of BRT Benefits including high ridership, capital cost effectiveness, operating cost efficiency, transit support, land development and environment quality.

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The respondents also proposed other features that should be considered in order to prop up financial sustainability which include park and ride facilities as part of AFCS, micro purchase of fare and other items in the DART system, recreational services in bus stations and terminals, identification of commuters, controlled access to enter restricted areas, access to government benefits such as concessional fares, pension schemes and loyalty rewards program such as bonus to loyal customers.

Features for the effective fare media support of integration with multiple modes of transport and operators, route validation, interchange with the same and between operators, discount from standard fare media and enable seamless trunk to feeder integration was found to be among key features of DART fare media.

Other features which were mentioned include the ability to support various fare product such as single trip, multiple trips, time-based fare products, concessional fare products and transfers.

Features in the effective fare media which would support different fare structures such as flat fare, distance based, time based, zonal and hybrid fare were recommended.

Furthermore, the effective fare media would ensure fare media should perform on the key pre-requisite factors for a successful deployment which include optimization of transaction time, comfort and usability, operational cost, investment costs, fraud resilience, control fare evasion, integration with other services, optimize fare media mixture and privacy.

Other salient features that would support effectiveness of the proposed fare media in the DART system would include insurance to meet performance expectancy, effort expectancy, social influence, facilitating conditions such as demographic, cultural, environmental, technological, socio-economical needs of commuters. These features would lead to acceptance by the general public, commuters, and stakeholders in order to attain efficient use of fare media in DART System.

Lastly, the effective DART system fare media should lead to increased revenue, ridership, fare payment options, fare box recovery and environmental fitness, improved fare control, fare collection technology and integration and reduced fare evasion and fare collection costs (TRB 2015).

Recommendations

The following recommendations were made on DART System fare media: -

First the fare media should ensure interoperability, integration and open architecture to allow working with other system, equipment and avoid vendor lock in.

Secondly capable of working offline performance due to challenges on power and network outage, high throughput to meet the number of passengers at stations. It should grant accessibility and comfort to users.

Third it is recommended that the to use Mifare Desfire for smart card, Aztec barcode for QR Codes and contactless EMV standards for debit and credit cards.

Fourth, develop technical standards specifications for the fare media to avoid having proprietary systems, use closed loop (card based) to allow inclusion to lower value users, unbanked and avoid network and power dependency. It is also recommended to personalize, sale at a reasonable value to make the fare media valued by user. Also make it flexible to changing commuter needs and use fare media best practices in the Tanzania context. Last Encourage self-top-ups (improve revenue security; encourage recharging during off peak hours and use of differentiated fares.

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**Business Linkages and their Effects on Firm Performance
A case of Sunflower oil Manufacturing Firms in Tanzania**

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Abstract

Business networking is perceived to be one of the key factors determining performance of manufacturing firms. Using data from a survey of 144 micro and small sunflower manufacturing firms from the central agricultural zone of Tanzania, and applying Logit and OLS estimations to address the question of choice and the effect of networking, this study finds that, edible oil manufacturing business in sunflower sub sector in the study area is dominated by Micro and Small firms. With regard to business networking among firms, results suggest that the majority of the firms, about 83.3% of the firms do practice some business networking of different nature. Motivating factors for firm commercial networking as captured in the logit model are many, but the significant ones are firm size, firm age and firm profitability. Networking however, does not contribute significantly to performance of micro and small firms in the study area. The findings suggest that development of strong and meaningful market-based networking is unlikely where the firms involved are micro or small applying more or less equal technology in their production process.

Key words:, business linkages, sunflower edible oil, firm performance

Introduction

This work undertakes to explore the existing business linkages, if any, and their effects on performance of edible manufacturing firms in the sunflower subsector in Tanzania. Business Linkages are understood to be a tool for economic development, prevalence of a denser network of linkages in the domestic economy is a key indicator of an economy undergoing structural transformation in a sustainable manner. The more domestic enterprises intensify their supplying relationships and, as a result, develop technology collaborations and other forms of stable linkages, the more the domestic economy is able to create manufacturing value and value addition (UNIDO, 2016).

Tanzania experiences a huge deficit in the production of its cooking oil. According to the Tanzania Investment Centre (TIC, 2019), the country's annual demand for edible oil stands at 500,000 tonnes, whereas the domestic supply is only 180,000 tonnes per year. The country has to import 320,000 tonnes annually at a cost estimated currently at US \$294 million. This market situation has drawn Micro, Small, Medium Enterprises (MSMEs) and large firms into the business of oil manufacturing to help bridge the supply gap and make fortunes out of it. Commercial production of Sunflower seeds has been increasing in the recent decades, accounting for about 36 percent of national oilseed production (RLDC, 2008). Sunflower is mostly grown by small-scale farmers throughout the country. Wide production of the crop is mainly on account of the crop's adaptability to a wide range of environments and agro-ecological zones. Current raw sunflower seed production is close to 3 million tonnes per year but the country has the potential to produce up to 10 or even million tonnes per year (LIC, 2018). Tanzania has the potential to become a top producer of sunflower oil, and meet its national edible oil demand while producing excess vegetable oil for export to earn foreign currency for further capital formation in the sunflower sector and other sectors.

Sunflower oil processing in Tanzania is largely dominated by Micro, Small and Medium Enterprises (MSMEs). It is estimated that over 1000 micro, small and medium firms with varying sizes and capacities are involved in the business (URT, 2016). Few large firms are also flourishing. These include, the East Coast Oils and Fat; Mkoani Edible Oil and Detergent Limited; Mirza Wilmar East Africa Ltd, BIDCO, Sunshine Company, and Mount Meru Ltd Company. Most of these few large firms are located in large towns and cities whereby they manufacture not only sunflower edible oil but also other types of edible oil.

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Nearly all Micro, Small and Medium oil firms engaged in manufacturing of sunflower cooking oil employ a low Technology, they can only produce filtered oil (crude oil). The crude edible oil which is produced and sold largely to local consumers is technically still containing some impurities such as wax, iron sediments, gums and water content (FAO, 2012) which render it less suitable for human consumption. It can be oxidised, and may cause health hazard if consumed consistently for a long period of time or if it is not consumed immediately after its production. It is for this reason that the product is classified by Tanzania National Bureau of Standards (TBS) as low-quality product (URT,2017). Sales of the unrefined oil produced by micro and small firms is allowed into the domestic market only as a tentative and temporary measure to protect the infant industry and promote industrialization in the subsector and the country at large as stipulated in the Second National Five Development Plan (FYDP II 2016/17-2020/21) (URT, 2016) but also as endorsed by the current government in power whose main development agenda is industrialisation. Firms would in the long run be required to develop refinery capacity to allow their products be sold competitively in both the local and distant markets including foreign markets.

Meanwhile large edible oil manufacturing firms in the subsector report acute shortage of raw materials from local markets. They have to compete with micro, small and medium firms in buying the raw seeds from the visibly under supplied local raw seed market. And some of them try to supplement their supply with imports to avoid under capacity utilization of their machineries/plants. There is, as a result a reported high operation costs and significant underutilization of capital equipment due to insufficient supply of raw materials (Mpeta, et al, 2017). In standard operations however, what micro and small firms produce and sell to final consumers, the crude oil and seed cake, constitute raw materials in oil production employing modern manufacturing technology. Large modern oil mills can carry out both solvent extraction from seed cakes and refining of crude oil and hence extract more oil from the raw seed. In a strategically established business networking and partnering, these large firms would provide immediate and profitable market for small firms through inter-firm linkages within the sub sector, but this does not currently seem to be the case

The overall objective of this study is to provide insights into the existing business networks and their effects on performance of firms in the Sunflower Oil Manufacturing Sub-sector. To this end the study focuses on three specific research objectives

1. To investigate the level, and channels of networking among firms involved in sunflower edible oil manufacturing
2. To determine factors influencing development or failure to develop of useful business networking among firms in the Sunflower Sub-sector
3. To investigate effects of networking on performance of the firms

1. Conceptual Framework and Review of literature

By definition, networking refers to business linkages or as (Grierson et al, 1997) put it “mutually beneficial commercial relationships between independent profit- oriented enterprises”, in which all parties to the relationship enjoy profitable win-win business environment. In theory networking and partnering among business firms within the sector or across sectors are known to have potential of overcoming many of the market failures (OECD, 2001; UNIDO, 2009). The rationale for networking among business firms is informed by the recognition that both types of firms without collaboration constantly suffers from the known market failures. Networking among firms serve as collective institutional response to imperfections in markets for credit, insurance, information, factors of production and output, as well as a tool for reducing transaction costs of all firms associated with search, screening, exchange, bargaining, and enforcement regardless of their sizes (Key and Runsten, 1999).

According to the study by OECD (2001), networking among others increase scale and scope of activities of firms. A firm can expand its customer base; extend its technological ability (upgrade) through innovativeness of network partners. Firms with business linkages can share costs and risks and improve their abilities to deal with complexities in production and marketing. Networking among firms may enhance

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learning, whereby firms learn about new technologies or how new technologies affect existing business and how they can change their organisational approach.

Moreover, networking enhances flexibility and efficiency in knowledge management. With networking, it is possible to act timely and accurately in taking advantage of the emerging opportunity (OECD, 2001). There are certain vital technical acquittances which are kept a prerogative of few industries for long time because they cannot be accessed or shared through market mechanisms. Business linkages allow sharing of knowledge on the basis of mutual trust. Increased sharing of technical knowledge among firms does not only upgrade their economic efficiency resulting from modification and increased specialisation but also improves levels of profits earned, and level of economic benefit distribution (Grierson et al, 1997).

The standard model for application and analysis of networking is the dualistic model (Berger and Piore, 1984). According to this simple model which basically focuses on sub-contracting approach, there are two different sets of enterprises in the economy, the large and small firms. Large firms realize benefits by contracting small firms operating often in low wages and flexible work environments, and small firms are able to benefit from guaranteed markets and technical assistance from large and international firms. Clustering of small firms becomes an important step in establishing sub-contracting relationships (UNCTAD, 1994). Thus, there are several factors which drive the need for firms' networking of different nature and level. Primarily are those factors which reflect conditions in the product and input markets, other factors are those related to characteristics of a firm and the existing functional technology (Tayzman and Kilicaslan, 2000).

2. Materials and Methods

The study entailed a cross section field survey carried out in the central agricultural zone of mainland Tanzania (the central Sunflower corridor). This is the area where sunflower is widely grown and cooking oil processing largely practiced by numerous MSMEs. The area comprises of three administrative regions of Dodoma, Singida and Manyara. The overall region lies between latitude 3 0 40' and 70 34'' (Degrees) South Latitude, and 330 and 380 E. (Degrees) East Longitude an area of about 140,227 km² (URT, 2007a; 2007b). Sunflower is widely grown because it easily adapts to the semi-arid climatic conditions characterising the zone. The area tops all other areas in the country in contributing to the total national output of the crop. Increasing demand for edible sunflower oil and sunflower cakes for livestock feeding in domestic market has led to rapid setting up of MSMEs and large private firms venturing into sunflower oil production in the region. The estimation of a number of MSMEs in this central region by 2017 was at 300 (Dodoma) 171 (Singida) and 202 (Manyara). These MSMEs offer markets to hundreds of raw sunflower seed smallholder producers in the area⁴. There is equally a persistent increase of refinery facilities in three regions. Firm size categorization was based on the Small and Medium Enterprise Development Policy (URT, 2003) where the size is determined by the number of workers in the firm: Micro enterprise has 1-4 employees; Small enterprise has 5-49 employees; Medium enterprise has 50-99; large enterprise has 100 and more employees.

2.1 Data Sources and Types

Field work survey of firms was the major source of both quantitative and qualitative data in this study. The data for this study were collected between December 2017 and January 2018. The interviews were conducted by two trained enumerators from IRDP and MU. The questionnaire inquired on firm characteristics and ownership. The questionnaire also included questions on networking. A sampling frame was a list of all registered establishments dealing with sunflower oil manufacturing available with the manufacturer's associations CEZOSOPA and UMAMBE. A random sampling procedure without replacement was applied to select 158 establishments (Micro, Small and Medium Enterprises) in all three

⁴ Dodoma region was estimated to have 300 small processors by 2017 (LIC,2018) but only 76 were registered with CEZOSOPA by 2017), Singida, processors were estimated at 171(RAS-Singida) (only 61 were members of CEZOSOPA by 2017), Manyara 202 processors were estimated (RAS-Manyara) but only 53 were listed members of UMAMBE by 2017)

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areas of Dodoma, Singida, and Manyara. The sample size was determined by using a formula by (Yamane 1967), where $n = N / [1 + N(e)^2]$ where: n = Sample size estimate, N = Size of study population or sampling frame and e = Margin of error. The study intended to achieve a margin of error at 5% with the confidence level of 95%. The sample frame (list of firms as per manufacturer's associations CEZOSOPA and UMAMBE from the three areas were 76 firms, 53 firms and 61 firms respectively. This indicated that the associations had a list which was only a portion of all firms operational in the area, but the list was sufficiently large enough to generate a representative sample. Upon computation, the actual sample size from the three areas had firms (Dodoma (64) Singida (47) and Manyara (53). During actual survey however, some firms were discovered to be not operational. The number of un operational firms per area were Dodoma (4), Singida (6) and Manyara (6). Thus, eventually, the actual working sample size had 146 enterprises with the distribution as follows, Dodoma (58), Singida (41) and (Manyara (47). This study therefore developed a sample consisting of 146 MSMEs.

Additional data relating to the firms experience in networking or collaborations were collected through interviews with key informants. The secondary data were searched from available published or unpublished sources worked by NGOs such as LIC, SNV, and RLDC and works of POLICOFA Project I. These NGOs are known to have had intensive researches regarding Sunflower crop in Tanzania particularly in the Central Agricultural Zone of Tanzania.

2.2 Model Specification

In order to determine and analyze the rate and the channels of business networking among firms, simple quantitative and qualitative analyses were conducted. Statistical means, and means comparison were computed, and share differences among firms over the analyzed variables presented in percentage. As for objective two, to find out the determinant of networking among oil producing firms surveyed, we adopted logit estimation in which a binary dependent variable 'networking' takes the value of 1 if a firm has networking of any level with other firms and the value of 0 if otherwise. The Logit model can be expressed as follows;

$$L_i = \left(\frac{P_i}{1-P_i}\right) = \exp(\beta_0 + \beta_i X_i) \dots\dots\dots(i)$$

Where;

$\left(\frac{P_i}{1-P_i}\right)$ - is the odds ratio of probability that a firm network to the probability that the firm does not network

L_i - is the logit (log of the odds ratio)

X_i - the value of the explanatory variable(s)

Taking a (natural) log of equation(i) we obtain

$$L_i = L_n\left(\frac{P_i}{1-P_i}\right) = (\beta_0 + \beta_i X_i) \dots\dots\dots(ii)$$

This Model in Equation (ii) states that the log of the odds ratio of the outcome is a linear function of the Xs with intercept coefficient β_0 and slope coefficient β_i . With the logarithm of the outcome odds, the model becomes linear in the predictor (Green, 2003; Gujarati, 2012)

Prediction of probability of the variable(networking) is based on a score of exogeneous predictors (Xs) as suggested in the literature (Tayzman and Kilicaslan,2000; Berger and Piore, 1984; Grierson et al, 1997; Visser, 1999), they are; Firm size, age of the firm, Firm growth rate, Annual Operational period, Labour profitability and Labour productivity. The argument from the literature on effects of these variables against firm's choice of networking are given as follows; the larger the firm the more likely it will tend to network but in some cases also, small firms which are factually disadvantaged are likely to get into networking to gain access to new opportunities as supplier in linkage contract; the growth rate has a positive effect on the choice to network, rapid growing firm is likely to receive or press orders from other economic agents including other firms. Older firms with regular or stable and sustainable production system are likely to get involved in networking as buyers or seller of products. And llastly, the probability of networking gets

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higher the higher the productivity and profitability of a firm. Detailed descriptions of the variables are as presented in Table1;

Table 15 Variables and their Measurements

Variable	Operational definition of a Variable	Expected sign
Networking	a binary dependent variable which takes the value of 1 if a firm, networks with other firms, and the value of 0 if otherwise	
Firm size	Number of employees in a firm	+ -
Employment growth	The rate at which a firm grows	+
Firm age	The number of years a firm has been in business operations	+
Operational period	The number of months a firm can fully operate in a year,	+
Labour profitability	Profitability of a firm, ratio of turnover over a number of employees	+
Labour productivity	Productivity of a firm, ratio of output over a number of employees per month	+
Skill of a manager	A manger is skilled if has education level that is higher than lower secondary education and 0 otherwise	+

As for effects of networking on firm performance inquired in objective number three, we apply multiple regression model, where we measure performance by labour productivity which is a measure of labour efficiency. This is defined as a ratio of total output to number of employees. Independent explanatory variables included in the specified model are firm size, firm age, operation period, firm profitability, employment growth, skill of workers, skill of the manager, and the condition of whether a firm does network, or not.

3. Results and Discussion

In this section research results are presented and discussed. Presentation and analysis are in line with the research objectives as outlined section 2. During data entry and verification two questionnaires were found inadequately filled. They were discarded. They belonged to two large firms that had been covered in the survey. This study therefore eventually dealt with a sample of 144 MSMEs in its analysis.

3.1 Descriptive statistics

Results in Table 2 show that the Sunflower Oil Manufacturing sub sector in the study area is dominated by Micro and Small firms at 49.3 and 45.8 percent respectively. Subsequent analysis takes into account this basic division of firms to see whether, being micro or small can predict outcome on variables of interest, the business linkage and profitability.

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Table 16 Firm category

Firm Category	Frequency	Percentage	Remarks
Micro	71	49.3	
Small	66	45.8	
Medium	1	0.6	
Large	0		
Unclassified	6	4.1	No information on number of workers reported
Total	144	100	

Table3 indicates further differences in means between Micro and Small firms over selected key characteristics of firms. We make mean comparison using the Bonferroni adjustment, the *F test* is an overall test of significance for any differences between the group means

Table 17 Mean comparison of selected variables by Firm Type

Variable name	Units	Overall mean	Micro firms	Small firms	F-test
Firm size	Number of employees	6.5	2.3	11.0	102***
Operational period	Total months in year	5.1	4.3	6.2	17.5***
Firm age	Years in business	6.5	6.0	7.0	1.60
Annual sales	Tshs	43,782,521	32,597,097	55,949,123	1.73
Labour/profitability	Total sales per labour	10,461,818	15,168,979	5,341,747.6	28.26***
Labour/productivity	Tons per labour	3.8	4.9	2.2	16.26***

Table3 indicates that there is statistically significant difference between means in terms of firm size, labour productivity and the length of time for which firms remain fully operational in a year. The results show that the average time a firm can fully operate consistently is five months, and the mean operational period for small firms is higher than that for micro firms. A short period of just five months for which firms remain operational is attributable to insufficient market supply of raw material in the area. Low material supply fails to warrant uninterrupted oil production in a year. This suggests that increased production or availability of raw materials is needed to ensure stability and sustainable oil manufacturing business.

Both the mean Labour productivity and mean profitability of small firms are significantly lower than the mean labour productivity and profitability of micro firms, this is unexpected. Previous literature (Evans,1987; Glancey, 1998; Heshmatti,2001) document that firms take advantage of the scale economies, and a positive relationship is expected between profitability and size of the firm. Perhaps not surprisingly, this result suggests that, the implied relatively low labour cost among micro firms rising from the fact that firm owners who are the only employees dedicated and motivated to achieve growth for their future

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benefits associated with profitability drive up their performance rate, leading to higher profitability of the firms.

Networking and its Channels among firms

Table 18 Networking Rate among Micro and Small firms

Status of networking	response	Overall sample %	Micro Firms %	Small Firms%	Chi2(1)
Networks with other firms	yes	83.3	73.24	95.45	12.5***
	No	16.6	26.76	4.55	

About 83.3 percent of the surveyed firms reported had networking of some sort and only 16.6 percent of firms reported were not involved in any kind of business networking. This indicates that networking is a widespread phenomenon among small and micro-oil manufacturing firms. Probably this is driven by benefits associated with linkages practiced or this could be a general behaviour out of influences of their associations. These firms have membership in oil processing associations namely CEZOSOPA and UMAMBE. Results also indicate that, small firms network substantially more often than Miro ones. This difference in likelihood of networking between Micro and Small firms is statistically significant. Chi2 (1) = 12.5227 P < 0.001. This could be pointing importantly to the fact that the bigger the firm it becomes, the more it is likely to develop business linkages with other firms, hence networking. Growing firms tend to economize on costs related to such activities like marketing, information access etc by working in collaboration with other firms as observed in the literature (UNCTAD, 1994; OECD 2001).

Table 19 Channels of Networking

Channels through which Networking is practiced.	Response	Percentage	Percentage
6. <i>Exchange of information and experience</i>	Yes	48	33.3
	No	60	41.6
7. <i>Product quality improvement venture</i>	Yes	21	14.5
	No	80	55.5
8. <i>Joint skill training</i>	Yes	11	7.6
	No	49	34.0
9. <i>Joint marketing</i>	Yes	21	14.5
	No	55	34.1
10. <i>Subcontracting</i>	Yes	2	1.52
	No	130	98.48

Firms network among themselves formally and informally largely in sharing important information and experience related to production and marketing, and joint marketing at 33.3 and 14.5 percent respectively. They also link through joint venture aimed at improving production and quality of production such as joint skill development through joint training. The expected more meaningful form of networking involving sub-

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contracting is only prevalent at the lowest 1.5%. This suggests there is not yet a strategically developed linkages through both horizontal and vertical cooperation within firms in the sub sector. Suggesting that the kind of linkages achieved so far may not be providing development advantages generally expected of networking. As argued in the literature (UNCTAD, 1994; OECD 2001) networking among others increase scale and scope of activities of firms. Networking may enhance efficiency and productivity through refined division of labour and innovativeness cooperation and non-market information exchanges. Subcontracting in particular may allow a small firm to extend its technological ability (upgrade) through innovativeness of network partners, the large firms. Our results may also be pointing to the likely fact that, meaningful networking is unlikely in market environment there are no clearly developed categories of firms such that there are large, medium, Small and Micro firms with varied degree of technology possession which would form a base of specialization and networking. Attempts to find out why there were no meaningful networking developing among Micro and Small firms in the area revealed as indicated in Table 5, that many firms lack necessary financial resources to input into networking development, they also lack appropriate knowledge on networking.

Table 20 Barriers to networking

<i>Barriers to networking</i>	<i>Response</i>	<i>frequency</i>	<i>Percentage⁵</i>
11. <i>Lack of financial means</i>	Yes	92	63.8
12. <i>Perceived difficult in initiating negotiation</i>	Yes	46	31.9
13. <i>Lack of knowledge on firm collaboration</i>	Yes	88	61.1
14. <i>Perceived problem on how to share profits</i>	Yes	32	22.2
15. <i>Lack of coordination on networking</i>	yes	73	50.6
16. <i>Fear of conflicts</i>	Yes	43	29.9
17. <i>Lack of opportunities</i>	Yes	74	51.3
18. <i>Lack of government support</i>	yes	54	37.5
19. <i>Don't trust collaboration</i>	yes	30	20.8
20. <i>Collaboration/cooperation is not important</i>	Yes	62	43

Other barriers are identified as lack of coordination, probably by a non-existent third party, Lack of opportunities, lack of government support, fear of conflicts, lack of trust in networking and the sheer feeling among some firm owners that networking is not important. These findings suggest that the drive to achieve networking and inter-firm relationships, which may be a step towards concentrated industrial development in the sub sector, requires overcoming of the identified hurdles in the first place.

3.2 Determinants of networking

Logit regression results as reported in Table 7 show that, the firm size, firm age, and labour profitability are statistically significant determinants of firm networking.

⁵ Multi responses

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section 4.1, where micro firms which appear to be more profitable than small firms, score lower networking rate. This result implies that high profit of operation in a micro firm reduces its desire to network with other firms, and that, once a micro firm achieves high profitability from its operations, it does not expect mutual benefits from networking with other firms. Besides, there tends to grow suspicions of a dishonest in networking as indicated in the descriptive statistics level where lack of trust is reported as one of the barriers to collaboration among firms.

3.3 Effect of networking on Firm Performance

We conducted diagnostic test, the Variance Inflation factor (VIF) for multicollinearity as we adopted a multiple regression model of analysis. With the mean VIF of 1.26 we concluded that multicollinearity was not a problem in our model. Multiple regression was the appropriate estimation model. We thus, pursued the standardised multiple regression to obtain standardised coefficients to see how networking and other variables are important in explaining performance of a firm. Results are as indicated in Table 8

Table 22 Factors determining firm performance

Source	SS	df	MS	Number of obs = 105	
				F(6, 98) = 16.87	
Model	807.981609	6	134.663601	Prob > F = 0.0000	
Residual	782.391902	98	7.98359084	R-squared = 0.5080	
				Adj R-squared = 0.4779	
Total	1590.37351	104	15.292053	Root MSE = 2.8255	

L_productivity	Coef.	Std. Err.	t	P> t	Beta
firm_age	.0269011	.0642712	0.42	0.676	.0315921
skill_manager	.7236004	.6631526	1.09	0.278	.0924523
L_profitability	2.27e-07	2.73e-08	8.30	0.000	.6607083
emplo_grow	.0089349	.0172579	0.52	0.606	.0388014
firm_size	-.1420839	.0529337	-2.68	0.009	-.2282692
networking	.3803856	.8145426	0.47	0.642	.0360036
_cons	1.145255	1.092466	1.05	0.297	.

A model including networking, firm age, firm size, labour profitability, skill of a manager, and employment growth explains 50.8 % of the variance in labour efficiency (firm performance), This relationship is strong and statistically $F(6, 98) = 16.87$ $p < 0.001$. The beta weights tell that networking along with firm age, skill of a manger, and employment growth all have a weak effect and none of them is statistically significant. Labour profitability and firm size are the strongest predictors in the model. Labour profitability has positive $\beta = 0.6607083$, $\rho < 0.001$, meaning that as firm goes up one standard deviation on profitability the firm

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goes up 0.661 standard deviation on performance, thus, the higher the profitability the higher the performance of a firm. The firm size variable has negative $\beta = -0.2282692$, $\rho < 0.05$, implying that firm increase in size tends to lower the performance level of a firm, as firm goes up one standard deviation on size, it goes down -0.228 standard deviation on performance. This is a statistically significant relationship which further conforms to what is revealed in the descriptive analysis level in *section 4.1*, where micro firms (much more smaller firms) which also score low on networking are found to be better performers than small firms (relatively large firms) in terms of profit making. This finding is in agreement with what is known in the literature, that, as firms expand beyond certain threshold in their growth process, they experience diseconomies of scale (Lotti et al., 2009; Fiala and Hedija, 2015) which affect negatively their performance.

Networking, a variable of great interest in this study does not have statistically significant relationship with performance of the firm. Our findings indicate that there exist interactive business relations among firms but the relations forged are not consolidated enough to be of great beneficial use to the firms. This could be suggesting that development of strong and meaningful market-based networking is unlikely where competing firms apply more or less equal technology of production.

4. Conclusions and Policy Implications

In this paper, it is explored whether there exist commercial networking/linkages among firms manufacturing sunflower edible oil in Tanzania. Data set used in the analysis consists of 144 sunflower oil manufacturing firms covered in a cross-section survey conducted in the central agricultural zone of Tanzania during December 2017 and January 2018

Results in the descriptive analysis level suggest that, edible oil manufacturing business in sunflower sub sector in the study area is dominated by Micro and Small firms. With regard to business networking among firms, results suggest that the majority of the firms, about 83.3% of the firms do practice some business networking of different nature. Motivating factors for firm commercial networking as captured in the logit model are many, but the significant ones are firm size, firm age and firm profitability. While firm size has positive effect on firm's networking, firm age and firm profitability are negatively related to firm's networking.

Results from the regression model investigating the effect of commercial networking on performance of a firm suggest that, networking has no significant effect on the performance firms. Results in this paper could be suggesting that, development of substantial and significant market-based networking is unlikely where there are no significant technological differences among competing firms. Micro firms as reported in the descriptive analysis level have lower logit for involvement in networking and collaboration. But given the potential benefit networking has in building effective industrial development as documented in the literature (Grierson et al, 1997; OECD, 2001; UNIDO, 2009 & UNIDO,2016). The government should strive to guide and lead development of clusters of oil producers. Clustering may encourage concentration and specialisation of activities, and generation of externalities that may help Micro firms grow, hence attaining the capacity to network.

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Investors' Portfolio for Income Growth, Professional Management and Diversification

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Abstract

This paper concerns with an assessment of investors' portfolio for income growth, professional management and diversification. Every investor has an opportunity to grow and prosper through modernization and development of world economy. This has led to the new phase of development in the world stock market. The problem of expertise faces a small number of investors who do invest directly in capital market. This makes them difficult to keep of the market and continuously follow up. The models employed includes, Treynor ratio and Jensen's Alpha. Methodologically, documents were reviewed with a sample of 50 Mutual funds which covered 19 years. It was revealed that the 44% had positive Alpha indicating the capability of fund managers to generate abnormal return. Meaning that, the ability of the portfolio manager to return on portfolio through prediction of future security prices and ability of managers to reduce risks which is born by investor. The 2 mutual funds were significant at 0.05 significant levels through the 56 mutual funds with negative Alpha. Meaning that, managers have weak selective skills. The analysis of the performance of 50 mutual funds revealed that, the performance by fund managers is obtained through luck and not skills. This paper concludes that there is negative correlation between selectivity and market timing ability. It recommends that, capacity building is inevitable to investors as well as managers. They should have enough skills to judge the securities and understand its complexities.

Key words: Investors' portfolio, income growth, professional management, diversification

Introduction

The financial world is an extremely complex, growing and changing field. With millions of investment choices today it's difficult for an average investor to begin investing. Mutual funds are the most common investment vehicles that allow investors to achieve greater diversification with minimal investment capital and cost. Stock market trading has increased and has become more than an investment option for many. The world economy with its development and modernization has created tremendous opportunities for every individual to grow and prosper. All this has led to a new phase of development in the world stock market and has increased the investment opportunities for the common man as well. The world economy with its development and modernization has created tremendous opportunities for every individual to grow and prosper. All this has led to a new phase of development in the world stock market and has increased the investment opportunities for the common man as well. Although a small number of people do invest directly in the capital market but the major problem is that of expertise. While investing directly one has to be smart enough to judge the securities and understand its complexities. This becomes very difficult for investors with small means to keep a track of the market and continuously follow up. This is where Mutual Funds play an important role (Raizada, 2008).

An industries' key asset is often the personnel who run the business i.e. intellectual properties of the key employees of the respective companies. Given the ever- changing complexion of few industries and the high obsolescence levels, availability of qualified, trained and motivated personnel is very critical for the success of industries in few sectors. It is, therefore, necessary to attract key personnel and also to retain them to meet the changing environment and challenges the sectors. Failure to attract or retain such qualified key personnel may impact the prospects of the companies in the particular sector in which the fund invests.

Laipply, et al., (2020) found that, holdings-based factor model provides more accurate views of the sources of alpha than time-series regressions when managers vary their exposures to factors such as credit spread and duration dynamically. Active bond mutual funds had positive alpha relative to their stated benchmarks; a nontrivial amount of their performance was driven by exposure to static factors such as duration and credit

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spread. Active portfolio managers can employ index products to more efficiently express factor views and help capture more excess return. Michael, et al., (2005) find that managers delivered inferior returns for superannuation investors for the period 1991 through 2000. Also found no substantive inverse relationship between timing and selectivity.

Ravid,(2020) all types of large investors, “stock importance” is associated with higher firm value. Second, it does not seem to matter whether the block holder in question is an individual, a corporation, a financial institution, or the government. The effect of the investment objective is found to be significant (t-value = 4.8641, CI > 99%). Thus, H2 ($\beta = 0.4083, p < 0.01$) is accepted. It indicates that the investment objective of the individual has a major effect on his investor behaviour (Seetharaman, et al., 2017). Bertrand, et al (2020) firms invest in companies that share their political preferences. This concern does not account for possible time-varying political preferences or, related, efforts by firms to cater to fund managers they wish to attract as investors.

Chang, et al.,(2018) risk-seeking (safety-first) mental account the focus of the investor is on the returns (losses). The usual benchmark of comparison is with the market. The study of the investment performance of managed funds has been a major question of interest in the finance literature over the years. The aim has been to try and identify whether or not there are investors who are able to earn higher returns than might be expected. The efficient market hypothesis states that if the market is efficient then positive abnormal investment performance can arise only by chance. The presence of investors who are able to outperform the market would signify that the market was not totally informational efficient. Hoffmann et al., (2010) found that, portfolio with the higher weekly average return (more profit), standard deviation (more chances of getting high return), Sharpe ratio (more profit relative to risk), and cumulative return (more profit) outperforms the portfolio with lower values, but, with the exception for SF portfolios where a lower standard deviation (less riskier investment) is desired. The portfolios of investors with above-median risk profiles have greater exposure to risky investments.

Otweyo and Onyango (2017) found that portfolio return and market return are positively ($r = 0.565$) and significantly ($p\text{-value} < 0.000$) correlated and further the random effects panel regression results indicated a positive ($\beta = 3.38$) and significantly ($p\text{-value} < 0.05$) related to market return and portfolio return. Study by Adzobu, et al., (2017) show that loan portfolio diversification does not improve banks' profitability nor does it reduce banks' credit risks.

Methodology

The document reviews were employed, as well as regression analysis. Data were provided by the University of Strathclyde based on the monthly return for FT All shares which comprised of 50 mutual funds that cover nineteen years from 1990 to 2008. The one-month Treasury bill was taken as a risk free assets and returns data for FT All shares was considered as the benchmark. Jensen alpha measures the ability of the fund manager to outperform the market, which is referred to as selectivity. Superior stock selection is the ability of managers to include in portfolio assets that will enable to obtain abnormal returns. Efficiency is needed to make sure that additional risk from increasing additional selection is low and would be eliminated by additional returns obtained through diversification.

In testing selectivity, it was referred back in our theory that the ability of the fund manager to predict the price of stocks is measured by positive alpha while the negative alpha implies that the fund manager is not capable to predict the future stock movement. It was tested at 5% level of significance to establish the validity. The value of Alpha obtained through regressing the excess returns against excess returns of the market. The following is the regression equation used to test selectivity; $E(I_t) - I_F = \alpha R \cdot E(I_M - I_F) + \beta \cdot sR$

Alpha measures the excess return over and above the market return is the measure of risk. A high positive alpha is good sign for fund e.g. if a fund has alpha of 10 it means fund is giving a return of more than 10 percent when compared to its benchmark or market. Alpha was designed to take beta one step further. It looks at the relationship between a fund's historical beta and its current performance, or the difference

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between the return beta would lead you to expect and the return a fund actually gets. An alpha of 0 simply means that the fund did as well as expected, considering the risks it took.

Beta measure compares a mutual fund's volatility with that of a benchmark and is give some sense of how far can expect a fund to fall when the market takes a dive, or how high it might climb if the bull is running hard. A fund with a beta greater than 1 is considered more volatile than the market; less than 1 means less volatile. So say your fund gets a beta of 1.15 it has a history of fluctuating 15% more than the benchmark. If the market is up, the fund should outperform by 15%. If the market heads lower, the fund should fall by 15% more. But beta, though a useful guide, is far from perfect, especially when used as a proxy for "risk."

The problem as with many risk measures is the benchmark. The benchmark has to be a correct measure of comparison only then will the beta hold any indicative value (Groover, 2007).

The attraction of market timing is not simply the magnitude of the potential rewards. It promises the possibility of additional returns without any additional risk. Even if the market is in equilibrium on a continuous basis the investor switching between equities and short term investments, such as treasury bills, can expect a rate of return commensurate with the risks being accepted. The model formulated as follows; $R_p - R_f = \alpha + \beta p (R_{mt} - R_f) + \gamma p (R_{mt} - R_f)^2 + e_t$, γp = risk adjusted measure of market timing ability of fund p. γ is known as gamma, the measure of timing ability.

Results and Discussion

The results show at the 5% level of significance a certain number of positive significant values depending on the number of funds being reviewed. If the funds are positively skewed mean, there was stock picking ability while the reverse would constitute no stock picking ability. If alpha was significantly positive, this evidenced superior performance. If alpha significantly negative, this evidenced of inferior performance. If alpha is significantly different from zero, this evidenced that the portfolio manager matches the market on a risk adjusted basis. Portfolios often fail to meet this statistical significance test because of variability in security returns. This means that although the manager may actually add value, this cannot be detected statistically. Superior and inferior portfolio performance can derive from at least two sources. First, the portfolio manager may be able to select undervalued securities consistently enough to affect portfolio performance. Second, the manager may be able to time market turns, varying the portfolio's composition in accordance to the rise and the fall of the market. The other coefficient (β) measures non diversifiable risk (beta). The beta for the overall market is equal to 1.00 and the other betas are viewed in relation to this value. Funds that have a beta larger than 1.0 have high risk, while funds that have beta smaller than 1.0 have low risk.

The relationship between the portfolio return and the market return, in excess of the risk free rate, should therefore be better approximated by a curve than by a straight line. The result observed after running regression at the 5% level of significant shows that 28 funds out of 50 funds regressed revealed positive gamma γ . The 28 funds represent the majority of funds under the study which portray the superior market timing ability of fund managers; however, they are not significant. In other language terms, we are convinced to state that 28 funds are the 56% of the total funds. The remaining 22 funds represent the minority of funds which is 44% depicting poor market timing ability of the fund managers. Under this analysis, we cannot reject F value due to that it's obtained value does not exceed the critical value at 5% level of significant as shown in table 1.3 and histogram 1. 4. The maximum gamma and the minimum gamma values were 1.36942275 and -5.4389322 respectively where by the intercept value marked to -1.1976061 as exhibited in the appendix. Also, there is very strong correlation between Treynor's measure and the Sharpe's measure which indicates that the average sample funds are well diversified. Therefore, following these findings someone is convinced to say that the fund managers are capable of timing the market.

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significant. In other language terms, we are convinced to state that 28 funds are the 56% of the total funds. The remaining 22 funds represent the minority of funds which is 44% depicting poor market timing ability of the fund managers. Under this analysis, we cannot reject F value due to that it's obtained value does not exceed the critical value at 5% level of significant as shown in Table 1.3 and histogram 1. 4. The maximum gamma and the minimum gamma values were 1.36942275 and -5.4389322 respectively where by the intercept value marked to -1.1976061 as exhibited in the appendix. Also, there is very strong correlation between Treynor's measure and the Sharpe's measure which indicates that the average sample funds are well diversified. Therefore, following these findings the fund managers are capable of timing the market.

Discussion

The 50 mutual funds was run into regression procedures at 5% level of significance in which only 44% funds revealed to have positive alpha while 56% funds found to have negative alpha. With 44% which are 22 mutual funds showing positive alpha, only 2 mutual funds found to be significant. Significant means that the absolute value of t-ratio is greater than two. The greater t-ratio translates into a small p-value. For example, *INYESCO PERP.GIB.SMCOS.AC*. And *INYESCO PERP INCOME INC* has greater t-ratios of 2.570044 and 2.52813 while its p-value turns into small values of 0.010802 and 0.01215 respectively. For more illustration in t-ratios are depicted in the histogram 1.2 appendix 2. The 44% of which mutual funds exhibited positive alpha proclaims the capability of fund managers to generate abnormal return, thus their ability of the portfolio manager to increase return on portfolio through prediction of future security prices and ability of managers to reduce risk which is born by investor. However, the 56% of which mutual funds demonstrated to have negative alpha claim to have managers with weak selectivity skills.

The alpha values obtained following regression indicates that the averages intercept value to be -0.000661 where minimum and maximum alpha values recorded to - 0.008547 and 0.0057206 respectively. Under this performance analysis of 50 mutual funds, we can figure out that out performance by fund managers is obtained through luck and not skill. This emanate from the fact that the number of funds obtained abnormal return is 22 out of 50 funds under the study.

These findings are consistent with the empirical evidence by (Laipply, etal.,2020) active portfolio managers can employ index products to more efficiently express factor views and help capture more excess return (Michael, etal., (2005) whom they find that managers delivered inferior returns for super annuation investors for the period 1991 through 2000. The study provides little evidence that the Australian funds management industry holds sufficient macro and / or micro forecasting abilities to generate positive alpha. Laipply, etal.,(2020) found, active bond mutual funds had positive alpha relative to their stated benchmarks; a nontrivial amount of their performance was driven by exposure to static factors such as duration and credit spread.

A significantly positive value of gamma y_P would indicate superior market timing ability and once the value of alpha is significantly positive mean the fund manager has the ability and skills on selection. If gamma does not deviate significantly from zero, the manager cannot outguess the market. If gamma is significantly negative, there has been perverse market timing undertaken by the manager. The F distribution is used to test the value, We reject null hypothesis if the F value exceeds the critical value at 5% level of significant which is 3.8415 and we cannot reject the F value which does not exceed the critical value at 5% level of significance. The result is similar to the empirical findings by Laipply, etal., (2020) found that, holdings-based factor model provides more accurate views of the sources of alpha than time-series regressions when managers vary their exposures to factors such as credit spread and duration dynamically. According to the empirical results the particular fund managers are not market timing capable, although they did show selectivity skills.

Conclusion and Recommendations

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Due to high level of funds it has been subject of concern to academicians and economic researchers to evaluate whether this superior performance is due to manager skills of market timing and stock selection or luck. The ability to produce abnormal returns through successful forecasting is a critical issue as it challenges the efficient market theory and hence may have large implications in the modern theory.

Performance measurement brings together a whole set of techniques, many of which originate in modern portfolio theory. Performance evaluation is closely linked to risk; modern portfolio theory has established the quantitative link that exists between portfolio risk and return. Therefore, by summing up the findings as observed above, we can conclude by saying that there is a negative correlation between selectivity and market timing ability.

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Financial Performance of Firms Before and After Listing on Dar es Salaam Stock Exchange, Tanzania

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Abstract

This study measured and compared the financial performance of 17 firms before and after listing on Dar es Salaam Stock Exchange (DSE). The study measured financial performance by use financial ratios which included Return on Sales (ROS), Return on Asset (ROA), Return on Equity (ROE) and Liquidity Ratio (LR). The study applied descriptive research design and Student paired t-test. The study test the null hypothesis stated that, there is no difference in firm financial performance before and after listing ($H_0: \mu_1 = \mu_2$). The results showed ROS and LR to have a positive increase after firm listing and their difference were statistically significant at 1%. These findings are useful to investors in stock exchanges market in developing economies in general and DSE in particular. The findings have policy implication for roles of the regulators of stock exchange market, investors monitoring and governance of listed firms, as results indicate that, after listing the financial performance of firms improves compared to before listing. This has implication for attraction of investment from both local and foreign investors because indicators for good performance after listing increase the confidence of shareholders as they become more assured on future financial performance of listed firms.

Keywords: Financial Performance, Firms, Listing, DSE, Tanzania

1.0 Introduction

Practically, once a firm reaches at a certain stage of growth all internal sources of capital raising are exhausted. The only option is to issue shares or listing with an Initial Public Offering (IPO) as a way of acquiring more capital (Ernest & Young, 2018). Listing reduces the private ownership and brings the respective firms under market discipline (Ghonyan 2017; Kumbhakar & Sarkar, 2003). This phenomena, creates opportunity to general public to become shareholders of the firm and share profit and risks (Pastusiak, Bolek, Malaczewski & Kacprzyk, 2016). Moreover, out of their accumulated capital more value in absolute term increase to shareholders once firm listing and further issuing share through bonus and rights issues which lead to capital expansion of a firm without acquiring additional debt (Norman, 2011).

Firms benefits after listing, in this process periodic financial report and sound corporate governance becomes mandatory (Klynveld Peat Marwick Goerdeler [KPMG], 2015; Ritter & Welch, 2002). Hence, investors gain confidence due to strict regulations of stock exchange prior to listing and firms' automatically gains integrity and projects confidence to investors. Furthermore, listing improve wealth and liquidity base for firms and increase employee motivation (KPMG, 2008). Moreover, due to the publicity and recognition gained through market activities, listed firms are in good position to increase their operations locally and globally (Hung, Thien & Liem, 2017; Loughran & Ritter, 2002).

Nevertheless, listing enable shareholders to share profits and losses achieved by firm through dividends distributed annually. Furthermore, public firms must file reports (annually, semiannually, and quarterly) to the regulatory authority so as to fulfill regulations for their listing. However, due to this process firms incur additional costs such as auditors 'fees for consultancy, management's time, and publication cost, whereas

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information disclosed by firms could be beneficial to their competitors (Van Tan & Trinh, 2019; Wabwire, Owuor, Onyuma & Njuguna, 2013).

In the case of Tanzania, the Capital Markets and Security Authority (CMSA) was established in 1994 to promote and regulate securities business in the Tanzania under the Capital Markets and Security Act of 1994. Dar es Salaam Stock Exchange (DSE) is the only formal trading place for securities in Tanzania which was formed in 1996 and began operations in 1998 (DSE, 2017). By then listed firms were very few however, in the past the DSE has undergone major transformations where its level of activities increased which enabled local and foreign firms to own shares. Firms can also raise additional funds for expansion by producing a prospectus which provide information about price of the shares, operations strategies and future prospects. DSE is comprised of 28 listed firms where, only 21 domestic firms are traded with a trading turnover of about TZS 35,711.09 million and a total domestic market capitalization of approximately TZS 20,129.69 billion (DSE, 2019). Apart from shares, Government bonds and corporate bonds are also traded on the DSE and these bring an opportunity to compare firm's financial performance before and after listing.

Theoretically, firms perform well after listing due to accountability and transparency of management in the absence of agency cost problem (Jensen & Meckling, 1976). Several studies conducted both in developed and developing economies shows that firms improve their financial performance after listing (Shukla & Shaw, 2018; Kinyua, Nyanumba, Gathaiya & Kithitu, 2013; Bessler & Seim, 2012; Krishnan, Ivanov, Masulis, & Singh, 2011) while other studies show firms underperform after listing (Ferreira, 2017; Mungure, 2017; Mittal & Mayur, 2012; Ahmad-Zaluki 2008; Wang, 2005; Shiah-Hou 2005). For developing countries especially Tanzania, still there are few studies on financial performance of firms after listing. Munisi (2017) concentrated on before and after IPO using only one ratio; profitability and Pulkeria (2014) focused on impact of IPO on share price rather than financial performance of firm after listing. Both studies ignored liquidity ratio as a measure of financial performance, even though it is practically known that, firm may underperform but having high liquidity ratio enable firm to cover short term obligations (Le, Duong & Nguyen, 2020; Kuria, 2014; Kinyua *et al.*, 2013). Given the raising number of firms listed on DSE in the recent past, it is important to undertake an analysis on financial performance of firms before and after listing. This study focused on profitability and liquidity ratio in comparing the financial performance of firms before and after listing.

Therefore, the differences of results found in developed and developing countries together with some missing important financial performance measures like liquidity ratio, hence justifies for further studies to be taken on the subject matter. The study objective is to measure and compare the financial performance of firms before and after listing. Specifically the study intends to examine the difference in financial performance of firms on DSE before and after listing.

The study hypothesis was;

H_0 : There is no difference in financial performance of firms on DSE before and after listing ($H_0: \mu_1 = \mu_2$).

Literature Review

Concept of Performance

Performance is defined as the ability of a firm to gain and manage its scarce resources in a way of gaining competitive advantage (Bist, Mali, SabitaPuri, RK & Bhattarai, 2017; Omondi & Muturi, 2013). Performance of the firm can be measured differently but there are two common ways which are; accounting measures (financial ratios) and market measures (Mutende, Mwangi, Njihia & Ochieng, 2017; Gentry & Shen, 2010; Tayeh, Al-Jarrah & Tarhini, 2015; Al-Matari, Al-Swidi & Fadzil, 2014). However, researchers from developed economies are interested with market measures, due to stock market are characterized with, high degree of efficiency and high liquidity base making the stock price to reflect the available information (Munisi & Randøy, 2013; Ghosh & Revilla, 2007; Malkiel, 2003). In this case, for developing economies like Tanzania accounting measures (financial) are recommended by many researchers as the

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appropriate measure of firm performance due to the nature of the market (high degree of inefficiency) (Munisi, 2017; Nwosa & Oseni, 2011).

Theoretical Underpinnings

Normally, firm first prefer to utilize internal funds followed by debt then external equity (listing) (Donaldson, 1961). Then, after listing, managerial ownership declines which lead to agency problem (agency theory). Agency theory by Jensen and Meckling (1976), which state that, principals (investors) hire agents (managers) to run business on their behalf which results to conflict of interest between investors and managers. Conflict of interest results when managers' start doing things for their self-benefit hence, poor performance of firm is expected. After listing, the performance of the firm may increase as ownership increases further. The theory is appropriate to this study as it shows why firm opt listing and their expected outcome.

Empirical Review

According to Kurtaran and Bünyamin (2008) study examined post-issue operating performance of IPOs in an emerging market from Istanbul Stock Exchange for the period of eighty years (1992-2000). The variables of interest were post issue performance and management ownership. The findings showed that there is a strong positive relationship for the tested variables. Also, the study tested price earnings ratio and market to book ratio to post issue and found that there is decline in both ratios. The authors focused only on market value ratios and ignored other ratios such as profitability and liquidity ratio.

Moreover, Alanazi and Liu (2013) conducted a study on 52 IPO firms performance in the region of Gulf Cooperating Council for a period of seven years (2003-2010) by using panel data model. The study used return on sales, return on asset and sales to asset as variables of interest. The results showed that decline in performance is associated with firm transition from private to public due to rise of agency cost. This study considered only profitability ratios as measures of performance while ignoring other ratios like liquidity ratio.

Furthermore, Batool (2018) used panel data from 2006 to 2011 for 15 firms listed in Pakistani to analyze long run performance of Initial Public Offering (IPO). The variables investigated were profitability, age, size, leverage and returns on IPO. The results showed a positive significance on profitability and firm size in the long run performance of IPO, while age and leverage were negatively associated with IPO performance in long run. The study gave more emphasize on profitability ratio, leverage, and ignoring liquidity ratio.

Also, Munisi (2017) conducted a study on financial performance of IPO among listed companies on Dar es Salaam stock Exchange using mean score of financial performance ratio for five years for ten companies only. The end results showed that, there was a significant increase in post IPO performance for some measures. The study gave more importance on profitability ratio for only ten companies while this study on top of profitability ratio also liquidity ratio was analyzed by considering data from 17 listed firms for six years.

Finally, Pulkeria (2014) assessed the effect of IPO on share price among companies listed on Dar es Salaam Stock exchange from 2008 to 2013, the study used share price as dependent variable as well as IPO announcement and IPO selling as independent variables. The findings illustrate that both IPO announcement and IPO selling have no significant impact on share price. The study considered share price as the only performance measure while ignoring profitability and liquidity ratio.

Therefore, the above studies have shown both theories to be relevant and empirically relating to firms listing. The theory clarifies more why firms issue IPO through listing and why some firms perform better while others underperform after listing. The empirical reviews show gaps and contradiction on methodology and findings respectively. Therefore, this study seeks to bridge the gaps by including both profitability and liquidity as financial performance measures.

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Research Methodology

Research Design, Data Type and Sources

The study adopted descriptive research design where by mean (measure of central tendency) was used to compare changes of financial performance measures of firms before and after listing. This design was adopted because it helps in describing the financial performance of the firms before and after listing. The study relied on secondary sources in measuring and comparing financial performance of firms' that have issued IPOs. The study used profitability and liquidity ratio to measure and compares performance of firm data before and after going public, where before listing data was collected from Capital Market and Security Authority (CMSA) and after listing data was collected from DSE for analysis. CMSA is a regulator of security market in Tanzania with the responsibility of ordering firms to submit three years minimum accounting audited (prospectus) before a firm listed and keeping them for other user's reference. Whereas, DSE is a market where investors (large and small) can trade securities and publish both quarterly and annual financial reports for general market and individually listed firms.

Population, Sampling Technique and Sample Size

The study is conducted in DSE between 1998 to 2018 in which most of IPO took place; the basis of choosing 1998 is the year where stock exchange start operation. There are 28 firms listed at the DSE where by 21 listed are domestic firms while 7 are foreign firms (DSE, 2019). The selection of time frame and how many years to include before and after IPO depends on objective of the study, circumstances and data availability (Alanazi & Liu, 2013). The target population of this study comprises of only traded and exposed firms to the public for the first time when engaged IPO (domestic firms) with at least six years (three years before listing and three years after listing) as used by (Shukla & Shaw, 2018; Alanazi, Ahmed, & Forster, 2011; Kuria, 2014) and firms with missing required data have been excluded from the study. Due to this criterion 11 firms were dropped from the study, 7 are foreign firms which are not traded locally and 4 firms are domestic traded but missing either data of three years before listing or after listing (DSE, 2017). Hence this criterion resulted in a sample of 17 firms that have issued IPO through listing.

Data Analysis Techniques

Meanwhile, Student Paired-t test was used to examine mean difference of financial performance measures before and after indicators by accepting or rejecting the H_0 . STATA 14 statistical software was used to carry out all statistical test and data analysis.

Measurement of Variables

Moreover, for developing economies like Tanzania, financial ratios are recommended by many researchers as the appropriate measure of firm financial performance due to the nature of the market (high degree of inefficiency) (Munisi, 2017; Nwosa & Oseni, 2011). Therefore, this study also used; return on sales, return on asset, return on equity and liquidity ratio as financial ratios for analysis measuring financial performance of firms as used by other studies such as; Hung *et al.*, (2017); Kinyua *et al.*, (2013); Alanazi *et al.*,(2011); and Kuria, (2014).

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Table 1: Operational definition of variables.

Variable name	Measurement method
Return Sales(ROS)	on The ratio shows how successful a firm create profits from its sales revenue. Normally obtained profit before interest and tax divided by sales revenue *100.
Return Asset(ROA)	on The ratio illustrates how firm's management is using its assets to generate profit. It is computed by taking profit before interest and tax divided by total asset *100.
Return Equity(ROE)	on The ratio indicates firm management success or failure at maximizing The return to shareholders based on their investment in the firm. It is calculated as profit before interest and tax divided by shareholder's fund* 100.
Liquidity Ratio(LR)	Is the ratio of current assets of a firm to current liabilities. It is mostly used to test liquidity of a firm to meet its short-term liabilities with its short-term assets.

Note* represents multiplication.

Results and Discussions

Descriptive Statistics

Table 2 results shows Return on Sales (ROS) increased by 15.72% after the firm listing from 8.49% to 24.21%. This implies that, there is an increase of profit by 15.72% out of sales when firm listing. The study results are similar to Kinyua *et al.*, (2013); Shukla and Shaw (2018) findings that, ROS increases after firm listing. Additionally, there was minimal increase of Return on Asset (ROA) by 1.59% from 12.64% to 14.23% average performance from before and after listing respectively. This implies that, after listing firms' utilization of assets to generate profit increases by 1.59%. This result is contrary to Alnazi *et al.*, (2011) study results on financial performance of Saudi Arabia IPO showing deterioration of ROA after listing however, the deterioration was very minimal. While Batool (2018) study in the long run performance of IPO in Pakistani found that ROA increased after firm listing.

Table 2: Descriptive statistics showing comparison of firm financial performance measures

Before listing						After listing				
Variable	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
ROS	51	8.49	31.61	-120.53	48.39	51	24.21	31.29	-94.69	94.69
ROA	51	12.64	16.12	-16.71	49.42	51	14.23	22.44	-63.61	58.66
ROE	51	26.56	18.53	-7.18	64.86	51	15.12	63.43	-303.19	96.2
LR	51	1.57	1.39	.09	8.26	51	5.39	7.65	.21	33.98

Additionally, Return on Equity (ROE) results showed a huge decrease of 11.44% from 26.56% to 15.12% on average ROE before and after listing respectively. This happens due to after listing firm increases both number of shares and amount of equity while profit remain the same as before listing (firm failed to utilize

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available equity by 11.44% to generate profit). These results are similar to Pastusiak *et al.*, (2016) study on Company profitability before and after IPO in Poland stock exchange where results showed that ROE fall after firm going public.

Finally, the result on Liquidity Ratio (LR) showed an increase of 3.82 from 1.57 to 5.39 average liquidity ratio before and after firm listing respectively. This illustrate that, after listing firm ability to cover short term liability out of asset increase by 3.82. This result in line with Kinyua *et al.*, (2013) study on Initial Public Offering Performance of listed Companies.

Furthermore, for mean difference in financial performance measures before and after listing Student paired t test was used. Student paired t test assumes: Scores (variables test) are continuous numerical, the data are selected from population, observations are dependent and paired, and test variable (scores) difference are normal distributed in each group. By central limit theorem, if data is > 30 assume data is normal so can proceed with t test (Fuad *et al.*, 2015). This study observation was 51 which was greater than the minimum required observation of 30 for a normal distribution condition hence, the study data is normally distributed basing on central limit theorem.

Student Paired t test Statistics Results

Table 3, shows mean difference in firm financial performance measures before and after listing at 1% significant level. The P-value of ROS (0. 0000) was less than 0.01 (1% significant level), meaning that there is sufficient evidence to reject null hypothesis (H_0 : There is no difference in financial performance of listed firms in DSE before and after listing). Hence, accept alternative hypothesis, as resulted from listed firms having a good public image due to increased ownership which ensure high revenue and profit at given level of cost. This result are similar to Iman and Ghodrattollah (2014); Shukla and Shaw (2018), but contradict with studies of Alanazi *et al.*, (2011); Huang and Song (2005) which indicated that difference on ROS before and after listing are not statistically significant.

Table 3: Mean difference of firm financial performance measures before and after listing

Variable	Mean Difference	t-stat.	DF	P-value	Conf- Interval(CI)
ROS	15.72	4.51	50	0.0000***	6.378282 25.06646
ROA	1.58	0.73	50	0.4665	-4.196891 7.365399
ROE	-11.44	-1.28	50	0.2081	-35.47511 12.58629
LR	3.82	3.62	50	0.0007***	.9966327 6.642328

Note: ***significant at 1% level

However, the mean difference in financial performance of ROA increases (positively) after listing, the P-value of ROA (0. 4665) is greater than 0.01(1% significant level) therefore, no sufficient evidence to reject null hypothesis (H_0 : There is no difference in financial performance of listed firms on DSE before and after listing). Also, this result resembles Alanazi and Liu (2013); Bhatia and Singh (2009) studies which portrayed that transition period were triggering factor.

Additionally, the mean difference in financial performance of ROE decreased (negatively) after listing, with P-value=0.2081 which is greater than 0.01 (1% significant level). Thus, no sufficient evidence to reject null hypothesis (H_0 : There is no difference in financial performance of listed firms on DSE before and after going public). Same findings were noted by Bhatia and Singh (2009) and Pastusiak *et al.*, (2016) although their mean difference was found to increase (positively).

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Finally, for LR, the P-value (0.0007) was less than 0.01 (1% significant level), meaning, there is sufficient evidence to reject null hypothesis (H_0 : There is no difference in financial performance of listed firms on DSE before and after listing) hence, accept alternative hypothesis. Therefore, after IPO firms' ability to cover short term liabilities increase due to high liquidity base from shares sold to the public. This result contradicts with Ahmad-Zaluki (2008); Mittal and Mayur (2012) study results that showed mean difference in financial performance was statistically insignificant while this study results were similar to Kinyua *et al.*, (2013); Hamidah and Muhammad (2018) study result, where liquidity was statistically significant.

Implications of Theory and Related Studies

The study used agency theory illustrating that, firm initially may underperform due to agency cost as a result of conflict between investors (principal) and managers (agent) leading to unnecessary expenditure which are unfavorable to shareholders. However, firms perform better as ownership increase. The results hold true to the theory as after IPO firms may create good public image and managerial structure resulting to high liquidity base which later on lead to high ROS, ROA, and ROE.

Furthermore, the findings confirmed that agency theory through good public image and managerial structure lead ROS and LR to be statistically significant. The results were also confirmed by studies of Iman and Ghodrattollah (2014); Shukla and Shaw (2018) finding that, high ROS depends more on good public image and managerial structure. Likewise, Kinyua *et al.*, (2013); Hamidah and Muhammad (2018), supported the current study finding, where liquidity ratio was found to be significant after listing due to high liquidity base originated from good managerial structure and public image. Therefore, the current study finds the applied theory being relevant and statistically justified, hence having a positive implication on its applicability.

Conclusion and Policy Implications

In this paper ROS, ROA, ROE and LR were used as firm financial Performance measures. However, ROS was statistically significant due to firms having a good public image resulting to increased ownership which ensure high revenue and profit. Also liquidity ratio was found to be statistically significant, liquidity of a firm improved after listing due to profits received by firms after selling shares to the public. These findings are useful to investors in stock exchanges market in developing economies in general and DSE in particular. The findings have policy implication for roles of the regulators of stock exchange market, investors monitoring and governance of listed firms, as results indicate that, after listing the financial performance of firms improves compared to before listing. This has implication for attraction of investment from both local and foreign investors because indicators for good performance after listing increase the confidence of shareholders as they become more assured on future financial performance of listed firms.

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Macroeconomic Stability and the Foreign Direct Investment in Tanzania

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Abstract

It is likely that the inflow and outflow of FDIs largely depends on the stability of macroeconomic variables of the destination country. This study examines the relationship between FDIs inflows and the key macroeconomic indicators in Tanzania including *inflation rate, exchange rate and trade openness* among other indicators. The study utilizes times series data which cover a period of 50 years from 1970 to 2019. In the analysis, the key diagnostic tests such as Augmented Dickey Fuller (ADF) test and the Philip Peron (PP) tests for unit root / stationarity and the Johansen cointegration test to test for the long run relationship between the variables were conducted prior to the main analysis. The results of the diagnostic tests led the analysis into the Vector Error Correction Model (VECM) which estimates the relationship between the dependent and independent variables after discovering a long run relationship among or between the variables. The results of the VECM showed that FDI is significantly determined by its lagged (Previous years) values and exchange rate in the short run. The results also showed that there is a significant long run relationship between exchange rate and FDIs inflows other factors remaining constant. These results were consistent with a *priory* assumption and with other findings in the literature. The study therefore recommends that the country should keep focusing on continuous promotion of FDI inflows while at the same time stabilizing its exchange rate. The two will lead to more FDI inflows and the resultant good macroeconomic performance.

Key Words: Foreign Direct Investment, Inflation, Exchange rate, Trade openness, Tanzania

Introduction

In developing countries, one of the important of sources of funding from outside the country which derives investment across different economic sector are Foreign Direct Investments (FDIs). FDIs have been significantly contributing in capital formation in developing countries and several countries have been making different attempts to attract FDIs. The main players in the foreign direct investment are multinational companies (MNCs). According to Vijayakumar *et al.*, (2010) Brazil, Russia, India and China have emerged as major destinations for Foreign Direct Investments (FDIs) inflows, with the leading capital accumulation trend favors China and India. Records show that Currently domestic investment ratio of China is around 40 per cent of Gross Domestic Product (GDP) while that of India is around 30 per cent of GDP (Vijayakumaret *al.*, 2010).

Developing countries have been pursuing different economic reforms in recent decades of which the major focus aim at deregulation to allow capital flow, which eventually will attract FDIs. For example, reforms which was done in 1980s by China made the country to become the world major recipient of FDIs in the 1990s and 2000s, the move which reflects country's efforts to integrate with the world economy. Many Multinational Corporations (MNCs) have shifted their operations to China to enjoy the country's low labor costs and big domestic market.

FDIs have presented their importance in accelerating economic growth through investments, supporting technology transfer and generating job opportunities. Furthermore, FDIs can also provide platform for connecting domestic markets with international economic system more effectively and efficiently. According to Wafure Abu and Nurudeen (2010) FDIs have impact on the economic growth of developing countries since they provide investment capital, provide employment opportunities, enhance managerial

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capabilities to local firms as well as technological improvements which have positive impact on economic performance.

Literature present that there are different factors that may attract FDIs such as high savings rate, level of urbanization, per capita income, higher export orientation, manufacturing-based development strategy supported by strong investment in infrastructure and education usually will support and sustain conducive environment for FDIs inflows. Multi-National Corporations (MNCs) and their allies have continue to gain bargaining power as the result of increase in global competition (BorosTorstila, 1999). More importantly, global competition has change the trend and forced many countries to eliminate or minimize their entry regulations, convenient taxes, conducive business environmental as well as working conditions which attract FDIs. Because of economic importance of FDIs in economic growth, underdeveloped nations continually compete with one another to attract large number of FDI inflows in order to enhance expansion and growth of their economy particularly through the industrial sectors. Some countries have succeeded through economic reforms while some countries have failed to have attractive and conducive economic conditions for FDIs to invest in their markets, something which calls for economic researchers to investigate the relationship between the conditions of macroeconomic variables in the country and FDIs flows. General objective of the study is to explore stability of the macroeconomic variables and FDIs inflows. Specifically, the study aims to:

- i. Examine the short run relationship between the FDI inflows, exchange rate, inflation rate, and trade openness.
- ii. Determine the long run relationship between the exchange rate, inflation rate, trade openness and FDIs inflows

The study is significance as it will establish the status of both the short run and long run relationships between macroeconomic variables of the country and FDIs inflows. Information regarding the relationship of such key economic variables is very important to policy makers as it provides important inputs when it comes to review of the economic and trade policies of the country. The government may also pay attention to the factors that indirectly support stability of the macroeconomic variables such well-developed financial system (which brings stability in exchange rate), good legal system (brings trust to investors in the financial sector and support trade openness), good communication networks and infrastructures (support stability in inflation rate and facilitate distribution of goods and services) as well as favorable demographic trends (support domestic market, working age population as well as influencing the employment rate). The paper is organized as follows: *section one* contains introduction and background of the study, *section two* provides literature review relating to FDIs and macroeconomic variables. Research method and variables specification is presented in *section three* while discussion of the findings is reflected in section four. *Section five* reflects Conclusion, recommendations as well as policy implications and the last section six presents the study limitations and areas for further studies.

Literature Review

Vijayakumar et al., (2010) contended that a country with a stable macroeconomic conditions and a sustained growth prospects will experience more FDIs inflows compared to a more unstable economy. According to Duran (1999); Dassgupta and Ratha (2000) the variables proxies to growth and economic stability are GDP growth rates, production index, Interest rates and Inflation rates. Literature further records that inflation being considered as a measure of economic stability also reflect symptoms of fiscal as well as monetary control of the country. Nonnenberg and Mendonca (2004) added that investors would prefer to invest in a country with more stable macroeconomic conditions reflecting a low degree of volatility of macroeconomic variables and therefore it is expected that GDP growth rate, inflation rate Industrial production index, Interest rates to have impact on FDIs flows.

Lankes and Venables (1996) and Nunes et al., (2006) considered wage rate as a measure of labour cost and tried to link it with FDIs flows, arguing that since labour cost can influence production cost therefore it is expected that increase in production cost will to discourage FDIs inflows. On the other hand other literature report how labour force influence the FDIs flows positively (see Wheeler and Mody, 1992; Kumar, 1994;

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Sahoo, 2006), the higher the employable workforce of a country the more FDI's would be attracted to take advantage. In addition, higher employment rate implies lower wage rate (from the concept of demand and supply) hence may have influence on the production cost.

Asiedu (2002) and Sahoo (2006) are among researchers who argued that trade openness is one of the key variables that would influence FDI's, the argument is built on the ground that many FDI's are export motivated though sometimes may indulge in importation of inputs to facilitate production as well as, intermediate or capital goods. Therefore, the volume of trade (export and import) will depend on trade openness, thus trade openness is generally expected to have positive and significant relationship with FDI's. Trade openness is measured as the ratio between the sum of export and import to GDP (Nunes et al. 2006; and Sahoo, 2006). Vijayakumar et al., (2010) added that currency valuation through exchange rate is used as a measure of level of inflation as well as the purchasing power of the FDI's in the host country. Therefore, as currency depreciates, the purchasing power of the investors in foreign currency terms is enhanced, thus implying a positive and significant relationship between the currency value and FDI inflows.

Ruskie (2007) examined the trend and determinants of FDI's inflows to South Africa from 1975 to 2005, exchange rates, trade openness and financial sector development were employed as factors that influence FDI's inflows in the long run. He added that financial development and improvement in trade openness have positive and significant relationship with FDI's while deterioration of exchange rate discourages FDI's inflows in the long run. Market size was found to have positive relationship in the short run. Pantelidis and Nikolopoulos(2008) conducted a study to identify variables which discourage or support conducive environment for FDI's in Greece. The variables used in the study were market size, relative interest rate, technical capability, exchange rates, human capital, intensity of capital, imports, exports, natural assets endowment, economic activity, labor cost per unit and Greece's membership in EU. Their findings revealed that the key variables impairing FDI's inflows were governance inefficiency, higher taxes, infrastructural inefficiency and general macroeconomic situations.

Azam (2010) examined the impact of economic variables on FDI's for Kyrgyzstan Republic, Armenia and Turkmenistan using least squares technique from 1991 to 2009. The variables used were market size, inflation and official development assistance. Findings revealed positive influences of market size, official development assistance and negative impact of inflation on FDI's inflows. It was further found that official development assistance variable in Armenia and inflation in Kyrgyzstan Republic show insignificant relationship.

Methodology

The main objective of this study was to estimate how the macro-economic stability of the country determines the foreign direct investment inflows. The study made the use of time series data covering a period of 50 years from 1970 to 2019. The source of this data for all the variables was the national bureau of statistics of Tanzania (NBS). To arrive at the desired objective, various variables were involved and these included, the FDI inflows measured in USD as the dependent variable and independent variables included: - Inflation rate, Exchange rate and Trade Openness as key measures of the macroeconomic stability closely linked to FDI.

Data Analysis Procedures

The data analysis was preceded by diagnostic tests to ensure that the data and specified analytical models produce consistent and reliable results. Firstly, because of the continuous nature of the time series data used which are in most cases skewed, the log transformation was applied. The Log transformation naturally reduces the dynamic range of variables with the intention of preserving the differences while reducing the skew of the scale.

Secondly, the unit root tests were undertaken to test for the stationarity of the data. For confirmatory purposes, two unit root tests were conducted and these included the Augmented Dickey Fuller (ADF) test and the Philip Peron (PP) tests for unit root. The results for both of the two tests showed that our data were

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not stationery / had unit root. It is usual that when the data are not stationery, we transform them to be stationery by finding the first difference of the variables. After applying the first difference on the variables, the unit root tests were once again applied and they all become stationery. So in other words all of the variables were integrated of order one I (1) since they become stationery after the first difference.

It is also methodologically advised that when all the variables are integrated of order I (1), we should test for cointegration or existence of the long run relationship among the variables. Therefore, the Johansen cointegration test was conducted and two test statistics (Trace statistics and Maximum statistics) of the Johansen cointegration test were used as our decision criteria. The results of the test showed that our model had one cointegrating equation signifying that the variables have a long run relationship. The idea behind cointegration is that, given a set of I (1) variables, (X_{1t}, \dots, X_{kt}) , if there exists a linear combination consisting of all variables with a vector δ so that $\delta_1 X_{1t} + \dots + \delta_k X_{kt} = \delta' X_t$ where $\delta_j \neq 0, j = 1 \dots k$, then the Xs are cointegrated of order one C1 (1, 1). $\delta' X_t$ is a trend stationary variable.

Having C1 variables necessitates running the Vector Error Correction Model (VECM) instead of the unrestricted Vector Autoregressive (VAR) model. Therefore, the VECM system of equations was specified as:-

$$\Delta \ln fdi = \alpha + \sum_{i=1}^{k-1} \beta_i \Delta \ln fdi_{t-i} + \sum_{j=1}^{k-1} \varphi_j \Delta \ln infl_{t-j} + \sum_{m=1}^{k-1} \gamma_m \Delta \ln exch_{t-m} + \sum_{p=1}^{k-1} \theta_i \Delta \ln open_{t-p} + \rho_1 ECT_{t-1} + \mu_{1t} \dots \dots \dots 1$$

$$\Delta \ln infl = \alpha + \sum_{i=1}^{k-1} \beta_i \Delta \ln fdi_{t-i} + \sum_{j=1}^{k-1} \varphi_j \Delta \ln infl_{t-j} + \sum_{m=1}^{k-1} \gamma_m \Delta \ln exch_{t-m} + \sum_{p=1}^{k-1} \theta_i \Delta \ln open_{t-p} + \rho_1 ECT_{t-1} + \mu_{2t} \dots \dots \dots 2$$

$$\Delta \ln exch = \alpha + \sum_{i=1}^{k-1} \beta_i \Delta \ln fdi_{t-i} + \sum_{j=1}^{k-1} \varphi_j \Delta \ln infl_{t-j} + \sum_{m=1}^{k-1} \gamma_m \Delta \ln exch_{t-m} + \sum_{p=1}^{k-1} \theta_i \Delta \ln open_{t-p} + \rho_1 ECT_{t-1} + \mu_{3t} \dots \dots \dots 3$$

$$\Delta \ln open = \alpha + \sum_{i=1}^{k-1} \beta_i \Delta \ln fdi_{t-i} + \sum_{j=1}^{k-1} \varphi_j \Delta \ln infl_{t-j} + \sum_{m=1}^{k-1} \gamma_m \Delta \ln exch_{t-m} + \sum_{p=1}^{k-1} \theta_i \Delta \ln open_{t-p} + \rho_1 ECT_{t-1} + \mu_{4t} \dots \dots \dots 4$$

Where:-

- $k - 1$ = Lag length reduced by 1.
- $\beta_i ; \varphi_j ; \gamma_m ; \theta_i$ = Short run dynamic coefficients of the model's adjustment to the long run equilibrium.
- ρ_1 = Speed of adjustment to the long run equilibrium.
- ECT_{t-1} = Error Correction Term which is the lagged value of the residuals obtained from the regression of the cointegrating dependent variable on the regressors. This term contains the long-run information derived from the long-run cointegrating relationship.
- μ_{1t} = Stochastic error term (Impulses / Innovations / Shocks)

Therefore the VECM was estimated following the above system of equations to obtain the main results for our study. After estimating the VECM it followed that we had to run diagnostic tests to test for the appropriateness of our model and hence the reliability of the results obtained. Therefore we tested the normality of the residuals using the Jacque-Berra test of autocorrelation.

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Results and Discussions

The unit root test was conducted using two tests for confirmatory purposes. The results of the tests were as seen in table 1 and 2.

Table 1: Augmented Dickey Fuller Unit Root Test

Variable	At Level		First Difference	
	Test statistic	5% critical value	Test statistic	5% critical value
FDI	-1.885	-2.933	-7.319*	-2.936
Inflation	-1.931	-2.933	-8.628*	-2.936
Exchange	-0.974	-2.933	-6.700*	-2.936
Openness	-1.328	-2.933	-6.366*	-2.936

* indicates rejection of the null hypothesis in favour of the alternative that there is a no unit root at 5% significance level.

From the ADF test, it can be seen that all the variables were not stationery at level but they become stationary after the first difference. To confirm the results obtained from the Augmented Dickey fuller test, the Philip Peron test for unit root was also conducted. The results of the PP test were as seen in Table 2.

Table 2: Philips Peron Unit Root Test

Variable	At Level		First Difference	
	Test statistic	5% critical value	Test statistic	5% critical value
FDI	-1.631	-2.933	-7.762*	-2.936
Inflation	-1.897	-2.933	-8.637*	-2.936
Exchange	-0.842	-2.933	-6.640*	-2.936
Openness	-1.578	-2.933	-6.463*	-2.936

* indicates rejection of the null hypothesis in favour of the alternative that there is a no unit root at 5% significance level.

As seen from table two, the results of the PP test confirm the results of the ADF that all the variables were not stationery at level but they become stationery after the first difference. These results confirm that all our variables are integrated of order one (I (1)). Before embarking into the next step, the lag selection as done based on Likelihood Ratio (LR), Final Prediction Error (FPE) and Akaike's Information Criterion (AIC). All the three criteria proposed that the appropriate number of lags was 4. Since all our variables were I(1) and it was necessary to run the Johansen cointegration to test for the long run relationship among the research variables, (Johansen & Juselius, 1990; Søren Johansen, 2000). The results of the Johansen cointegration test were presented as seen in table 3. As seen in the table 3, the results from the Johansen cointegration test were verified using the trace statistics and the maximum statistics criteria. However, only the maximum statistics could confirm the presence of one (1) cointegrating equation as the max statistic become lower than the 5% critical value at the first rank. The trace statistics criterion could not show any

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long run relationship among the variables since none of the trace statistics was lower than the 5% critical value at any rank.

Table 3: Johansen Test for Cointegration

Rank	Trace statistics		Maximum statistics	
	Trace statistic	5% critical value	Max statistic	5% critical value
0	90.8301	47.21	49.7898	27.07
1	41.0403	29.68	20.8831*	20.97
2	20.1572	15.41	12.7343	14.07
3	7.4229	3.76	7.4229	3.76

* indicates rejection of the null hypothesis in favour of the alternative that there is one (1) cointegrating equation.

The next step in the analysis was running the Vector Error Correction Model (VECM). This had the aim of testing the relationship that exists between the dependent variable (FDI) and the independent variables as portrayed in equation 1 to 4. The results from the model were as presented in table 4. Only the results for equation 1 are presented here for the purpose of the simplicity of the interpretations in line with our specific objectives.

From the results presented in table 4 we can see that, in the short run, the log of FDI (*lnFDI*) is significantly determined by the lagged values of FDI and the lagged values of the log of exchange rate (*ln exchange*). This is because the variables were both significant at 5% level. This implies that the previous year's levels of the log of FDI (*lnFDI*) and the log of exchange rate (*lnexchange*) have positive significant influence on the changes of the FDI in the short run⁶. Specifically in the short run, referring to the lagged values of the log of FDI, a percentage change in the first lag (LD) of the log of FDI leads to 51.1 percentage change in the log of FDI. Also a percentage change in the second lag (L2D) of the log of FDI leads to 31.4 percentage changes in the log of FDI and a percentage change in the third lag (L3D) of the log of FDI leads to 23.6 percentage changes in the log of FDI.

⁶ We normally alternate the signs of the coefficients in the interpretation of the VECM results.

Table 4: Vector Error Correction Model Results

	Coefficient	Std. Err.	P. Value
D_LnFDI			
Cointegrating eq. 1			
L1	-0.6898324*	0883694	0.000
LnFDI			
LD	-0.5110441*	0.1032722	0.000
L2D	-0.3136269*	0.0790951	0.000
L3D	-0.2359573*	0.0885066	0.008
LnOpenness			
LD	-0.9760004	.7379025	0.186
L2D	0.6199708	.0790951	0.456
L3D	-1.19352	.0885066	0.157
LnInflation			
LD	0.4619525	.3263938	0.157
L2D	-0.3369591	.347918	0.333
L3D	0.1020306	.3210628	0.751
LnExchange			
LD	-2.520427*	1.189426	0.034
L2D	-3.499526*	1.481899	0.018
L3D	-9.439118*	1.315182	0.000
Constant	0.0058348	.1831882	0.975
Number of observations:			46
Sample:			1974 - 2019

Additionally in the short run, based on the lagged values of the log of exchange rate (*lnexchange*), a percentage change in the first lag (LD) of the log of exchange leads to 252.4 percentage change in the log of FDI (*lnFDI*). Also a percentage change in the second lag (L2D) of the log of exchange leads to 350.0 percentage change in *lnFDI* and percentage change in the third lag (L3D) of *lnexchange* leads to 944.0 percentage change in *lnFDI*.

The other macroeconomic variables (Trade openness and inflation) could not display a short run significant influence on the FDI since their probability values were greater than the 5% significance level, ($P > 0.05$). In the long run, as depicted by the error correction term (-0.6898324) which was significant at 1% level, we derived the implication that, the previous year's errors (or deviation from the long run equilibrium) are corrected for within the current year at a convergence speed of 68.9%. We therefore conclude that, in the long run, on average, *lnexchange* has effect on FDI *ceteris paribus*.

Conclusion and Policy Implications

Conclusion

Recalling that this paper intended to firstly analyse the short run relationship between the macroeconomic performance and FDI and secondly long run relationship between the macroeconomic performance and the FDI, we can draw the following conclusions from the findings. Firstly, out of the tested macroeconomic performance indicators, the lagged values of *lnFDI* and *lnexchange* showed positive significant influence on *lnFDI*. This makes us draw the conclusion that in the short run, the previous year's values of *lnFDI* and *lnexchange* rates can significantly explain changes in FDIs in Tanzania. Secondly, from the finding that there exists a long run significant relationship between the log of foreign exchange (*lnexchange*) and the log of FDI, we draw a conclusion that in the long run, *ceteris paribus*, changes in the exchange rate significantly determine changes in the FDI.

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Policy Implications

Since the previous period level of FDI inflows has been proved to influence the current level of FDI, investment policies and strategies should consider promoting FDI as a continuous process. A continuous promotion of FDI will eventually fuel more inflows in the long run and more economic growth. A finding that the exchange rate influences the FDI both in the short run and in the long run calls for macroeconomic measures to stabilize the exchange rate of the Tanzanian shillings versus the foreign currencies. Since the relationship has been positive, preventing too high revaluation is important. At the same time avoiding too much depreciation or devaluation which may end up leading to unintended macroeconomic results should also not be neglected.

Limitations and Areas for Further Studies

The study considered FDI inflows in aggregate. This may have caused the analysis and discussions to be limited to the impact of the macroeconomic indicators on the general level of FDI. It is suggested that future studies can consider disaggregating the FDI inflows sector wise. This is because the impact of the macroeconomic indicators may be felt differently in different sectors with their different FDI inflows. Some macroeconomic indicators like inflation and trade openness have not shown a significant impact on FDI inflows in this study. This could be a methodological limitation. Future studies can consider exploring this relationship using other methodological approaches which can yield different results.

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The Impact of Development Projects on Rural Households' Social Capital and Livelihood

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Abstract

The study aimed to establish the implications facing rural households in Tanzania, on the understanding that development projects impact on households' social capital and livelihood, thereby undermine households' capabilities and create dependency (Bebbington, 2006). The case study projects were implemented by CARE Tanzania in Magu and Missungwi districts Tanzania between 1997-2004 (Bisanda, 2001). Social capital measured in trust and membership in community-based organisations (CBOs) is associated with economic efficiency, growth, innovation, productivity and low transaction costs (Putnam 1993a; Putnam 2000; Halpern 2005). Meanwhile, livelihood is linked with assets, capabilities and households' income earning strategies (Bebbington, 1999). Findings show that CARE projects 'HISA' CBOs enhance 'bonding' capital, which is exclusive, hence undermine 'bridging' or inclusive social capital to the wider community membership. Consequently, many CBOs lack access to mainstream resources and where 'bridging' and 'linking' social capitals are strengthened; the potential for regeneration into 'cronyism' and 'enclaves' among the CBOs members is likely (Field 2003). Furthermore, CARE's transformation of traditional groups identified as 'Mafogongho' into 'HISA' CBOs led to rural inequalities; because non-HISA CBO members lacked economic access to resources especially micro-credit.

CARE's livelihood framework recognises vulnerability not only as lack of access to material assets but also to social capital ((Bebbington, 1999). The impact of projects in the two districts was marginal, fragmented and ineffective due to coordination problems, inefficiency as a result of too large operational areas that mismatched project's human capital. Projects disrupt social capital and livelihoods; create 'mistrust' with local authorities and communities by promoting perceived 'difficult' and ecologically contradictory interventions. Thus, households become stretched in terms of labour, resulting from diminished roles of Mafogongho. Hence, projects are most likely to be abandoned when funding ends, a situation that sets households in dilemmas with enormous implications.

Keywords: Social capital, Livelihoods and Development projects

Introduction

This chapter extends the outline discussion on social capital and livelihoods and attempts to establish the impact of development projects on rural livelihoods and social capital. It discusses social capital perspectives, frameworks, measurement, categorization and the implications in development; and operationalizes CARE livelihood framework in the contexts of two case studies in Missungwi and Magu projects.

Perspectives of social capital

Considering the introduction, the genesis of social capital dates to De Tocqueville who conceptualized it as a goal, resulting from diverse people associated and motivated by specific objectives. He notes that "an association unites the energies of divergent minds and vigorously directs them toward a clearly indicated goal" (De Tocqueville [1840]1969 trans) cited in (Halpern 2005). Similarly, Durkheim's analysis on suicides rates revealed that communities with "social dislocation and loose social bonds" had higher suicide rates than those with "social cohesion and solidarity"(Durkheim [1897]1951), see also (Berkman and Kawachi 2000). Durkheim underscores the role of individuals drawing on stocks of social relations from the group when one's energy is depleted. Despite of these ideas it was not until (Hanifan 1916; Hanifan 1920) who perhaps was the first to employ the term 'social capital'. Later social capital was used by Jacobs (1961) who conceptualized it as an important tangible assets for social interaction of "individuals and families who make up a social unit" cited in (Woolcock 1998; Halpern 2005)

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Although there is growing body of social capital literature, nonetheless it is not clear on exactly who coined the concept. Recently social capital has gained international currency, nevertheless, it is perceived as “a new term for an old idea” (Portes 1998; Wall, Ferrazzi et al. 1998) . According to Harris and De Renzio (1997) social capital popularity is because of its multiple interpretations and definitions. In spite of its popularity the concept is seen as ‘chaotic’ and in danger of undermining its meaning (Desai and Potter 2002). Additionally the notion has its ‘dark side’ (Field 2003). Desai and Potter share similar observations that social capital especially ‘bonding’ form of capital ‘excludes outsiders’, for instance it is observed that minority ethnic groups are excluded from higher job positions in the American computer industry regardless of their “higher education achievement” (ibid). The negative externalities of social capital is acknowledged in development discourses, nonetheless power and inequality is largely ignored (Putnam 2000). Notwithstanding aspects of inequality, the tendency has been to perceive social capital as positive thing (Putnam 1993b).

Current debate on social capital attribute to three theorists, Bourdieu, Coleman and Putnam. Most credit is attributable to Putnam who popularised the concept. At this juncture, social capital is widely used in development, especially from the 1990s since Putnam’s classic study in Italy ‘*Making Democracy Work*’ (Putnam 1993a). Other factors being constant, Putnam concluded that poor efficiency of regional governments in northern Italy was due to low “participation in ‘horizontal’ associational organizations” (Halpern 2005). He observed that these organisations were more “vertical” and hierarchical (ibid). To Putnam social capital is “connections among individuals-social networks and the norms of reciprocity and trustworthiness that arise from them”(Putnam 1993b). The influence of social capital is embraced by the World Bank (World-Bank 1997a). The World Bank regards social capital as “a ‘missing link’ in development equation” (McAslan 2002) cited in (Desai and Potter 2002). Apart from the World Bank, social capital is embraced by international organizations. Nevertheless, it is argued that it is context specific and not a fit all size (Narayan and Pritchett 1999). Following this line of contention and given the complexity of social capital, scholars contest the emerging universalism of social capital as a missing link. Alternatively (Harriss and De Renzio 1997) view social capital as a convenient peg in development.

In view of these social capital perspectives, the attributes of social capital framework includes norms, trust and networks as valuable resources that exist beyond the household to the wider community (Coleman 1990). Likewise social capital is viewed as ability of individuals to access resources because of membership in social networks and structures in the wider society (Long 2001). Thus, within these multiple lenses of social capital views, the social capital concept can be argued as an asset and valuable resource (Desai and Potter 2002). The notion is viewed to inhere in these multiple sources perceived as “highly valuable resources and assets” One can view social capital as a means-end, a process with outcomes resulting from household members involvement into social networks, these social networks can be contextualised as livelihood strategies. Remarkably social capital has several definitions, for instance it is defined as

“Features of social organisation, such as trust, norms and networks that can improve the efficiency of society by facilitating co-ordinated action (Putnam 1993a)”

The above definition has been refined to “features of social life– *networks, norms and trust*-that enable participants to act together more effectively to pursue shared objectives” (Putnam 1996). This is more specific than the earlier defined as it tapers into groups’ joint initiatives. Putnam theorizes about social capital that “social networks have value... [through] social contacts [which] affect productivity of individuals and groups” (Putnam 2000), this echoes the earlier work of (Bourdieu 1986). Furthermore, Putnam emphasises on individuals and groups connections, mutual exchange and reciprocity and trust “among individuals-**social networks**” (Putnam 2000).

Drawing from the discussion it appears that social capital concept lacks an elaborate model but is integrated within the livelihood framework as an asset; moreover, social capital is difficult to define let alone measuring it. However, The outcomes of social capital depends upon the unit of analysis one takes such as micro, meso and macro levels which determines its significance (Lin 2001). The measurement of social capital is contested, especially on Putnam’s work on the assertion that the time spent in “voluntary

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associations” is reliable than “membership” (Greeley 1977b; Greeley 1997a). It is further argued that Putnam omitted some types of associations in present America (Portes 1998). Furthermore it is contended that even with membership in groups, and trust as dominant variables; nonetheless they are not sufficient substitute (Lin 2001). Although social capital can be measured through voluntary organisations measurement using this variable is biased (Lowndes 2000).

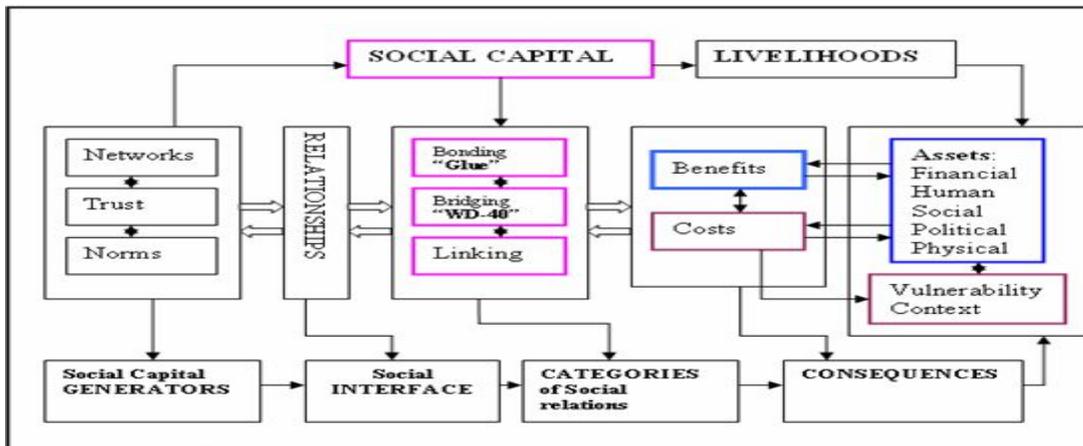
In spite of the controversy in measuring and defining social capital, the term ‘social’ has found a place and significance in the formal language of economist (Fine and Green 2000) and trust is acknowledged as the best measure because of its stability over time and has been tested in regeneration projects in East London (Halpern 2005). Social trust is associated with increased per capita income of rural households (Knack and Keefer, 1997); and has a key role on innovation in manufacturing sector in Mwanza region of Tanzania (Murphy 2002)

According to Pretty and Ward (2001) social capital is about “relations of trust, reciprocity, common rules, norms and sanctions, and connectedness in institutions”(ibid). Trust, is mirrored in issues such as clubbing together, intermarrying and trading. To Fukuyama, (Fukuyama 1995) “social capital is a capability that arises from the prevalence of trust in a society or in certain parts of it”. Putnam further proposes that “communities depend on mutual trust and will not arise spontaneously without it” (ibid). One would critique such assertions as communities do not wholly depend on trust, as other factors account for joint actions. Social networks for instance are important to realise the effectiveness of trust. In the study of social capital among traders in Madagascar, other factors controlled, social networks enabled traders and money lenders to deal in a trustworthy manner and thereby increased sales and lowers transaction cost. It follows that “better connected traders had significantly larger sales and value added than less connected traders” (Fafchamps and Minten 2002).

The main reasons in the success of traders in the foregoing discussions include free flow of information and simple terms of trade that do not engage bureaucratic contracts, mainly based on trust and cooperation. Trust enforces joint management of common property. Notably social capital is a strategy that creates opportunities for lowering “the costs of collective action and hence the cost of managing common pool resources” (Anderson, Laura et al. 2002). One would argue that trust as an informal institution is motivated by psychological contracts, which are unwritten rules and expectations that bind network members, as exemplified in the interaction between traders and money lenders in the Madagascar study. According to Wilson (2000) the networks lowers transaction costs and alters terms of trade among the network holders. Furthermore “trust improves the quality of information exchange” (Murphy 2002). However a contested aspect on trust is put forward by (Field 2003) who infers from Woolcock (2001) that trust “is generally a consequence rather than [an integral component] of social capital”. Furthermore he criticizes that “bonding” social capital if combined with particularized trust is to blame for social capital “dark side” (Field 2003), and associates the effect of ‘close ties’ with ‘perverse’ social capital.

Differentiating ‘bonding’ with ‘bridging’ and ‘linking’ is critical in identifying which type of social relations are strengthened or weakened, in cognizant of the fact that social capital is self-reinforcing whereby neglect of one form reinforces the other. The roots of “bonding” and “bridging” social capital is credited to Gittel and Vidal (1998) conceived from “weak ties” and “strong ties” in the work of (Granovetter 1973). It is asserted that Putnam follows Woolcock and other scholars in distinguishing between ‘bonding’ and ‘bridging’ (Putnam 2000). To Woolcock (1998) bonding and bridging social capital are horizontal and linking social capital is vertical and reinforces relationships along the vertical economic strata in the community and society. Through linking households can move beyond the community circles to access valuable resources to mitigate exogenous socio-economic impact. It is revealed that households possessing one type of social capital through membership into for instance CARE’s CBOs may lack access to networks outside their groups, and benefits conveyed by networks (DFID 1999). The following tool is designed for analysing the typologies of social capital.

Figure 12: Social Capital Livelihoods Analytical Tool



Source: Author’s Design, 2007

The analytical tool Fig 1 adapts key concepts on social capital and livelihoods frameworks such as ‘bonding’ and ‘bridging’ regarded by Putnam’s (2000) as social “glue” and “WD-40”, Similar views on social ‘glue’ are expressed by Eade (2003). It is observed that bonding provides a sociological superglue whereas bridging provides a ‘WD-40’ (Putnam 2000). The World Bank underscores importance of social cohesion, emphasizing not only about the totality of institutions that support the society but the glue that is necessarily to hold the society together for improving and sustaining development (World-Bank 1999). The role of social cohesion in promoting and sustaining development interventions is exemplified in Bebbington (1997) work in the Andes, where it established that “social capital tangibly improves economic conditions and promotes the sustainable intensification of agriculture” (Desai and Potter 2002). Likewise CARE’s MDLSP and MIFOSE project’s baseline surveys reveals that people in Magu and Missungwi districts Tanzania, traditionally pool their labour resources through self-help groups Wamara (2000); and increase cultivation areas (Magayane 2002; 2004b).

Figure 1 shows that social capital results from *generators* which are networks, trust and norms. Social capital exists in these generators, and its outcomes are filtered through *social interface*, with its outcomes of ‘bonding’, ‘bridging’ and ‘linking’. CARE’s projects for instance use village savings and loan groups, the “HISA” CBOs. The CBOs operate savings and loans schemes for household members based on rules and regulations, *the norms and trust*. The CBOs are organised in a group of five to thirty people according to CARE’s HISA guidelines (Allen 1990). Household members cannot join CBOs which have reached the maximum cut off point of 30 members, implying that ‘bonding’ social capital reinforces exclusive identity, with cost consequences. In this perspective household members who do not find people ‘like them’ whom they trust to organize a group, finds it difficult to access resources from CARE and other NGOs resources such as training, leverage or matching loans, agriculture inputs and technologies. One can argue that CARE projects enhance group cohesiveness and commitment of members to the groups. However, they reinforce exclusive identities because of the scheme. HISA CBOs may access credit services from other Microfinance Institutions by virtue of group collateral; those excluded are more likely to suffer vulnerability and may become more trapped into poverty.

Arguing on binary concepts of bonding and bridging, social cohesion is important to a certain threshold above which the community or group needs a chemical agent such as ‘WD-40’ to; soften social rust in order to permit the community to open and access opportunities and resources from the wider networks. Increasingly CARE projects operate on closed network systems, through predetermined and formalized membership size of ‘HISA’ CBOs, which ignores bridging and linking and are likely to create an “enclave phenomenon” (Esman and Uphoff 1984). As established, some kinds of close bonding ties inhibit the formation of the looser bridging links required to solve the larger collective problems (Putnam 2000)); consequently “a community may participate regularly in informed social interaction [but] still be socially

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isolated from the valuable resources of the wider city or region” (Desai and Potter 2002). Similar interpretations view that “Local institutions which are separated and isolated from other levels are likely to be impotent developmentally”(Esman and Uphoff 1984).

Furthermore, bonding creates dominance and exclusion especially in well-developed associations which exert dominance and exclusion. The clear evidence apart from CARE’s HISA groups, is the Uchira water user association in Tanzania where powerful members excludes the poor segment of the community (Cleaver and Anna 2006). Despite of the emphasis on bridging and linking social capital in development, it is observed that there are inherent problems in enhancing the capacity of networks and strengths of shared norms, such contention is about “cronyism” or friendship which limits access to wider social networks (Fox 1997). This reiterates the earlier argument on reinforcing tendency of social capital. Adopting Woolcock differentiation of ‘bonding’ and ‘bridging’ social capital, evaluation findings of the World Bank supported project in Mexico, reveals that projects contribute to disruption of social capital. The lesson the World Bank suggests is tapping of “existing forms of bridging social capital in poor communities as a basis of scaling up the efforts of local community-based organisations” (World-Bank 2001) also see (Woolcock 2001).

Livelihoods Analysis

Drawing from the previous discussion one can argue that much as social capital is a “language device” Bebbington (Bebbington 2002) so is sustainable livelihoods concept. The wide application of livelihood framework as an analytical tool is based on its integration of other capitals (WCED 1987b; Scoones 1998). The capitals assets are adopted in CARE’s approach and are used in design and implementation of projects. CARE, DFID, Oxfam and the UNDP incorporate sustainable livelihoods framework in their development policy and programmes (Carney, Drinkwater et al. 1999). In the context of DFID’s livelihood framework social capital is defined as “social resources upon which people draw in pursuit of their livelihoods objectives” (DFID 1999). DFID’s integrates a bottom-up approach in its development work (Carney 2002; Ellis and Mdoe 2003) and both CARE and DFID livelihood frameworks claim to place people at the centre of development (Ashley and Carney 1999). Drawing from CARE’s definition, a livelihood;

“comprises of the capabilities, assets, and activities required for a sustainable means of living, and include such items as adequate access to income, food, water, educational opportunities, health, housing, community participation, and social integration (Carney 1998) cited in (Otsyina and Magayane 2004a)”

Although the above definition emphasises on community participation and social relations, but the role of institutions does not feature in Ellis definition. Adapting Chambers and Conway’s (1992), Ellis defines a livelihood to consist of

“assets (Natural, physical, human, financial and social capital), the activities and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household (Ellis 2000)”

Referring to CARE’s approach, households that are unable to withstand and recover from shocks are termed as vulnerable. Vulnerability is lack of capability to recover or cope with economic risks and is linked with poverty. Moreover, a livelihood is *sustainable* when it can cope with and recover from stress and shocks, while maintaining “capabilities both now and in the future, while not undermining the natural resource base” (ibid). The framework focuses on strengths, opportunities, coping strategies in the context of grassroots capacities and initiatives. Although materialistic conception dominates poverty, Chambers extends the definition to assets and describes poverty as “a condition of lack of physical necessities, assets and income. It is more than, income-poverty” (Chambers 1997), as argued, poverty is not only lack of material things, but also deprivation of other non-material necessities and assets, including social capital.

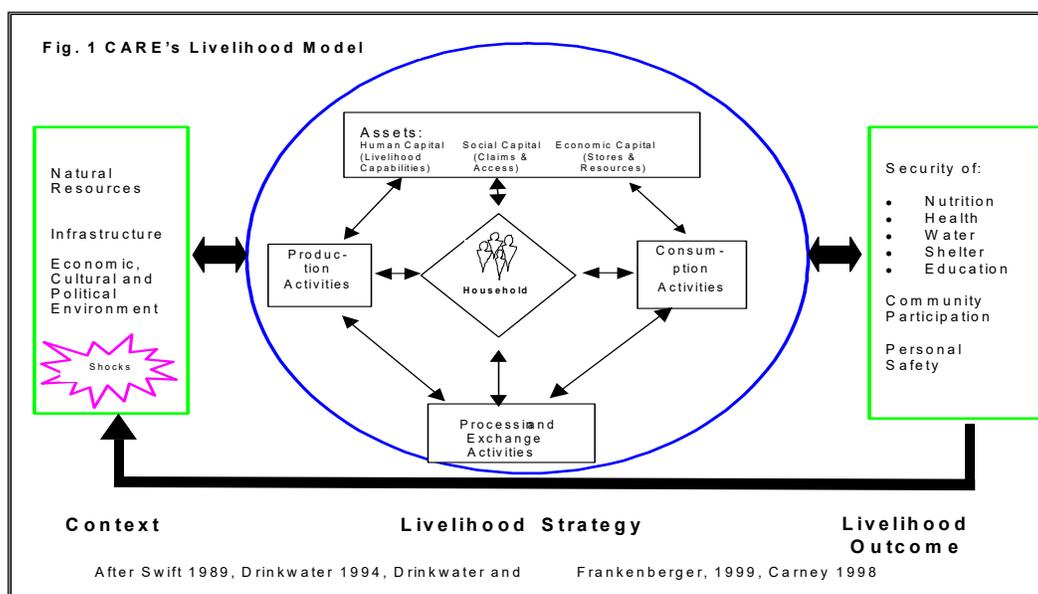
Drawing from the above argument, it is through social relations, households can assert their position within the mainstreams of economic development. Households assets from the definition are identified as options or activities people pursue in order to attain a minimum level of living (Ellis 2000), whereas “access is defined by the rules and social norms that determine the differential ability of people in rural areas to own,

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control, otherwise ‘claim’ or make use of resources such as land and common property” (Scoones 1998). In view of the definitions assets are not static but dynamic and are subject to disruptions by changing macro contexts such as economic factors, however through “social and kinship networks” these assets can be sustained (Bryceson 1996). Livelihoods are diversified as households adapt different environmental changes. Projects facilitate diversification of livelihoods when households undertake activities and assets in a wide range of portfolios (Ellis 2000). Diversification is understood as a process and an end where wide ranging livelihoods is available and practiced (Barrett, Reardon et al. 2001). In sum CARE projects, one hand enhances diverse livelihood activities and on the other hand disrupt existing traditional livelihood assets through interventions, as discussed in chapter four. Figure 2 is CARE’s livelihood model. The study uses this model to analyse CARE project impact on livelihoods and social capital.

Figure 13: Fig.1 CARE's Livelihood Model

Adapted from Drinkwater and Rusinow, (1999)



The model figure 2 above starts with the **household**, centre of blue circle (rectangular box) as the unit of analysis and interaction in all CARE projects. This resonates with (Portes 1998) who believes that “greatest theoretical promise of social capital lies at the individual level”

Contexts: Green Box (Left): Includes natural resources such as farming and grazing land, water, and infrastructures such as roads. Other environmental factors include cultural, socio-economic and political. Nevertheless technology and information does not feature in the model (Garforth, Khatiwada et al. 2003) Information and technology have production function to the household for access to markets, institutions and resources. The context creates shocks which lead to household vulnerability, the basis for CARE’s interventions. One can argue that projects provide opportunities for households to attain livelihood outcomes. The emerging opportunities are translated into livelihood security outcomes as manifested on improved household’s nutrition, health, shelter, and food security as revealed in CARE’s project interventions in chapter four. Despite of the opportunities, attribution to CARE’s impact in the project areas is constrained or enhanced by context factors, the *shocks*; for instance, all three districts are classified as chronically vulnerable to draught areas, and experience regular draught.

Assets Top Box inside the blue circle: Comprises of human capital which is linked to labour, skills, education and health as features in the DFID model (DFID 1999). Equally important is the emphasis which ensures the households can pursue other livelihood options. Existing social systems in the three districts

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indicate that when labour demand is scarce, households in the project areas use self-help groups as a production strategy. Notably means of labour pooling is institutionalized through local tradition groups. With the formation of CARE's savings and credit groups labour pooling is diminished due to increased time demand to attend weekly meeting and training events that do not consider farming seasons as projects have to meet targets.

Social capital: as an asset helps households to access and claims. Access for resources from within the household, and the wider community is necessary as an outcome. In view of CARE livelihood approach, it is noteworthy that the model is implemented within the livelihood's continuum of short, mid, and long-term projects. The types of interventions are dependent on the level of household vulnerability. Analysing CARE projects one finds that they are theoretically developmental; practically they are more relief oriented based on CARE values as a relief organisation and projects tend to ignore the capacity building, they claim or misinterpret as synonymous to training. Although the approach suggests diverging from the earlier deficit approach, that focused on material perspectives. CARE's project's interventions fall short on social aspects as emphasised by the framework which claim to embrace "relationships rather than things" (Field 2003). Although CARE and DFID's approaches suggests change of the way external development agencies implement development work, the question is to what extent CARE's and other development agencies adheres to the people centred approach.

Conclusion

Chapter argued that social capital is a means-end concept uniting individuals towards collective goals. The concept is difficult to define and to measure; however, trust is widely accepted than other measurements and is associated with innovation, productivity, and efficiency. Trust is important as it lowers transaction costs and is effective in managing common property. Three forms of social capital namely 'bonding', 'bridging' and 'linking' are mapped out, argued that enhancing one form of social capital is not important for accessing mainstream resources. Furthermore, the study finds that CARE CBOs devote much time interacting in isolation, consequently missing multi-level networks of valuable resources. Moreover, it is argued that 'bonding' social capital regarded as 'super glue' reinforces exclusive identities and can lead to vulnerability of those excluded from the networks. The study argued about 'WD-40' can be effective in softening the social rust of 'enclave' CBOs and the ones that are likely to degenerate into 'cronyism' of bonding.

CARE adapts the livelihood approach in all its interventions, social capital features as an asset, a strategy or a resource. Livelihoods and social capital assets are dynamic, but subject to disruption by changing macro contexts; and the study finds that projects contribute to enhance diverse livelihood or weaken existing assets through the interventions. In the CARE livelihood approach, information and communication does not feature and has negative impact in terms of adoption and sustainability of CARE interventions, it appears the projects focus on short term consumption *vis a vis* long term production functions. It has been identified that attribution of CARE project's impact is constrained by macro level factors such as drought. Arguing further that transforming the existing self-help groups which traditionally are for labour pooling in the project areas, creates labour scarcity as a result of household's commitment to projects activities and to groups. Furthermore, it has been argued that CARE interventions are relief, 'heavy-handed handouts' and short term based and likely to be less sustainable. The next discussion is on projects and community-based organisations.

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Inclusive Green Growth and Inter-Generation Welfare in Tanzania: Economic Policy Implications

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Abstract

This paper has examined inclusive green growth and inter-generation welfare by looking into theoretical analysis and case studies. It has been underscored that economic growth in general is not enough in promoting inter-generation welfare but should incorporate significantly ‘inclusive green growth’ which is acknowledged by (i) environmental protection, climate resilience, clean and safe technology; (ii) all forms of capital including natural resources and (iii) distribution welfare gains in the short and long-run. All the evaluation results in all three cases studies (large-scale, SMEs, and human capital investments) indicate that current investments especially large scale investment in Tanzania do not contribute greatly to “inclusive green growth.” Furthermore, the current short, medium and long term plans do not explicitly underscore inclusive green growth issues. This leads to policy implications and recommendations which calls for the government to increase especially momentum of industrialization, and human development taking into account the need to increase investment and economic growth which incorporate significantly “ inclusive green growth” for improved intergeneration welfare.

Key words: Inclusive Economic growth, Inter-generation welfare, Tanzania, economic policy

Introduction

While classical and neo-classical economists focused on economic growth and development in general, contemporary economists and other development scholars focus on specific aspects of economic growth and development such as inclusive (green) growth, income distribution or shared prosperity and inter-generation welfare. Literature on inclusive economic growth especially in Tanzania is still limited; those which relate inclusive green growth with inter-generation welfare in Tanzania are hardly seen. This study therefore tries to improve their visibility thereby solving partially the literature scarcity problem. Furthermore, the uniqueness of this study is underscored by three comprehensive case studies which are related to the main welfare indicators and are evaluated on their contribution to inclusive green growth and inter-generation welfare. Reference is also made to specific Tanzania’s short, medium and long term plans in evaluating the case studies. The main objective of this study is to review and examine inclusive green growth and inter-generation welfare in Tanzania. The implied positive hypothesis is; economic growth incorporates significantly inclusive green growth for improved intergeneration welfare vs the negative aspects of the hypotheses. This is elaborated theoretically in the next section .Section 3 clarifies the methodology. The case studies and their evaluation and results are presented in section 4; Section 5 provides conclusions and policy recommendations.

Conceptual, Theoretical and Retrospective Analysis

Conceptual and theoretical Analysis

Many scholars have argued historically that economic growth is important for development in general. Modern scholars, however, tend to focus on specific aspects like inclusive green economic growth, shared prosperity and intergeneration welfare (See, for instance, Bilame, 2021; Dercon, 2012; Jetske and Ezra, 2015; Narayan et al, 2013; World Bank, 2012). Bilame (2021) clarifies the main difference between growth and green growth. The latter acknowledges the role of capital especially natural capital and environment in economic growth and its importance in the welfare of future generation. Capital stocks (natural, human or other aspects) are crucial for growth, development and sustainability. Current generation should make sure that capital stocks are at least maintained (Dercon, 2012). Natural capital (natural wealth or resources) like land, forests, minerals and ecosystem form part of capital stock of a country and should not be exhausted for the sake of future generations. Deforestation, land and other resources depletion, degradation of ecosystem and the like should be discouraged but resources use efficiency, technological advance, and

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innovation should be promoted to encounter present and future disasters such as acute resource or capital depletion, negative impact of climate change and others

Inclusive green growth may therefore, be defined as the economic growth which is promoted by (i) environment protection, climate resilience and clean and safe technology; (ii) all forms of capital including natural resources; and (iii) the distribution welfare gains in the short and long-rung run. One of the distributional implications is shared prosperity. This is the well-being among the most vulnerable in the society (Bilame, 2021). The World Bank Report (2014) suggests that the concern should be to increase per capita real household income or consumption of the bottom 40 percent of each country's population.

Welfare refers to utility and not to income alone since utility comes from satisfaction and happiness one enjoys from various aspects like health and education. The modified human development index (HDI) incorporated by UNDP in its 1990 Human and Development Report suggested three main utility or welfare indicators: descent standard of living (real income), longevity (life expectation), and education (attainment). Although there are several problems in measuring the three indicators for the current generation, more problems exist in the case of future generation welfare.

Inter-generation welfare refers to utility for both current and future generations. This is the central concern of this study

Retrospective Analysis

Historically, the role of government in promoting economic growth and welfare has been changing over time. Classical economists, for instance, tended to underestimate the role of government and public policy in promoting economic growth. In his 1776 publication, briefly referred to as "*The Wealth of the Nations*" Adam Smith, (referred to as the father of economics by many scholars), for instance, underscored the natural law which states that economic growth is promoted by natural self-interest axiom (truism) and the invisible hand of the market. Thus the role of government in promoting economic growth was negligible or minimum; and capital accumulation by the private sector was vital for economic growth. Income distribution and welfare issues were not explicitly examined. However, since his analysis was based on perfect competition conditions his conclusions remain tolerable. A similar approach was followed by the works of subsequent classical economists like Thomas Robert Malthus (1798) and David Ricardo (1817). They also stressed free market forces, and minimum government intervention in promoting economic growth.

Around 1,870 three scholars simultaneously but independently introduced utility/welfare marginalism and general equilibrium analysis. They are referred to as neo-classical economists. These were W.S.Jevons (from England), C. Menger (Austria) and L.Warlas (Switzerland/ France). For details; see Kapunda (2021) and Samuelson (1980). In addition to underlining classical theory of growth they argue that income should be distributed according to the marginal product of the factors of production. Labour, for instance, should be paid wage equal to marginal product of labour: the extra income when one unit of labour is added. Many other economists followed their approach (ibid). Karl Marx, however, criticized the marginal product distribution theory as it promotes exploitation of workers by capitalists (**Das Capital** Vol1, 1867; Vol II, 1885,; and Vol III, 1894). He underscored the need for the visible hand of the government in economic growth and development in general since markets were imperfect in practice and capitalist took advantage of no or minimum competition (Kapunda, 2021).

John Maynard Keynes, however, made a compromise in his 1936 publications, *The General Theory of Employment, Interest and Money*. He argued for moderate government intervention and free market in economic growth and development. His concern was the case of economic shocks and depressions like the global Great Depression (1929-1933) where the basic role of government intervention to stimulate aggregate demand and promote employment was crucial (Kapunda, 2021). After the end of the Second World War in 1945 up to the 1970s development economics, as a discipline, was popularized in less development countries to deal with problems related to economic growth, inequality, income distribution and poverty alleviation (Kapunda 2021, Samuelson 1980). These problems are still central among modern scholars and core in examining the welfare of both current and future generations.

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It should, however, be underscored that issues of income distribution, shared prosperity and inter-generation welfare are better handled by the public sector (government) rather than the private sector (market forces) mainly due to what is technically called market failures (for details, see, for instance, Weimer and Vining (2000)).

Methodology

This study is centred mainly on literature and theoretical analysis, case studies evaluation results, discussion and interpretations. Three main cases are examined closely:

- (i) The case of large - scale investment which includes two sub-cases: basic industries and the Mchuchuma coal and Liganga iron ore projects;
- (ii) The case of small and medium enterprises (SMEs) investment with special focus on bank sub-cases especially the National Microfinance Bank (NMB), and
- (iii) The case of investment in human capital formation and utilisation

These identified case studies are chosen because they are directly related to the main indicators of welfare noted in section 2

The three case studies are first described showing their importance in inclusive economic growth for the current and future generation. The three cases are then evaluated using their contribution to inclusive green growth i.e. acknowledgement to green projects and investments, which promote climate resilience, environment protection, including sustainable forestry and tree planting; use of clean and safe technologies and renewable energy while creating jobs for both current and future generation. (Bilame, 2021 & Xinhua, 2021)

The case studies are evaluated using their contribution to shared inter-generating prosperity. Reference is also made to specified Tanzania's Annual Plan Budget Speech (2021/2022) and the third National Five Year Plan (2021/2022-25/26), and Long- Term Perspective Plan (2011/2012-2025/2026); and hence the Tanzania Development Vision 2025, in evaluating the inclusion and performance of the study cases. The evaluation results and discussion are presented in section 4.2

Economic Growth and Inter-Generation Welfare: Case Studies

As indicated in the previous section, three case studies are examined in this section.

The Case of Large Scale Investment

These include two sub-cases:

- (i) Basic Industries, and
- (ii) The Mchuchuma Coal and Liganga Iron ore Projects.

The Case of Basic Industries in Tanzania

In short basic industries may be defined as industries which essentially create inputs for other industries (**viwanda mama** in Swahili). They are usually capital goods industries or equivalently producer goods industries or investment good industries. Examples are iron and steel industries, and industries producing chemicals and construction materials like cement. They differ from consumer goods industries which produce goods for final consumption like food processing industries and those dealing with beverages, tobacco and textiles. (Kapunda, 2017). Tanzania embarked formally in promoting basic industries in 1975 through the Basic Industries Strategy-BIS (1975-1995).

The strategy aimed at:

- (i) Great structural change from consumer goods industry to basic/ capital good Industry over time; and
- (ii) Significant growth of the economy, and self- reliance (**Kujitegemea**).

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The strategy sought to restructure the economy by:

- Establishing and strengthening greater inter- industry linkage;
- Orienting industry towards increased production of producer goods; and
- Orienting the economy towards greater national autonomy through
 - (i) Reduced reliance on foreign markets for domestic production;
 - (ii) Reduced dependency on essential imports for consumption; and
 - (iii) Increasing the share of manufacturing in total GDP. (Kapunda 2017),

The long term priorities of BIS were (among others):

- To establish basic industries particularly those producing iron and steel, chemicals and construction materials;
- To establish engineering and metal working industries, workshops for manufacturing spare parts, tools and machine parts in order to enhance self- reliance and expand the local market for iron and steel;
- To increase scientific and technical knowledge by expanding training of those working industries and by establishing centres for industrial services and technology; and
- To expand agricultural processing industries (agro-industries) and produce exportable products so as to increase the country's foreign exchange earnings (ibid)

Given the lack of enough foreign exchange, low attraction of the strategy to foreign direct investors, increasing intensity of competition and globalisation in the mid -1990s, the basic industrial policy strategy shifted towards mainly export-orientation and resulted into the Sustainable Industrial Development Policy – SIDP (1996-2020).

Some of the long term priorities of the BIS like expansion of agro-industries were maintained but the emphasis was on exports. Basic industries, however, remain relevant today especially when they are developed on the understanding that they will lead the country to self- reliance or economic independence

The Mchuchuma Coal and Liganga Iron Ore Projects:

Like the basic industries the Mchuchuma coal and Liganga iron ore projects are historical. The feasibility study of the projects was done in 2012. The study revealed that there are reserves of 428 million tonnes of coal in Mchuchuma and 126 million tonnes of iron ore in Liganga, in Njombe Region (Mtema and Mbashiru 2021), However the execution of these projects is latent. They were however, included in the Second National Five-Year Development Plan (2016/17-2020/21), and the 2021/22 Budget Speech, by Ministry of Finance and Planning. The budget speech is the First Annual Plan 2021/22 in the implantation of the Third National Five-year Development Plan (2021/22- 2025/26).

The Mchuchuma –Liganga projects are scheduled to be implemented jointly by government (through the National Development Co-operation-NDC), and Chinese private investors-Sichuan Hongda (Group) Company Limited- SHGCL (ibid)

The Case of Small and Medium Scale Investment

Unlike large –scale investment, small and medium scale investment is usually more environment and green growth friendly .Furthermore small and medium enterprises (SMEs) are normally flexible, innovative and provide jobs to both skilled and unskilled labour (Neigu 2016),

The World Bank's 'Doing Business' Report indicates that since SMEs link with a reduced level of informal activities, they are important part of in managing flexibly the UN Sustainable Development Goals (SDGs) in 'promoting inclusive and sustainable economic growth employment and descent work for all'; and 'building resilient infrastructure, promoting sustainable industrialisation and fostering innovation' SDG-8&SDG-9 respectively. (World Bank 2012)

The role of small and medium financial institutions especially banks have been shown to be specifically important in promoting economic growth (Tesha 2005). To this aspect we now turn.

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(i) *Small and Medium Banks*

It has been shown that the assets from mostly small and medium banks grew faster (5.6%) than the GDP growth rate (4.7%) in (2020). The growth of assets was coupled with the growth in loan book (6.5%) despite the COVID-19 pandemic (Reporter 2021). Part of the assets growth came from the National Microfinance Bank (NMB) to which we now turn.

(ii) *The National Microfinance Bank (NMB)*

As noted above the assets growth of the National Microfinance Bank (NMB) contributed to the overall high growth rate (5.6%) of the bank assets. Furthermore, the NMB is supporting the youth through education support, soft loans, internships and volunteers and employment. NMB offers several posts every year. In 2020, for example, it offered 1,563 posts on jobs (<http://www.governmentjobs.com/careers/nmb2021>). NMB has also introduced “**GO BY NMB**” moto which influences the youth accessing banking facilities and encouraging them to save for future investment. Youth empowerment promotes investment tomorrow. Access to financial services leads to productive society and stimulating growth to the entire economy ([nmb bank.co.tz](http://nmbbank.co.tz))

The Case of Investment in Education (Human Capital formation and Utilisation)

Human capital formation and utilization require educating essentially the youth. Some of issues to be underlined include mainly:

- (i) Educating the youth using revised education curriculums which enable some of graduates employ themselves;
- (ii) Expanding vocational education for similar reason:
- (iii) Expanding the education infrastructure and construction, but maintaining green investment and durable education institution buildings for the current and future generation.

Human Capital utilisation refers mainly to employment creation essentially for the youth. The discussion on the previous and present case studies is relevant in this case: Large scale, investment, SMEs and nature of education should consider this aspect.

Hitherto, the case studies have been presented. Let us now turn to their evaluation results.

Results and Discussion

The Case of Large Scale Investment

Large-scale investment is usually associated with technological, environmental and climate change problems such as unsafe technology, pollution and deforestation. Means to solve those problems should be devised by private investors and governments. Large scale investment requires substantial capital accumulation. Furthermore, it usually needs a long payback period, and its net present value (NPV) is usually negative for the first several years of investment. No wonder private investors usually hesitate to invest in large projects since they are interested in quick profits and observe strictly the natural law of self-interest axiom stressed by Adam Smith.

Governments, however, may have public policies which promote large investment for the interest of the current and future generations. In addition to their expected role of creating an enabling environment for private investors, providing public goods, dealing with shared prosperity and other activities due to market failures, government may directly be involved in large-scale investment or through joint ventures with private investors

Although basic industries (**viwanda mama**) were politically popularised between 1975-1995 their implementation remains questionable. Their contribution to the current and future generation is also blurred. Yet, their potential contribution to industrialisation and self-reliance (economic independence) is great. No industrialised country has developed through consumer industries alone, but through enhancing producer goods (basic) industries.

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The recent case (2021) of the Mkuranga (Dar es Salaam) iron/steel industries-the Fujiana Itexingwang and Lodhia Group of Companies which were using unsafe /fatal technology and non-green investment is a negative example of basic/ capital goods industries. In fact the government had to rectify the situation (Monyo 2021). There are currently a number of industries using unfriendly environment technology promoting pollution and deforestation such as some of the construction material industries like cement industries and wood product industries. Such industries have to be regulated by government. Although the contribution to the basic/capital goods industries to GDP was expected to be equal to that of the consumer goods (50:50 percent-wise) by 1995 the later still dominant (see also Bilame (2021)

Tanzania wants to be an industrialised country as implied in the theme of annual, short and long-term plans. However, since these documents are almost silent on “inclusive green growth” and shared prosperity, there is a need to include and implement this aspect during the implementation of the plans (Bilame (2021). Regarding the Mchuchuma coal and Liganga iron ore projects the government is in the process of starting the actual implementation. However, efforts should be made to ensure that they are implemented in line with inclusive green growth for the benefit of current and future generations

The Case of Small and Medium Scale Investment

Although small and medium scale investment has usually been environment and green growth friendly, efforts to promote this trend further should be made for inter-generation welfare. However, there are still cases of industries, mostly SMEs, which still use environmentally unfriendly coloured plastic bottles especially soft drink manufacturers. These are required by government to use clear bottles which are easily recycled and environmentally friendly (Malonga 2021). Furthermore, the assets and dividends of revenue to the government in the case of SMEs may be significant. As Zaipuna (2021) underscores NMB contribution to government was 6 trillion shillings in 2018- 2020. The government is expected to use part of such contributions to support green investment and other aspects which promote inter-generation welfare. As noted earlier, NMB supports directly the youth through contributing to education, soft loans, direct employment, and the like.

The Case of Investment in Education (Human Capital Formation and Utilisation)

The theme of the annual plan (2021/22) has underscored human development. The theme is **realising competitiveness and industrialisation for human development**. The Third Nation Five-Year Development Plan (2021/22 -2025/26) has included human development in the priority lists. Others are, (i) Realizing an Inclusive and competitive economy; (ii) Deepening industrialization and service provision; and (iii) Promoting Investment and Trade. The Annual Plan (2021/22) and the Third National Five Development Plan (2021/2022-2025/2026) underscores “ inclusive economic growth as well as improved welfare by enhancing access to social services including **education and training** ,health, and social welfare, social protection, water and sanitation services” (Quotation from Dr Nchemba, Minister of Finance and Planning’-Mtema 2021) . However, inclusive green growth is not visibly underscored. Education development should adhere to safe and clean technology in developing infrastructure and durable buildings like the case of residence Halls I and II at the University of Dar es Salaam (UDSM) and classes surrounded by green trees like those at St Augustine University of Tanzania (SAUT). This is for the benefits of future generation too. As noted earlier human capital utilisation (employment) should be promoted simultaneously by small, medium and large enterprises which abide with inclusive green growth for current and future generations as explained earlier.

Conclusion and Economic Policy Implications

This paper has examined inclusive green growth and inter-generation welfare in Tanzania by looking into theoretical analysis and case studies; it has been argued that economic growth alone is not enough in promoting intergeneration welfare but should include inclusive green growth. The latter acknowledges the role of all forms of capital (including natural capital) and equitable distribution of welfare gains for both current and future generations. To capture all indicators of welfare, three cases studies have been taken into consideration: (i) The case of large-scale investment which includes two sub-cases: Basic industries and the

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Mchuchuma coal and Liganga iron ore projects and (ii) the case of small and medium enterprises (SMEs) investment with focus on banks especially the National Microfinance Bank (NMB), and (iii) the case of investment in education (human capital formation and utilisation).

The evaluation results indicate that although the contribution of the large-scale investment to economic growth is great, its contribution to inclusive green growth is questionable. Thus its contribution to inter-generation welfare is shady. Furthermore, the Annual Plan (2021/22) and the Third National Five Year Development Plan (2021/2022-2025/2026) seem not to emphasise explicitly inclusive green growth. This applies, but to less extent, to the case of small and medium investments and investment in human capital (education) and utilisation of human capital (employability).

The following policy implications and recommendations are in order:

(i) The government should increase the momentum of industrialisation taking into consideration producer goods/basic industries and the need to emphasize inclusive green growth and shared prosperity for inter-generation welfare;

(ii) The current short, medium and long-term development plans should be revisited or implemented in line with inclusive green growth and inter-generation welfare;

(iii) The assets from investing projects and revenue to government, in the case of NMB, for instance, should be used for inter-generation welfare;

(iv) The current education curricula should be revised and vocational schools should be increased to enable some of graduates to employ themselves; and

(V) Infrastructure and constructions at education institutions should be expanded in line with 'green investments' which promote inclusive green growth for current and future generations. Although these recommendations are relevant to Tanzania, they may also be applied elsewhere in Africa

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Factors fostering Collaborative Information Seeking Behaviour of Students Groups tasks in the Vocational Training Institutions in Tanzania (TVET's)

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Introduction

Collaboration is the action of working together and sharing knowledge for creating the mutual understanding needed in solving problems” (Schrage, 1999). Similarly, Foster (2010), emphasises the value of collaboration as a useful and essential tool for undertaking any difficult task, as human beings by nature need to collaborate in activities that cannot be carried out by a single individual. The value of teamwork is an essential tool useful for undertaking any difficult task. Collaboration therefore is among of a prominent characteristic of group’s information-seeking behaviour (Golovchinsky & Pickens, 2011). Generally, students’ intends to team up during accomplishing tasks which are not easily carried out individually (Nkebukwa, 2018). Working in groups, students pairs their minds to evaluate the information needed in solving the existing problems. Based on the value of collaboration, researchers have recently began to examine its essentials for the information seeking behaviour (CISB) in order to start planning better procedures and tools that will facilitate collaborative information seeking behaviour (Foster, 2010; Jansen, 2009; Hansen and Jarvelin, 2005). These studies needed in developing countries like Tanzania, where proper information seeking among students in the vocational training institutions (TVET) is a major challenge. The Tanzanian Vocational Training institutions (TVET’s) established to prepare specialised specific vocational occupations in a country. The vocational training aimed at promoting the industrial innovative skilled labour or self-employment (Ishumi, 1998; Babette & Ewald, 2000; Kigadye, 2004; Mutarabukwa, 2007; URT, 2010; Kafyulilo et al., 2012; Nkebukwa & Luambano, 2018). Tanzania experienced such a situation in the early 1990’s after the government retrenchment which left some citizens unemployed (Rugumyameho, 2000). During such a period the private sectors took hold for employing citizens because the government was no longer employer; (Ishumi, 1998; Kigadye, 2004; Mutarabukwa, 2007; URT, 2010). In this vein the government introduced the Competence Based Education Training (CBET) and Competence Based Assessment (CBA) systems in the vocational institutions for preparing occupations and skills for self-employment. According to Kigadye (2004) and Kafyulilo et al. (2012). Problems rose specifically during the implementation of CBET and CBA that required libraries to uphold new trends. Unfortunately, VET’s libraries were unprepared to meet the new demands of promoting collaborative information seeking process.

Objective of the study

Specifically, study aimed at establishing factors fostering collaborative information-seeking behaviour of student groups during accomplishment of the collaborative tasks. Being aware on factors will enable librarians to come-up with better strategies suitable for providing information services in the collaborative environments.

Literature review

Factors Promoting CISB among Students

Collaborative is a situation cut across gender, age, cultural and other differences, which are triggered by various factors. Various studies investigated aspects of collaboration in organisation settings; for example a study on multi-disciplinary by Reddy and Spence (2008) in a context of Medical Care of Queensland Centre recognised factors such as; the lack of immediately accessible information, complexity of information needs, lack of domain experts and the fragmented of information resources. Hansen and Jarvelin (2005) in a study on collaborative information retrieval activities involves document-based related seeking behaviour identified factors such as; necessities of sharing limited resources based on facts of scarce resources available. Bruce et al., (2008) in a study on collaborative information seeking behaviour between two design teams in the medical field on patient-related information needs identified factors of complexity of

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the task ahead and limitations in time to access information. A study by Bruce et al., (2008) and Fidel et al., (2004) exploring collaborative information retrieval of design teams, a study revealed communication patterns and team work activities influences collaboration during information search and sharing. Fidel et al., (2013) underscore a number of factors triggering people to seek information collaboratively are lack of expertise in a specialised area or the need for tacit knowledge. Reddy and Jansen (2008) concludes managers seek information together for making wise organisational decisions for strategic issues.

Methodology

Research Design

This study employed qualitative research design, which according to Collis and Hussey (2003), is a set of non-statistical techniques used to gather data in a social phenomenon. According to Creswell (2003) qualitative research design enabled researchers to provide comprehensive and exhaustive descriptions of what have been observed during its natural occurrences. Kim (2013) suggested using observation and interview techniques for qualitative data. In this regard, all-inclusive and complete protocols on using observation and interviews had been observed. This study therefore employed purely qualitative research design, where the observation and interview were treated as prominent tools for collecting data, as also recommended by (Reedy & Jansen, 2008 and Kim, 2013). So, the naturalistic observation used to collect data from groups during task accomplishments, without manipulating work environments as proposed by (Sonnenwald, 2000; Poltrock et. al., 2003; Bruce et al., 2003; Hansen & Jarvelin, 2005 & Reedy and Jansen, 2008). Observing tasks in its natural settings increases obtaining site-specific data (Shah, 2008). Moreover, face to face interviews conducted to group leaders and subject teachers for getting clarification on issues that have been observed. Further, FGDs with second year students’ studied similar courses involved 12 students in each trades. Therefore, the thematic analysis used to analyse collected data, in which ‘patterns across data sets’ describe all phenomena associated with specific themes and questions.

This study was conducted in eight (8) VET’s institutions found in five (5) regions of Tanzania, namely Dar es Salaam, Morogoro, Dodoma and Zanzibar (Urban West Region and Southern Pemba). Dar es Salaam is the headquarters of VET’s schools in Tanzania, so its four institutions selected purposely to make comparisons with other institutions selected from their proximity or remoteness from headquarters. Other criteria used to select VET’s institutions grounded into being adopting and implement the Competence-Based Education and Training (CBET) system, and later Competence Based Assessment (CBA). The CBET and CBA were insisted students to be involved into the hands-on activities in collaborative environments. However, the inclusion of institution from Zanzibar based on the facts that, it is an integral part of the United Republic of Tanzania, with different vocational training systems of the Mainland. The study also involved both government (public) and private, the inclusion of public and private VET’s institutions aimed at making a comparison between commercial and non-commercial VETs institutions in Tanzania.

Table 1: Names of Institutions and Courses involved in the study

Name of Institution	Course involved	Regions
Lugalo Military Vocational Training Centre (LMVTC)	Electrical installation	Dar es Salaam
Msimbazi Vocational Training Centre (MVTC)	Tailoring &Cookery	Dar es Salaam
Chango’mba Vocational Training Centre	Mechanics	Dar es Salaam
Dodoma Vocational Training Centre	Masonry	Dodoma
Kipawa VETA –ICT	Electronics	Dar es Salaam
Morogoro VTTC	Carpentry	Morogoro
Amali Pemba	Tailoring	Southern Pemba
Amali Unguja	Electronics	Urban West Region

Sources: Field data, 2018

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Findings and Discussion of the study

Factors fostering Collaborative Information Seeking among VET student groups

The objective of this study sought to identify factors fostering collaborative information seeking of student groups in the vocational training institutions. The findings as obtained through Focus Group Discussions, interviews, as well as observation revealed the following factors such as; lack of awareness or complexity of information needs among group members, lack of skills or domain expertise among individual group members, lack of experience, the need to save time, the need to minimise costs, as well as the need to develop stronger communication skills.

Name of Institution	Course involved	Factors revealed
Lugalo Military VTC (LMVTC)	Electrical installation	Lack of awareness among individuals or complexity of information needs
Msimbazi VTC (MVTC)	Tailoring	The need to save time and the lack of experience
Chango'mbe VTC	Mechanics	Lack of skills or domain experience among Individual group members
Dodoma VTC	Masonry	Lack of domain expertise and the need to save time.
Kipawa VETA –ICT	Electronics	Lack of skills or domain expertise among individuals
Morogoro VTTC	Carpentry	The need to need to save time
Amali Pemba	Tailoring	The need to need to save time
Amali Zanzibar	Electronics	The need to minimise costs

Sources: Field data, 2018/19

Lack of awareness and the complexity of information needs and

Findings of the electrical students group revealed lack of awareness among individuals or complexity of information needed were among of factors fostering or promoting them to collaborate in seeking information during the accomplishment group tasks, these task were not routine by its nature, so they were needed to employ multiple sources of information that necessitate them to collaborate. Awareness, which means "knowledge or perception of a situation or fact" (www.merriam-webster.com/awareness), being aware of sources and tools helps to meet required information needs.

“....they were unaware on a task assigned and the assignment was complex which required them to use multiple source information, this was involved approaching various books, as well as asking themselves on what was a reliable source to be employed but finally decided to use the internet sources.....”



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Sources: Field data, 2018/2019

The complexity of information was also noted in a study by Skyrius & Bujauskas (2010). As it was confirmed by a researcher during observing one group who was accomplishing an electrical wiring installation task. Students told a researcher that;

“...this task is very complex that needs to seek information through various Sources which requires us to team up....”

The findings corresponds with a study by Skyrius & Bujauskas (2010) who revealed that, lack of awareness or complexity of information needs necessitates users to search from multiple sources for producing the better results. The finding was similar to what a researcher revealed when observing electronics course students who were repairing a CD player, they were also relied on multiple to bring them aware. It has been noted that, students' awareness creation relied on student members sources ranging from group members themselves, internet, teachers, and lecture notes. When an individual's are not aware or lack information on a proper sources or tools required, s/he would not be able to work properly, so according to Skyrius & Bujauskas (2010) individuals should team up to simplify a task and find solutions. In this respects, team work helps in creating an individual awareness through sharing knowledge and expertise. Studies by Bruce et al., 2008 & Fidel et al., 2004 have also shown lack of awareness among other factors for students formulating group discussions to collaborate. Nkebukwa & Luambano (2018) concluded that, students who engaged into collaborative information seeking process easily minimise or overcome knowledge gaps.

Lack of Skills or Domain Experience among Individual Group Members

Findings revealed lack of skills or domain expertise among individuals is among factors fostering collaborative information seeking. The finding obtained when a tailoring student group members accomplishing a task of preparing a bridal wedding dress. The lack of skills or domain expertise resulting in students' failure accomplishing activities. The evidence was made during observing other group members from cookery course who had been assigned a task on preparing commercial food, specifically were making a birthday cake, they were deficient in understanding of the right ingredients required, hence required to collaborate asking each other's. During their discussions safety precautions were also observed, because cooking involves manipulating the temperature. As group members were doing the task collaboratively, it became an opportunity for them to share expertise. Similar incident noted during observing mechanics students who had a collaborative task of servicing a car engine that had the problem of overheating. At the beginning group members lacking the necessary skills on the reasons for the engine overheating as well as ways of fixing the problem. Findings show that they have to exchange ideas among themselves as to what might be the problem and the proper procedures to follow in undertaking the task. They began their diagnostic procedures. However, they desperately failed to identify the cause of the problem, as echoed by one of the group members who explained the problem to colleague who was passing: *“....The engine has overheating problems, and we are unable to detect the cause despite spending a lot of time and efforts...can you assist our team ...”*

It was only after the teacher came to advice on how they should start diagnosing a problem, but after the teacher brought certain working skills, they came to realise that there was a leakage at the lower part of the radiator, which meant there was no circulating water to cool the engine system. After completion of the servicing, the engine problem was solved, and the customer drove away after paying an agreed sum of money. Thereafter, the group leader explained to the researcher what had happened:

“....the cause of the problem was a leaking radiator. We fixed it by and added the coolant, then the engine was okay. If we had managed to get needed information timely we would have saved our customer's time as well as our own...”

The findings collaborate Majidan and Ai (2002) in a study on the use of information resources by computer engineering students in Singapore, who found that in order to accomplish the task in a similar project the

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information needed, was best met through subject teachers, as well as textbooks and the internet sources. However, their study advocated print sources of information are the best for technical students, despite their inadequacy and lack of library support.

Lack of Experience

Findings revealed lack of experience among of factors promotes collaborative information seeking. In have been observed in a student groups had been assigned to do various tasks in a bid to apply what they learned in class. However, as the group tasks are done after theoretically learning in class, students lack experience in terms of doing those activities. Seeking information collaboratively rather than individually, therefore, helps to bridge or minimise the gap on lack of experience among group members. Experience, defined as "the process of doing and seeing things and of having things happen to you" or "skill or knowledge obtained by doing something" (www.merriam-webster.com/experience) this is crucial because it involves ability to do things well, that is, those who are more experienced are likely to do things in a better way. For example, in this study, tailoring course students who were making a bridal wedding gown were doing it for the first time, which obviously is a lack of experience. Doing the task collaboratively was useful in ensuring that any weaknesses in terms of skills or sources and tools to consult to meet required information needed are accordingly addressed. This finding was substantiated during interviews with group leaders while group activities were being carried out and observed by the researcher.



Need to Save Time

Adequate time, just like other resources such as requisite skills, and proper tools, is indispensable in ensuring successful accomplishment of tasks. Findings revealed shortage of time for seeking and accomplishing tasks is among factors fostering collaborative information seeking. When a particular activity is done by a group the time used in completing the task will be shorter than when the task is done by a single individual. That has been notable throughout the findings of this study. In addition to that, when an activity is done by a group (collaboratively), time used to seek information will also be minimised, as group members will enable able share and exchange information on sources and tools to be used in meeting information needs as well as collaboratively use the information in ensuring successful accomplishment of

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the group tasks. Moreover, given the nature of collaborative tasks, it can also become possible for group members to seek information from various sources simultaneously, each member seeking from a different source, while in the case of an individual; he/she would have to seek from one source at a time, in a linear way. As the nature of information is complex, a group environment will make it possible to get information from diverse sources and hence be able to complete the group task sooner than when the task was accomplished by a single individual. For example, in this study, tailoring course students who had an assigned task of preparing a bridal wedding could not complete the task on the first day due to lack of information, and so decided to consult various sources in the evening before resuming the task on the following day. In the process, they saved time.

The same information was obtained during the FGD session at Morogoro Vocational Teachers Training Centre (MVTTC), when one participant informed the researcher that,

“In addition to theoretical learning in classes, we appreciate working in groups in order to save time. Every individual in the group has the responsibility to seek specific types of information needed on the project in hand...”

However, some arguments against collaboration in relation to saving time were made during Focus Group Discussions and interviews. For example, during interviews with student group leaders (at Amali Pemba who servicing television and Msimbazi who were preparing a bridal wedding dress, the following was said:

“...working in groups might take less time, save resources, than working individually.....this challenge affects members who are working individually especially when a member does not put in his or her best efforts in collaborative task ...”.



A Need to Minimize Costs

Effective accomplishment of tasks requires access to information, and yet such access has cost implications. Findings revealed that minimising costs is a factor that fosters collaborative information seeking. Due to inadequacy of learning resources, as noted in this study, individuals working collaboratively help to bridge the gap, through making it possible to share the resources for the benefit of their groups. As individuals working collaboratively in a team, any source of information obtained would be used by the whole group accomplishing that task. For example, electronic course student groups who were repairing a CD player had only one textbook which was shared by the whole group, and it was easier because they were doing the same task together. It was also noted that in this study, if one group member had access to the Internet, such as through a smartphone, the results or information obtained through searching were for the benefit of the whole group, including those who did not have smartphones. Similarly, when a teacher provided information to a group member, the information was for the mutual benefit of the group rather than one group member, because it was a group task. It would have been difficult if the group tasks were individual based.

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Adeogun (2001) similarly revealed that, lack of relevant and up to date reading materials to support vocational training is a major challenge hampering teaching and learning in VET institutions, negatively affecting academic performance. So, when individuals are working together any source of information obtained has to be used by all members. During FGD with students they gave an analogy, indicating that there was also inadequacy of working tools that made it necessary for students to work together in groups for the purpose of sharing. An example given was four carpentry students, each having to construct a table, while there is only one hammer and one saw. Rather than working individually which would mean students waiting for each other to complete the task, which is a waste of time, the students could work in a team to complete each activity or task in turn. In that way the tasks would be completed effectively, in good time.

A Need to Develop Stronger Communication Skills

Communication, which involves sending and receiving information between two or more people, is important because without it, people would not effectively work together towards a common goal (<http://study.com/academy/lesson/what-is-communication-definition-importance.html>). The information conveyed can include facts, ideas, concepts, opinions, beliefs, attitudes, instructions and even emotions. Methods of communication vary, ranging from verbal communication, written communication as well as body language which are a form of non-verbal communication. Communication is important because without it, people would not effectively work together towards a common goal. In this study, findings have shown that developing stronger communication skills is one of the factors that foster collaborative information seeking. As group members work and seek information together, they engage into communication and so develop stronger skills in communicating, which make it possible for them to effectively accomplish their group task. In this study, it was noted that communication took place between group members themselves, group members and colleagues outside the team, as well as group members and subject teachers, done through face to face conversations, telephone calls and text messages, among others. Their engagement in group tasks which involved seeking information collaboratively made it possible for them to develop stronger communication skills. Without communication there would have been chaos which would consequently result into failure in accomplishment of assigned group tasks.



Conclusion

The government introduced the Competence Based Education Training (CBET) and Competence Based Assessment (CBA) systems in the vocational institutions for preparing occupations and skills for self-

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employment. Problems raised specifically during the implementation of CBET and CBA that required the library to uphold new trends. Unfortunately, VET's libraries were unprepared to meet the new demands for promoting collaborative information seeking. This study employed qualitative research design, which is a set of non-statistical techniques used to gather data in a social phenomenon. This approach enables a comprehensive and exhaustive description of what has been observed during its natural occurrences. This study therefore employed purely qualitative research design, where the observation, interview and FGD were treated as prominent tools for collecting data. Therefore, the thematic analysis used to analyse collected data, in which 'patterns across data sets' describe all phenomena associated with specific themes and questions. This study was conducted in five (5) regions of Tanzania, namely Dar es Salaam, Morogoro, Dodoma and Zanzibar (Urban West Region and Southern Pemba). The findings as obtained through Focus Group Discussions, interviews, as well as observation revealed the following factors such as; complexity of information needs, lack of awareness among individual group members, lack of skills or domain expertise among individual group members, lack of experience, the need to save time, the need to minimise costs, as well as the need to develop stronger communication skills. Various recommendation were made as follows;

Recommendations

Librarians in VET's schools

Librarians need to create a conducive environment that will enable VET's students tackle the complexity of their information needs, as well as ensuring effective provisions of the information literacy training programs that will assist students in being aware of the available information sources. As noted in this study, VET's libraries have scarce print resources, of which awareness on usage of various databases would help the on usage of multiple kinds of information sources during accomplishment collaborative tasks.

Improvement of the information infrastructure

There is a need for the improvement of the information infrastructure that will enable students in VET institutions to obtain adequate information sources in libraries to accommodate both print and e-information sources.

VET's Management

Management in VET's schools needs to establish suitable information infrastructures to enable students to minimise costs of access to information. As noted, sometimes students were required to use their personal smartphones to access the internet. Establishing free Wi-Fi would assist students to have free access while seeking or sharing information using their gadgets.

VET's Teachers

Teachers in the vocation institutions needed to allocate adequate time for students accessing information needed to accomplish tasks. As not in this study some task was scheduled to be done out of the classes or school environment. Of which students were needed to travel from working sites to visit libraries which were distant located for where tasks have been accomplished.

Government or Policy Makers

The Government should ensure all established VETs centres in the country have libraries hand in hand with the library automation plans. Some recommendations were made that policy makers amend policies to make it mandatory for all VETs schools needing registration to be mandatory for having a library or a computer laboratory as well as qualified librarians.

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The Role of Corporate Multilateral Agencies in Enhancing Quality of Primary Education in Tanzania in the Era of Globalization: Challenges and Opportunities

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Abstract

The purpose of this study was to rationalize the need to engage the corporate multilateral agencies to back-up government's efforts to offer quality education as envisioned by the Tanzania Development Vision 2025 so as to build an educated society; and a competitive economy with sustained growth for the benefits of all in the global competitive world. In order to ensure inclusive and equitable quality education opportunities for all, the progressive 4th to 6th phase governments' efforts demand a full support to sustain the quality of education attained in the course of implementation of the fourth SDG. However, education quality still remains a pressing concern; therefore the main question remains unanswered if the Government can alone cater for, to all school aged children in the county. Despite of the government' plans to increase more budget on education sector, resource mobilization and investment potentials have not yet fully been utilized to address the quality of primary education in the country. To look on the matter, the study adopted desk (literature) review in the methodology; it has employed secondary data from scholarly journal articles, books, government reports and global education movement reports through the internet. The results indicate that inadequate financial resources, poor learning infrastructure, dearth in teachers' motivation, social and cultural practices are among the main causes for many children lacking certain core competencies to respond to global development challenges. Having already played promising steps in various fields towards achieving SDG4, the government is urged that corporate multilateral agencies be engaged to back up her efforts in order to prepare children to be part of the workforce of 2030.

Keywords: Quality Education, Multilateral Agencies and Globalization

Introduction

Governments in almost all countries both developed and developing ones, acknowledge the centrality of education both for the individuals and for the national economy at large (Mbelle, 2008 as cited from Matete, 2016). Education not only helps to improve the income-earning potentials but it also has the ability to empower individuals to participate in local and national government, to provide skills and knowledge, improve quality of life and become more productive (World Bank, 1995a ; Ozturk, 2001). Worldwide, education has gained attention due to the two MDGs that are directly related to education (achieving universal primary education MDG2 and promoting gender equality MDG3); and education is known also to help promote achievement of several other MDG goals such as; reducing poverty, child mortality, improving maternal health, lowering the prevalence of HIV/AIDS and ensuring environmental sustainability (Tarnoff, 2016).

Quality education is absolutely important to lift people out of poverty, ensure healthier families, unlock job opportunities, increase security, and create more stable and peaceful societies; it is the keystone to achieving the 2030 SDGs (Ban, 2016). The upheld need to build a better and sustainable future society as envisioned by the Tanzania Development Vision 2025 with capability of producing sustainable growth and shared benefits through quality education, has revived the debate about the effectiveness of the government sole ability to provide the quality education in primary schools as well as strengthening of education management under Education Sector Development Plan (ESDP) 2016/17 to 2020/21 and whether or not multilateral aid on education sector can fill the gap to improvise quality of primary education in the country.

The National Education Act is Tanzania's primary law on education, article 35 guarantees compulsory primary education for every child who has reached the age of seven years. However, many children in Tanzania like many others in other Sub-Saharan Africa, suffer the consequences of abject poverty and the

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HIV/AIDS pandemic (Anangisy, 2011). As a result, many children have not been able to find an access and enrolled or being sustained in classes despite campaigns and conferences deliberations. Thus, the socio-economic impact and the environment surrounding them especially in rural areas has denied many children either the quality primary education or compulsory primary education.

Research purpose and questions

Education related policies such as Tanzania's Education and Training Policy (1994) and Child Development Policy (1996) have been designed at making basic education accessible and a reality for every school-age child in Tanzania regardless of his or her socio-economic status in the society. Based on basic human right and constitutional right, every Tanzanian child not only has the right to access but also to full participate in basic quality education. However, the continued predicament of the government to cater for the quality primary education poses questions regarding the efficacy of the ongoing efforts to fully discharge the implementation of the fourth SDG agenda in the country.

Nevertheless, there have been significant improvement in global education access in the 21st century, the overall number of out-of-school children declined by nearly 41% between 2000 and 2019 among primary school-aged children (Tarnoff, 2016); while enrolment in Tanzania has increased to 93.3% as the result of fee-free basic education (Todd and Mamdani, 2017). On the other hand, MDGs gross enrollment ratio (GER) decreased from 106.4% in 2010 to 96.16% in 2013 suggesting progress as it implies the number of children who are beyond eligible school age decreased, which is a sign of MDGs achievement (Magoti, 2016).

This research contributes to the debate on the efficacy of support by focusing on the fourth SDG, to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. This study primarily sought to answer the following research questions:

- (i) Which exemplary governments in Africa benefited from the Multilateral Development Banks (MDBs) finance to enhance quality primary education Tanzania can learn from?
- (ii) What are the challenges facing pupils to acquire core competencies to respond to global development challenges?
- (iii) Are the identified quality indicators and opportunities availed be used effectively to offer quality education and eventually benefits the school-aged children?

Despite of these questions being relevant and timely, they have scarcely been addressed in the literature. Numerous previous studies have examined the effect of foreign aid in education on growth (Asiedu and Nandwa, 2012; Babaci-Wilhite, *et al.*, 2012). Besides, to the best knowledge of researchers, scanty studies in Tanzania assessed the second achievement of MDG along with the way forward towards achieving the fourth SDG. This study would dwell the discussion on tangible aspect of the fourth SDG that corporate multilateral agencies can make readily available to the government and support quality delivery to primary schools in the era of globalization.

Methodology

The study adopted desk (literature) review, the information gathered and used in the study largely was secondary data originate from various literature sources including scholarly journal articles, government reports, reports on global movement on basic education for all children retrieved from search engines like Taylor & Francis, Emerald, ScienceDirect, ResearchGate, Jstor and SAGE. Key words were selected to focus the literature search and filter key documents (inclusions and exclusions) for review. However, the search focused on discussion beyond 'SDG4 and primary quality education.' The focus also placed the understand how school-aged children in vulnerable areas acquired quality primary education and that could prepare them to be global citizen.

Review of Related Literature

Tanzania is a one of the largest recipients of ODA in Africa including bilateral and multilateral aid on education over the past decades (ICAI, 2012). Of recently, she has consistently been improving her budget

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on education for free education (Shekighenda, 2020); as well as implementing of the 2030 Sustainable development agenda. Education is key input for economic, political and cultural growth of any nation (Sakmurzaeva, 2018). Not surprising that many developing countries adopted the Universal Declaration of Human Rights (UDHR) - Article 26 (1), 1948 which recognized education as a basic human right for everyone regardless of gender. Tanzania incorporated the UDHR into the Constitution later in 1984 (Kijjo-Bisimba and Peter, 2010).

The importance of education in the early years after independence was intertwined to the right for all people, adult education was prioritized to achieve self-reliance and social development and education of children as well received equal emphasis in the short-run (URT, 1964). The adult population was preferred in that regard, since their impact on development was immediate. It was acknowledged that the purpose of government expenditure on education was to equip citizens with the skills and knowledge needed for economic development. The period between the Arusha Declaration from 1967 to 1990s Tanzania committed herself to improve quality of education at all levels. Various initiatives such as restructuring the school curriculum, nationalization of all private primary and abolishing of school-fees and making Kiswahili the national language was adopted (URT, 2001; URT, 2006 and URT- Report 1962). Education decentralization has been implemented by the ESDP under PEDP I (2002-2006) and PEDP II (2007-2011) which was employed to improve education systems. By 2009 primary school enrollment under Universal Primary Education had reached 95% (MoEC, 2003).

Despite tremendous gains in primary schools' enrolment resulting from the implementation of the first Education and Training Policy (1995), the envisaged quality didn't materialize on the ground. Deterioration in the quality was clearly evident; for instance declining in the standards of the quality in education was reflected by the passes in primary schools' final examinations results from 54% in 2007 to 31% in 2012 (URT, 2015). URT, (2015) reinforced the assertion by listing some of the challenges which affect the quality intended, they include: shortage of infrastructure, teaching and learning materials such as books; shortage of teachers particularly science, mathematics, skills, arithmetic and writing teachers; deterioration of teaching morale among teachers because of unsatisfactory benefits and difficult working environment and poor recognition of students with special needs. Even during the economic reforms, education policies prior to Education and Training Policy 2014 had provided guidance for increased involvement of private sector in the education sector. At that time, the Ministry of Education and Culture (MoEC) endorsed several new private schools at all levels, making education sector attractive for private investors (URT.2015).

Structural Adjustment Programs (SAPs) introduced demand management policies that required "cost-sharing" measures for the education sector (Agrawal, 1993). This caused a consistent drop in the rate of primary school enrolment (Teresi, 2019). Privatization and liberalization of education in the mid-1980s supported progress over quality education in primary schools in the country which enabled children from high income families to access quality education in better resource-endowed primary schools, however persistent high cost to potential consumers denied majority of low-income families that quality education.

There are plenty of studies that were carried out to assess education quality in primary schools (Loxley and Heynamen, 1983; Chonjo, 1994; Mosha, (n.d). Mosha, (2000) noted unsatisfactory level of financing to support the provision of high-quality education. The study identifies that inability to invest in strategic inputs, such as sufficient high-quality teachers, relevant textbooks, and improved well-furnished and equipped classrooms, especially in rural areas, as well as in technology, tends to deteriorate the quality of education in primary schools and its facilitation in general. On the cultural aspect, it has been noted that some of pupils in primary schools are still being assigned some economic activities by their parents in lieu of going to school as well as entertaining early marriages, compromise the quality of education (Mosha, 2000). Likewise, teachers' motivation posits another challenge because many public schools lose high quality teachers to private schools which offer better salaries and other fringe benefits, *ibid*. As part of their solution, most of these studies urge the government to boost teachers' morale and improve learning infrastructure in order to improve quality in primary education.

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In spite of Tanzanian government's budgets allocations for education being a priority (Shekighenda, 2020) yet there still a lot of challenges to ensure quality education in primary schools. Morozkina and Sabelnikova, (2017) indicated that Tanzania has sought about (USD. 71.0m) annual average in view of improving education quality between 2012 – 2014 from the Multilateral Development Banks (MDBs) compared to Bangladesh (USD 321.5m) which is equivalent to 4.2% shares of MDBs financing in public expenditure. Therefore, there is a justification to engage corporate multilateral agencies to aid the government in addressing education quality and other educational challenges in the country.

Corporate multilateral agencies are justified to address the quality concern because they have the capacity to finance public expenditure aimed at solving key problems in the education sphere and also its standard set measures. The MDBs need such key information such as volume and structure of financing with a breakdown by education stage to compare with other recipient countries. Such information help to evaluate the share of national expenditures spent on education by each country to analyze loan. To countries for which MDBs' share in education financing exceeds a predetermined expert threshold of 2% generally have a larger share of MDBs financing in public expenditure, because of the low level of public expenditure. Tanzania should be leading in terms of absolute volumes of financing from MDBs, however the situation is contrary as it has sought very little financing amount (Morozkina and Sabelnikova, (2017).

Discussion and Findings

Tanzania through Education and Training Policy (1995); PEDP I, II & III 2002-2017) has implemented several initiatives to ensure children of school age attend school. The requirement to comply with the declarations and conventions over the additional educational budgetary resource target by the member states to improve enrolment and quality are met by more or less similar challenges both in developed and developing countries in implementing education systems (Fordhan, 1992).

UNESCO and ITA (2013) describe teaching profession in public sector in Pakistan as something which undermines teachers' productivity and the quality of learning is woefully inadequate in many schools around the globe (CUE, 2011). Kporha, (2015) described challenges facing primary schools in rural areas in Ghana as lowly. Also, the study points out shortage of teachers' housing, insufficient learning and teaching facilities in the country. Generally, such a situation is being described against effective teaching and intellectual development of the pupils.

However, an intervention by multilateral agencies can be useful in the construction, expansion and rehabilitation of primary schools' facilities as well capacity building and ultimately give better quality education, improving the efficiency of the instruction. In Egypt for example, the Enhanced Education Program of the EU/World Bank in an attempt to complement Egyptian school reform policy, built about 2,437 classrooms and improved capacities for around 100, 000 primary schools for pupils (GAEB, 2004). Such projects usually result in increasing the density of the schools' network, reduce distances to school and eventually illiteracy and drop-out rates are flattened; it is expected therefore such projects by multilateral agencies allow the majority of the children especially in rural areas not only to be enrolled in schools but also to receive quality education.

Poor teaching-learning environment in most of the rural Tanzanian schools pose a huge challenge as far as teaching – learning process is concerned. The classrooms are usually overcrowded, in many cases; the desks are not enough forcing students to sit on the floor, students can hardly benefit from the instructions being delivered (Matete, 2016). Gregory, (2015) noted that 20% of pupils complete Standard VII without having mastered basic literacy in Kiswahili. The report further reveals that more problems are encountered in English Language. In standard three, two out of ten pupils were able to read a standard two English story books. In standard seven, less than six pupils out of ten were able to read a standard two English story books. The study revealed that half of the standard seven pupils were illiterate in English; however English language is the language of instructions in secondary schools.

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This is a risky situation for a nation that envisages having a transformed society capable of producing sustainable growth and shared benefits through quality education, that produces the quantity and quality of educated people sufficiently equipped with the requisite knowledge to solve the society's problems, meet the challenges of development and attain competitiveness at regional and global levels (URT, 1999). The online Myworld survey for post-2015 goals from around the world has indicated that basic education is still a global priority, voters has identified education as the number one priority and unequivocally is in official donor strategies and also a central theme in the High-Level Panel report (UN 2013). Reflecting upon this global priority, some agencies also made pledges on the education spending having realized that important aspects of the universal primary education objective, such as improving quality, school completion rates and equity are unfinished agenda in the world.

Tanzania can benefit from the agencies through exploitation of opportunities by engaging Multilateral financing to improve the volume and effectiveness for financing basic primary education which are within the multilateral agencies' education strategies and priority (Morozkina and Sabelnikova, 2017).

Table 1. Multilateral Agencies in terms of total financing for Education

Overview of Corporate and Education Strategies in Multilateral Agencies			
Agency	Prioritization of Education in Overall Strategy or Vision	Recent Education Strategy and Priority Areas	Education Spending Target
ADB	Strategy 2020 (2008)— education is one of five core specializations and comparative strengths	Education by 2020—A Sector Operations Plan (2010)—focus on strengthening quality and developing skills at all levels of education	Support to education will double to 6% of operations in 2012–14
AfDB	Strategy 2013–22—At the Center of Africa’s Transition “skills and technology” is one of five operational priorities	Higher Education, Science & Technology (HEST) strategy (2008)— represents a shift from basic education towards higher education (AfDB 2008). Earlier Education Sector Strategy (2000) focused on whole sector with emphasis on basic education. AfDB’s Human Capital Development strategy: 2012-2016 for education, nutrition, health and safety nets	
EU Institutions	Agenda for Change (2011)— “sustainable inclusive growth for human development” is one of its two main priorities	More and Better Education for All in Developing Countries (2010)—focus on whole sector approach and lifelong learning (including early childhood development, primary and post-primary education)	20% of ODA on basic health and education
GPE	Only focused on education	GPE Strategic Plan 2012–15—focus on 4 goals including access, equity, learning and capacity-building in basic education (incl. preprimary, primary	100%

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		and lower secondary)	
World Bank	A Common Vision for the World Bank Group (2013)— includes education, health and nutrition as tools to improve welfare across multiple dimensions of poverty	Learning for All: Education Strategy 2020 (2011)—focus on basic education but also including post-primary to produce skilled populations prepared for the demands of the “knowledge economy”	\$750 million additional IDA spending for 2011–15, a 40% increase over previous five years
UNICEF	Medium-Term Strategic Plan (2006–13)—basic education is second of 6 strategic priorities	Global Education Strategy (2007)— focus on three priorities: equal access to primary education, empowerment through girl’s education, education in emergencies and two crosscutting themes: early childhood development and school readiness, and quality	21% of regular resources spent on education

Source: Rose & Steer, 2013 pg. 10

At a different time, the Tanzanian government has demonstrated commitment to achieve significant progress to ensure quality livelihood to her people in her many previous development plans. Poverty, ignorance and disease were proclaimed three major enemies of the nation (Nyerere, 1967) in which the government since then have been fighting to eradicate or rather to alleviate them.

However, the latest strategic plan of Education Sector Development Plan (ESDP) 2016/17 to 2020/21 which envisage to provide twelve years of free and compulsory basic education and systematically expand technical and vocation education and training to provide pool of skilled human resource to Tanzanians ahead of the Vision 2025 is geared to hit another milestone in education sector to meet the education gap so as to have a transformed society. Although the Tanzania Vision 2025 is repugnant towards donor assistance to which donor-dependency syndrome is attributed and lack of ownership of development agenda, Tanzania can’t live as an island, she is called upon to live the SDG 17 (UNDP, 2015).

It is the fact being held that education is the pillar for inclusive development of any country; a nation’s wealth and well-being, to some degree reflect the level a country has made in terms education investment. Governments ever since have assumed such tasks in collaboration with NGOs, communities and individuals to ensure that children as many as possible have access to basic education to enable them acquire the skills and knowledge essential to enable the nation to effectively utilize knowledge in mobilizing domestic resources for assuring the provision of people's basic needs and for attaining competitiveness in the regional and global economy (URT, 1999).

Tanzania has attained a middle-income status ahead of schedule on the 1st July, 2020 (Battaile, 2020). She is one of the countries with youngest populations in the world; ranks the 15th with 42.7% of population with an age under 15 for the countries of the world, (URT, 2014). The discussion over the provision for basic and quality education to millions of children of school age in response to international declarations is therefore as pertinent today as before when trying to assess the challenges facing education in the era of globalization. According to Bakhtiari and Shajar (2011), people can only contribute and benefit from globalization if they are endowed with knowledge, skills and values and with the capabilities and rights needed to pursue their basic livelihoods. It could be inferred from this statement that if millions of children are to benefit later on from the globalization, improving access and quality primary education is inevitable and moreover application of appropriate new technologies to overcome education system impediments is needed in the new changing education environment.

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It is the responsibility of the MoEVT therefore to assume new responsibilities to monitor changes and then quickly adopt new tactics which match the country's needs. The TDV 2025 will have far reaching implications to Tanzanians in the globalized era and education system in particular. Matete (2016) observed lack of blocks-classroom, water and sanitation, teachers' houses, latrines, construction and power supply in many schools especially in the rural areas. Thus, provision of quality and equitable education through making use of modern technology becomes major hindrance save in the privileged urban areas.

However, implementation of rural electrification program which has reached 74% connecting more than 9,001 villages in rural Tanzania, it is a big relief to the education sector to improve teaching-learning environment in the globalized environment (Africa's power journal, 2020). Therefore, the potential of modern technologies like computer, internets, a videocassette player, an overhead projectors and radio to break through barriers of time and place would be achieved as it was considered not possible given to their locality. School desk campaign is one among many efforts to boost quality education in the country. The government and other education stakeholders have joined hand to alleviate challenges in the education sector particularly in public schools where majority of pupils coming from low income families are found. Although there is still much to be done, but having over 21,000 children lifted off the floor and seated on desks is an achievement (Arwa, 2015).

Conclusions and Recommendations

The main objective of this study was to justify engaging the international financing agencies like MDBs to fund the fourth SDG projects in the country, the MDBs provide solutions to social and economic development such as construction of new school buildings, teachers' houses, laboratories, roads and other utilities to communities which implicitly enable the provision of quality education for children in primary schools (GAEB, 2004). However, such agencies' aid on education are often tied to or aid conditionalities (Geo-JaJa and Mangum 2001; Murshed, 2012).

The MDBs solutions to education sector such as development of education facilities and building sustainable local capacity are key if the government intend to hasten provision of quality primary education in the country. There is no way the government can succeed in quality delivery without sustaining first what it has already achieved. It is recommended therefore that Tanzania can negotiate for affordable international concessional funding for education despite of financing eligibility from the multilateral development banks (MDBs). She is also recommended to apply for education financing needs from The International Finance Facility for Education (IFFEd) given at minimum cost and maximum leverage, for she is eligible (a member of lower-middle-income countries - LMICs). Besides, Tanzania has been a pursuant of development planning process; the fourth SDG is being implemented in the framework of Tanzania Development Vision 2025 and its midterm five-year development plans (FYDP) which currently FYDP II (2016/17 – 2020/21) with the theme 'Nurturing Industrialization for Economic Transformation and Human Development. The funding may leverage not only the human development part but also the education facilities.

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Investigation of the Roles of Continuous Assessment Towards Student's Performance in Secondary School National Examinations: A Case of Mpwapwa District Council - Dodoma Region.

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Abstract

Students' assessments determine the understanding of individual student on what he or she is taught together with its application. The understanding contradiction has influenced the researchers to undertake the study which examined the role of continuous assessments towards student's performance in secondary school national examinations in Tanzania. Data were collected from the field by using documentary review method where by the results of 250 students in the internal and National examinations were rationally reviewed and analyzed. The study considered only five secondary schools and the findings showed that the internal examinations can predict the performance of students in their national examinations for some extent. The internal examinations alone cannot predict the performance of students in their national examinations as there are other factors which can also predict the performance of students in their national examinations including competence of teachers, availability of teaching and learning materials, the time spent by the students themselves for self-studying as well as the quality of learning infrastructures like libraries and laboratories. At the end of the process, the study recommended that; students should devote much of their time for searching knowledge; parents or guardians should support their teenagers by enhancing basic needs to them constantly as well as making regular follow up of the performance of their children in both internal and national examinations. During conduct of internal examinations and other forms of continuous assessments; teachers should treat their students as if they had never known each other as it is the practice of National examination council of Tanzania. Finally the government through ministry of education and vocational training should ensure that the learning materials are available in secondary schools throughout the entire country.

Keywords: students, internal examinations, national examinations, secondary schools, continuous assessment.

Introduction

Internal examinations are those examinations that are being constructed and done inside the schools. In Tanzania, the internal examinations include mid-term, terminal and annual examinations. Furthermore in some schools the weekly and monthly tests also are the part of internal examinations. In most of the cases due to the changes of educational policies, these examinations are part of the continuous assessment reports due to their significance to show academic progress of the students in their course of the study. The internal examinations have many advantages when they are effectively and efficiently conducted in the schools. In Tanzania the internal examinations have been conducted at various levels from pre-schools up to the college levels of education due to their significances as follows:

Internal examinations have become a window through which teachers, students and parents gauge the preparedness of students for final external examinations. Success in these examinations is seen as an incentive for learning and a return on investment (Olutola, 2015). Internal examinations are the way of testing student's knowledge; this is because without conducting these examinations students will not concentrate properly in their lessons. Internal examinations are necessary in schools to find out the real skills, talents and knowledge of the students (Olutola, 2019). Students will get motivation towards their studies to achieve in their examination. In this ways, internal exams are very important for the studies as every person wishes to get highest marks in the class and study hard to achieve his or her dream. This kind of attitude gives competition among the students and they study hard for achieving good results in exams (Saint, 2005). Internal examinations teach students many things and give training to various things like

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punctuality, writing skills, timing sense, expressing their thoughts and opinions. With this examination method, students will get fear about their exams and study their lessons properly to increase their knowledge as well as getting highest marks in their classes (Olutola, 2019).

Despite the fact that internal examinations are the core of academic issues in most of schools in Tanzania, they are still facing many challenges. Some of these challenges are as follow; Lack of facilities that support preparation of the examinations; in various schools the facilities such as typewriters and computers that are very important for typing the examinations are not available. Due to such circumstance, the teachers are required to write those examinations by the use of hands before sending them to the stationary for typing and printing purposes. This practice is cost demanding and sometimes may lead to delaying in conducting of the internal examinations as scheduled by the schools. Ineffective supervision of the teachers assigned the work of being supervisors of the examinations internally; this is because during conducting of internal exams the teachers do not put many restrictions to the students in the same way as that of supervising the mock and national exams.

Statement of the Problem

The mark - able differences in performance of the students in various schools especially in the National examinations, people put many grievances to the teachers who seem to be irresponsible when a large number of students fail in the final examinations. Furthermore, elites are trying to focus on the other way round whereby the nature and quality of the examinations being constructed inside the schools themselves are being taken into consideration Olutola, 2015. Although much efforts have been made by the government to improve performance of students in secondary schools including regular conducting of the internal examinations still there are many questions towards the supportiveness of these examinations to the student's performance in their final exams (focusing the National examination) (Marlow Venkata & Bhaskara 2011). Therefore, the extent to which these examinations support the student's performance in the National examinations is still unknown. This study will assess the role of internal examinations towards performance of students in the National examinations taking Mpwapwa district as a case study.

Objectives

- i. To compare students' overall performance in form four national examinations against form three annual examinations
- ii. To compare students' overall performance in form four national examinations against form three annual examinations for arts subjects (Kiswahili, History, English and Civics).
- ii. To compare students' overall performance in form four national examinations against form three annual examinations for science subjects (Mathematics, Physics, Chemistry, Biology and Geography).

The Rationale of the Study

The study is helping the government and educational stakeholders such as parents, guardians as well as educational associations to make a crucial follow up of the performance of students in their internal examinations in order to make some improvements to the ones who seem to perform poorly in the internal examinations before even sitting for their National examinations. This will be the outcome of the study soon after realizing that internal examinations have meaningful implications on the future performance of students in their national examinations.

Scope of the Study

The Study Focused On five secondary schools found in Mpwapwa district, which are Ihala, Mount Igovu, Mwanakianga, Mpwapwa and Mazae secondary school.

Definition of key Terms

- i. **Student:** refers to an individual engaged in learning either formally or informally (Olutola, 2015)
- ii. **Internal examination:** is a set of test administered by the school or institution that someone attends (Alimi, OS, Ehinola, GB and Alabi, FO, 2017).

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iii. Secondary school: It is an intermediate level between elementary school and college and usually offers general, technical, vocational, or college-preparatory curricula. It typically begins at ages 11 – 13 and ends by ages 15 – 18 (Olutola, 2015)

iv. Continuous assessment: This is a form of educational examination which evaluates the students' progress or performance throughout the duration of a course.

v. National examination: is a measuring tool used to determine the success standard of a learning process in the nation (Alimi, OS, Ehinola, GB & Alabi, FO, 2017).

Empirical Studies

The focus on test-preparation skills may also serve to make students direct their efforts towards mastering strategies to help them over the examination hurdle, rather than towards developing mastery of subject matter (Byabato, S., & Kisamo, K. (2014)). During the examination schedules, students and teachers direct much of their efforts towards preparation for the exams. This habit tends to cause wastage of time for normal classroom instructions, which is meaningful in the learning process (Ahukanna, R. A., Onu, M. I., & Ukah, P. N. (2012).

Although various scholars have revealed that, the continuous assessments are very important in enhancing the students' performance in their National examinations as far as learning is concerned; on the other way round, they try to point out some drawbacks of these assessments in many different aspects. The examinations as part of continuous assessment tend to create anxiety to some students. This is due to the fact that in most of the cases students have the desires to perform better in their examinations, this habit create great tensions among the students as a result they normally learn as if they are being intimidated by their teachers in their learning processes (Lupeja, T. L., & Komba, S. (2021)). The examinations as part of continuous assessments may result into rote learning. This is due to the practices of some teachers who tend to provide many precautions to their students before the examination sessions concerning with what will happen if students fail their exams. Upon having this habit, the teachers force the modality of students' learning to change from understanding to memorization, rehearsing and rote learning (Kellaghan, T., Madaus, G. F., & Raczek, A. E. (2013)).

Continuous assessments are helpful in identifying learning difficulties encountered by the students in their course of study. This is because through carrying the continuous assessment a teacher will exactly be in a position to realize at which sections of the lessons the students fail much especially by considering the performance of students on each question available in a quiz, test and examination (Kellaghan, T., & Madaus, G. F. (2010). Continuous assessments are useful in guiding the facilitator to make decisions on whether he or she should move on with the lesson or revise the previous chapter basing on what is being observed from the student's performance in their day-to-day learning activities. If they excel in doing the exercises given to them by their teachers and facilitators then the facilitator will be in a position to move on with the next chapter, otherwise he or she will be required to reveal the previous chapter. Upon taking such actions, the students gain much of the skills, knowledge as well as greater levels of understanding which in turn have great importance in their performance in future National examinations (Abrams, L. M., Pedulla, J. J., & Madaus, G. F. (2013)) & Modup, A. V., & Sunday, O. M. (2015).

Furthermore, the continuous assessments are useful in evaluating the learning that has taken place. This is because through internal assessments the teachers can determine how far the students have learned and at what level. For example, the teacher can explore the quality of learning that the students have attained over a certain period. Upon doing so he or she will be in a position to determine whether the level of learning attained, is sufficient for the students to compete National wise unless there are some important issues to add. If this scenario will highly be upheld, student's minds will be sharp enough to make them capable to perform better when it comes to the National examinations (Thomas, S., Smees, R., Madaus, G. F., & Raczek, 1998). Alonge (2003); Continuous assessment (CA) is one of the internal evaluations which is basically a teacher made test. Defines CA as a mechanism whereby the final grading of a student in the cognitive affective and psychomotor domains of behavior takes into account in a systematic way all his performances during a given period of schooling. Continuous Assessment uses a variety of techniques for

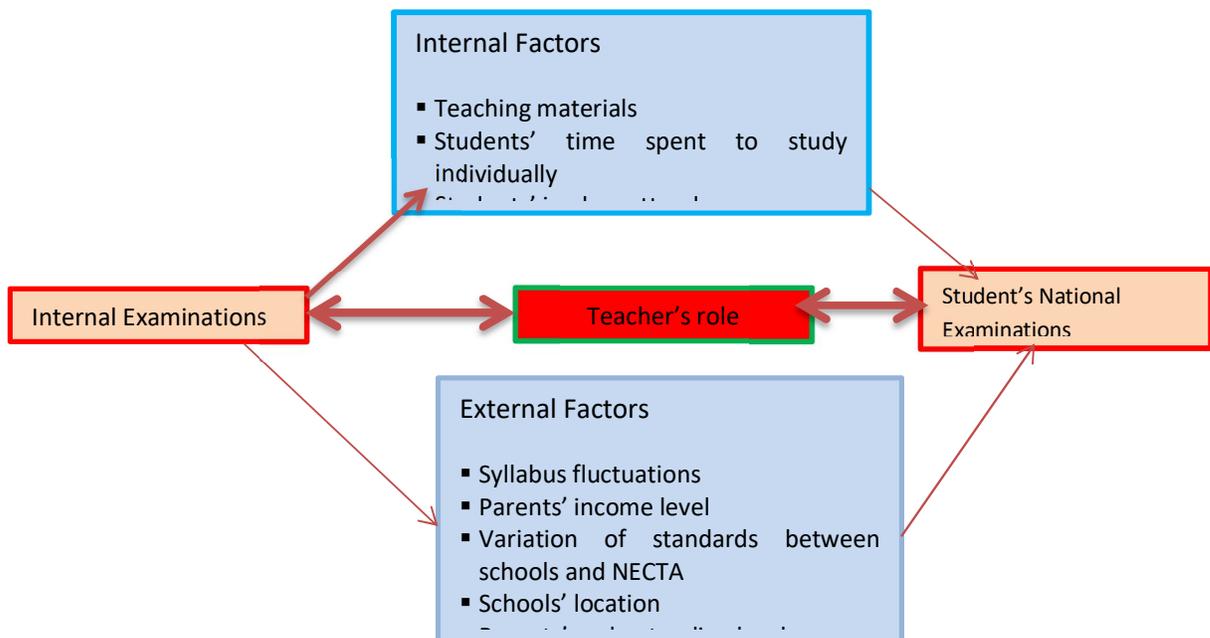
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assessing the students because it considers all the three domains of learning, namely cognitive, affective and psychomotor.

Apart from being formative in nature, a good Continuous Assessment system must be systematic, comprehensive, cumulative and guidance-inspiring or oriented. Some of the advantages of continuous assessment are: It is used to determine student's level of knowledge, skill and understanding when the subject/course is on-going; it helps the teachers to know the next instructional step to take when the course is on-going; It is teacher-student driven; It aids students good study habits; It assists the teachers to understand the students level of mastery in a particular subject; and it also helps the teachers to guide their students on occupational choices.

Conceptual Framework

The performance of students is being affected by both the internal and external factors. The internal factors are the things inside the school itself that in one way or another may have impacts on the performance of the students in their National examinations. The internal factors include availability of the learning materials around the school campus, coverage of the syllabus at a time, time spent by the students to study, attendance of the students to the class sessions, Quality of the internal examinations done at school as well as Student's own attitude towards learning. The external factors are the things outside the school that may affect the performance of students in their National examinations including frequently fluctuation of the syllabus, parent's level of income, the location of school, Family's day-to-day activities as well as Gender of the student. Below are those factors being demonstrated diagrammatically!



The Relationship between Literature Review and Knowledge Gap

In the above literature review, it seems that various scholars have been doing their studies to reveal about the contributions and the drawbacks of the continuous assessments in secondary schools specifically by considering examinations as part of such assessments. In most of the cases those studies have been done worldwide, continental wise as well as country wise where by some parts of Tanzania have been taken into consideration in investigating the advantages and disadvantages of continuous assessment partly through the continuous assessments. However various scholars have tried to narrate various issues concerning about the continuous assessment in secondary schools, still the extent to which these assessments support students

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to perform better in their National examinations at Mpwapwa district has not been revealed much. Therefore, this study will focus on investigating the role of continuous assessment in secondary schools particularly the significance of these assessments towards the performance of students in their National examinations at Mpwapwa district in Tanzania.

Methodology

Research Approach and Design

In this study, both qualitative and quantitative approaches were used to assess the contribution of internal examinations towards the performance of students in their final national examinations in Tanzanian secondary schools. Survey design was used to assist the collection of data from the targeted areas of the study. Due to its capacity to collect data from large samples Survey design was given the first priority of being the major tool in assisting the process of data collection in this study.

Description of Case Study Area

The study was conducted at Mpwapwa district found in Dodoma region at the central part of Tanzania. The main areas where by this study was conducted were the five selected secondary schools which include Ihala, Mpwapwa, Mount Igovu, Mwanakianga and Mazae secondary schools.

Targeted Population

The population anticipated in this study was the population of all educational stakeholders in Tanzania including parents, guardians, Teachers, educational bodies as well as students themselves.

The Study Sample

The study sample consisted of students, teachers as well as educational officers who had relevant and accurate information concerning this study. It involved a total of 250 students, 5 teachers' particularly academic masters and mistresses from five secondary schools and 10 educational officers at a ward and district levels who represented the entire population of educational stakeholders in Tanzania.

Sampling Procedures

The sampling procedure for this study was simple random sampling as well as one stage cluster sampling. These methods were used to obtain some students who were part of study sample for this study. For the case of teachers and educational officers, purposive sampling procedures were desirable. Methods and Instruments for Data collection

Methods for Data Collection

In this study the students, teachers as well as educational officers were asked the questions while they were in direct contact (face to face) with the researcher at the field. This shows that the main method that was used to collect data was the Interview method.

Instruments for Data Collection

The main instrument that was used to collect suitable data for this study was documentary review. In this method the results of students were taken from academic offices and reviewed in order to have a picture of both national examination statistics and school specific performance data which were helpful and useful in this study so as to accomplish the major purpose of the study which was to assess the role of continuous assessment in secondary schools in Tanzania towards the performance of students in their National examinations.

Validation of the Instruments for Data Collection

Personal efforts were made by the researcher in order to collect relevant and reliable information from the respondents to make this study meaningfully for educational field. These efforts involved the techniques such as pilot study which was helpful in making sure that the form four national examinations results as well as the results of internal examinations from the intended secondary schools were obtained successfully

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Data Processing and Analysis

The data were edited in order to correct end errors if any then the process of coding was done. In coding process, the answers were being assigned numbers and symbols so that they could easily be grouped into certain categories. After processing, the data were analyzed using simple linear regression and the results have been presented in chapter four.

Ethical Considerations

During the entire process of conducting this study, the following issues were taken into consideration by the researcher: The permission from the Heads of schools was requested before even starting the process of collecting data. In addition, the uses of polite and ethical language during any of the conversation done by the researcher at the field were highly observed. The confidentiality about those who assisted the acquisition of data at the field was also maintained, positive relationships with the respondents particularly of different sex from that of the researcher was established, cultural constraints were also taken into account where by the researcher did not engage in any action which implied distortion of culture.

Results and Discussion

The study covered, assessed the performance of students in Arts subjects, Science subjects as well as their overall performance .The findings on whether there is a relationship between the performances of students in their internal examinations against their National examinations is presented below:

Relationshipbetweenstudents’performancesininternalexaminationagainstNational examination for each subject in the year2015/2016 can be summarized below

The table below shows the summary of the findings about the performance of students in each subject in five different secondary schools found in Mpwapwa district in 2015/2016. The data were derived from the results generated by SPSS after running simple linear regression model

Table4.1.1Relationshipbetweenstudents’performancesininternalexaminationagainstNational examination for each subject in the year2015/2016 can be summarized below

S/N	Subjects	Unstandardized Beta - Value	Adjusted R - Square	P - Value
1	History	0.563	0.456	0.000
2	Kiswahili	0.366	0.265	0.000
3	Civics	0.567	0.590	0.000
4	English	0.857	0.543	0.000
5	Geography	0.704	0.399	0.000
6	Biology	0.591	0.306	0.000
7	Physics	0.658	0.697	0.000
8	Chemistry	0.793	0.661	0.000
9	Mathematics	0.796	0.515	0.000

It should be noted that the P value shows that there is a significant relationship between the performance of students in their internal examinations and their performance in the National examinations. The unstandardized beta value shows the level of significance per unit increase in student’s performance in internal examination in relation to external examination. The adjusted R square value show how far does students’ performance in their internal examination predict their performance in their National examinations percentagewise.

The increase in performance of students in their internal examination by one (1) unit will lead to an increase in performance of students in their external National examinations by 0.563 for history subject. More over their performance in internal examinations can predict performance in National examinations by approximately 46%. In this case we see that the remaining 54% of the student’s performance in their external National examinations can be predicted by the other factors different from internal examination’s performance. Those factors may include time spent by individual student in studying, level of income of the

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parents, frequency of engaging in remedial classes, distance from home to school for day scholars, perception of the students on the subject, quality of studying infrastructures such as library and laboratories, quality of teachers, parent's level of education as well as the nature of the society from where the student come from.

Table 4.1.2. Relationship between students' performance in internal examination against National examination for arts subjects in the year 2015/2016

Unstandardized Beta Value	Adjusted R Square	P Value
0.542	0.410	0.000

It was observed that although there is a significant relationship between performance of students in their internal examinations and their performance in their national examinations, performance of students internally for arts subjects can predict their performance externally by only 41%.

Table 4.1.3. Relationship between students' performance in internal examination against National examination for Science subjects in the year 2015/2016

Unstandardized Beta - Value	Adjusted R - Square	P -Value
0.720	0.542	0.000

It was observed that although there is a significant relationship between performance of students in their internal examinations and their performance in their national examinations, performance of students internally for Science subjects can predict their performance externally by only 54%.

Table 4.1.4. Relationship between students' performance in internal examination against National examination for All subjects in the year 2015/2016

Unstandardized Beta Value	Adjusted R - Square	P - Value
0.635	0.519	0.000

It was observed that although there is a significant relationship between performance of students in their internal examinations and their performance in their national examinations, the overall performance of students internally for all subjects can predict their performance externally by only 52%.

Conclusion and Recommendations

Conclusion

The study pointed out that the performance of students in their internal examinations can predict their performance in the National examinations for some extent. As it was observed that the performance of students in the internal examinations for art subjects separately predicts their performance in the National examinations in the subjects such as history, civics, Kiswahili, English and geography. This situation was also observed for the case of science subjects whereby those students who performed well in the science subjects (Mathematics, physics, chemistry and biology) internally, were most likely to perform well in their National examinations. Finally it was observed that the overall performance of students in their internal examinations predicted their performance in the National examinations.

However, the performance of students in their internal examinations alone does not predict the performance of students in their National examinations entirely as there are other factors which also have a great significance towards the performance of students in their National examinations. The factors such as

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competence of teachers of various subjects in secondary schools, availability of learning materials such as text books, supplementary books as well as learning infrastructures such as laboratories for the subjects that require practical sessions particularly science subjects including chemistry, biology and physics have great significance upon predicting the performance of students in their National examinations. Furthermore, the time spent by the students in concentrating on searching knowledge pertaining to their subjects in their course of study has great significance in predicting their performance in the National examinations. In this case those students who use most of their time to concentrate on searching knowledge pertaining to their studies have a great chance of passing not only their internal examinations but also their National examinations regardless of whether the subjects are arts or science subjects. Generally in order for the internal examinations to be meaningful and beneficial to the students, they should be conducted in such a way that their mode of supervision, marking criteria and standards of the examinations themselves match with that of the National examinations to the possible greatest extent. These will bring about reliable results for both internal and external examination performances of students.

Recommendation to Further Studies: the areas that are suggested for further studies are highlighted here under:

- Assessing the Effects of frequent fluctuation of the measures of assessments (from divisions to GPA system and then back to divisions) towards the performance of students in both internal and external examinations.
- Assessing the effects of not having common curriculum for all universities in Tanzania towards education successfulness at lower levels (tertiary and secondary schoollevels)

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Protection of Employees upon Corporate Liquidation: A Case of the Companies Act, [Cap. 212 R.E. 2002]

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Abstract

In many jurisdictions, there has been a positive response in respect of legal protection of employees as the bundle of rights and entitlements being enshrined in the employment contract. The same is emphasized by the international instruments in that without fair and effective laws, the rights or entitlements of employees would be jeopardized. Having relevant laws which are by themselves deny or rather less favourable to the employees is illogical and hence injustice in the letters of law. The Tanzania, in particular, the legal protection offered to the employees as a result of company's liquidation is questionable. This paper, therefore, examines the legal framework revolves around company's liquidation and the associated adverse effect to the employees. It depicts the scope of protection of employees under the Tanzania Companies Act, the expected reasonable protection standard and the implication towards employees upon company liquidation. It is governed by the main objective which is to assess the effectiveness of Tanzania Companies Act Cap 212 R.E 2002 on the protection of employees and to draw experiences from other jurisdictions in treatment of employees as specific objective, and finally recommends the way forward in terms of changing the law in Tanzania regime for the best interest of employees.

Key word words: Company, liquidation, winding up, company's asset, employees, and jurisdiction.

Introduction

This paper discusses four major issues namely; the background on the legal protection of employees in Tanzania, the scope of protection of employees under the Tanzania Companies Act⁷, the expected reasonable protection standard upon company liquidation, and the comparative analysis in protection of employees from other jurisdictions. The paper eventually recommends the way forward in terms of changing the law in Tanzania.

Background and Context in which Protection of Employees Emerged and Developed

*"The history of corporate law in Tanzania may be broken down into three phases: the pre-public enterprises period, public enterprises period, and divestiture of public sector enterprises and the resurgence of private sector corporate life period (that is from 1990's up to June, 2002). In all phases, Tanzania has never had an indigenous corporate law. The statutory law has always been an extension of the English corporate law..."*⁸

The development and application of corporate law in Tanzania is based on, and closely follows English corporate law. Its historic memoir goes hand in hand with the introduction of the English legal system in Tanganyika during the British colonial era where the *Companies Ordinance*⁹ was enacted specifically to regulate corporate issues like corporate liquidation in the territory. Tanganyika got her independence from the British in 1961. It united with Zanzibar to form Tanzania in 1964. After the independence of Tanganyika and the Act of union, the Government continued recognizing the colonial legacy of corporate principles and rules that governed corporate issues under the Tanzania *Companies Ordinance* in order to enhance and develop business endeavors over the country. It was essential to note that the Tanzania *Companies Ordinance* had its origin in 1913 Indian *Companies Act*, and it was enacted in Tanganyika in 1932, and has not been reviewed since then. Its provisions on formation, management and operation of the

⁷ CAP 212 R.E 2002

⁸ Binamungu, C.S. et al (2003), "The Companies Act No. 12 of 2002 and the Peoples' Expectations: The Mismatch and Missed Opportunities: Legal Aspect of the Law – Part II, The Accountant, Vol. 15 No. 2 July – September, p. 5.

⁹1932.

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affairs of the companies and the liquidations are therefore very old and do not match with the present-day realities.¹⁰ Despite the fact that there is a new Companies Act of 2002, there are many gaps still gazing and needing review.¹¹ In line of the stated legal framework in Tanzania jurisdiction, there was a significant number of companies both private and public formed under the Companies Ordinance Cap 212 and later on under the Companies Act of 2002, save that quite a number of parastatals were formed under their own statutes.¹²

As a matter of law, the life of companies in Tanzania starts with incorporation or registration, followed by the operations and management of day-to-day company's affairs, and finally the end of life of a company is depicted by dissolution, whether by court order, voluntary winding up by members or by creditors. Those established companies have had no permanent guarantee to remain in existence forever as they sometimes face financial difficulties hence, had an option to be wound up. The winding up option has been adopted for companies whose assets are no longer performing, since some of them having largely indebted by national financial institutions. Thus, the assets and properties of such companies have had to be sold and the proceeds thereof used to repay the loans advanced to them by the financial institutions and repay the other creditors such as trade creditors, unpaid wages and salaries and arrears of contributions to the employee retirement benefit schemes.¹³

It has been argued that the process of liquidating companies has caused a lot of hardships to creditors and employees, more particularly the latter, as their families' livelihood generally depended upon the wages and benefits for work performed.¹⁴ Kashonda, M.A. et al (2003)¹⁵ pinpoint that the consequences of corporate failure are too serious to the affected individuals and the economy at large to be left to simple and hasty decisions just to terminate the lives of companies. In this regard the observations of the Cork Committee, which has been instrumental in the reformation of the insolvency law in England, are pertinent here. The Committee said:

"We believe that a concern for the livelihood and wellbeing of those dependent upon an enterprise, which may well be the lifeblood of a whole town or even a region is a legitimate factor to which a modern law of insolvency must have regard. The chain reaction consequent upon any given failure can potentially be so disastrous to creditors, employees and the community that it must not be overly"

Thus, under the umbrella of Tanzania company law, the author is aware that during liquidation and upon dissolution of a company, the assets and properties of the company tend to be used to pay debts to the creditors including the employees and other stakeholders as the case may be. Following the enactment of *Companies Act*, which repealed and replaced the *Companies Ordinance*, it is the intention of this article to assess the effectiveness of Companies Act Cap 212 on the protection of employees during corporate liquidation.

Scope of Protection of Employees under the Tanzania Companies Act

The assets of the company may be used to pay off the debts to creditors when proved that it is in a financial distress. The manner of payment of such debts is prescribed by law that should be executed in priority ranking. For instance, debts owed to secured creditors must first be paid in full and thereafter ordinary debts (i.e., debts owed to unsecured creditors). Accordingly, section 367 of the *Companies Act* stipulates for the

¹⁰ Binamungu, C.S.; E. Mndolwa, & M. Kashonda (2003), *Liquidation Law and Practice in Tanzania Mainland*, Mzumbe Book Project, Mzumbe, p.3.

¹¹ *Ibid.* As of 2002, through an Act of Parliament known as the Laws Revisions Act of 1994 CAP 4 R.E. 2002, all legislations previously known as Ordinances (i.e. the laws enacted by colonial administration) including Companies Ordinances were legally as Acts. This resulted to the enactment of the Companies Act CAP 212 in June 2002, which came into force on June 2006. This legislation was enacted to repeal and replace the Companies Ordinance of 1932. Accessed on 9th December, 2017 from <http://top5resources.blogspot.com>

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ Kashonda, M.A. et al (2003), "The Companies Act of 2002 and Creditors' Protection: The Accountant, Vol. 15 No. 3, October - December, p. 11.

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preferential debts. With that regard, employees, being unsecured creditors, are not assured with their entitlements in the letters of law should a company being wound up. Masheko, R.A. (2015)¹⁶ asserts that unsecured creditors' claims cannot be entertained in security assets, the more encumbered assets company may have, the less opportunity for unsecured creditors to recover their debts in insolvency; this is because priority is given to cover insolvency expenses including remuneration of insolvency practitioners and preferential debts. In this case, on most corporate insolvency occasions, unsecured creditors fail to secure their rights and gain nothing in returns from their service and efforts provided against the company. JE Baring & Co Solicitors observed that, in many situations, due to the very nature of insolvency, unsecured creditors can often get very little or even nothing back. Some creditors assume that, this will be the case and do not take any part in exercising rights they may have to try and maximize their positions, deciding to not even attend a creditors' meeting as an example.¹⁷ Hence, this article examines the effectiveness of the *Companies Act* against the protection of employees during liquidation.

Overview of Company Liquidation and/or Winding Up

"In most jurisdictions, the terms liquidation and winding up are used interchangeably to refer to the collective insolvency process leading to the end of a company's life, and this is usually done in two ways; voluntary liquidation and compulsory liquidation. Voluntary liquidation comes into play where the company members or creditors pass a resolution to wind it up, while compulsory liquidation occurs as a result of a court order made upon a petition by the company, the directors, or one or more creditors. It should, however, be noted that in Uganda, the Insolvency Act, distinguishes liquidation from winding up. Winding up is limited to the process through which the life of a company may be ended for reasons other than inability to pay debts, yet liquidation is separately provided for under the Insolvency Act, and it generally refers to the process through which an insolvent company's assets are distributed to its creditors and/or members as the case may be with the objective of bringing its life to an end".¹⁸

In the same vein, and for the purpose of this paper the said terms hereinafter are used interchangeably.

Liquidation Defined

The notion 'liquidation' is used to denote the process by which the life of a company is brought to an end and its property administered for the benefit of its members and creditors.¹⁹ Alternatively, liquidation is a process under company law that results in the company ceasing to exist.²⁰ Binamungu, C.S. et al (2003)²¹ define liquidation as a process of appointing an insolvency practitioner to "liquidate" the company, that is to say realize its assets and pay the creditors and if any balance remains, pay the shareholders. The most likely reason for a company to be wound up is that it has become insolvent, that is, unable to pay its debts. In the case of Gautamjayram Chauda V. Covell Matthews Partnership Ltd²², the court had of the view that "it is common knowledge that where it is shown that the respondent company was unable to pay its debts, then the circumstances warranting the winding up of the company would be available." This is by no means the

¹⁶ Masheko, R.A. (2015), "The Assessment of Tanzania Insolvency Law in Safeguarding the Rights of Unsecured Creditors in Corporate Insolvency", A Dissertation Submitted in Partial Fulfilment of the Requirements for the Award of a Degree of Master of Laws (LLM-CL) of Mzumbe University, p. 7.

¹⁷ Adapted from JB Baring Solicitors, Unsecured creditors in insolvency, Retrieved May 9th May, 2014 from the World Wide Web: <http://plus.google.com/u/0/b/117347738068949596945/plus> - quoted from Masheko, R.A. (2015), ibid.

¹⁸ <https://www.insol-europe.org/download/documents/885> accessed on 15th August, 2018.

¹⁹ Abbott K, Pendlebury N, Wardman K, *Business Law*, (7th Ed.), (2002), Ashford Colour Press, London, U.K, p. 483.

²⁰ <http://www.revenue.ie/en/tax-professionals/tdm/collection/insolvency/liquidation> accessed on 20th April, 2018, a company can decide to go into voluntary liquidation in which case the company arranges voluntarily to enter liquidation. But in the circumstances where the creditor(s), if any, wishes to undergo liquidation of an insolvent company for their debts to be paid, application must be made to the high court for a decision on whether a liquidator should be appointed to realise the assets of the company and to pay the creditors. Where there are insufficient funds to pay all the creditors, the funds available are distributed to creditors in a particular order of preference.

²¹ Binamungu, C.S., et al (2003), "The Companies Act No.12 of 2002 and the Peoples' Expectations: The Mismatch and Missed Opportunities: Legal Aspect of the Law – Part I, The Accountant, Vol.15 No. 1 Jan – March, P. 25.

²²(2004) T.L.R 280.

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only reason, though; a company can also be wound up when it is quite solvent.”²³ There are two basic types of liquidation: voluntary liquidation and compulsory liquidation. The former further splits into two; namely, members’ voluntary liquidation and creditors’ voluntary liquidation. The provisions relating to all types of winding up are contained in the *Companies Act*.²⁴

Voluntary Liquidation

Principally, voluntary liquidation is initiated by a special resolution of the members in the event where the company is insolvent. This happens when the members have to pass an extra ordinary resolution declaring that the company cannot by reason of its liabilities proceed on carrying out its business affairs.²⁵ A resolution for voluntary winding up has no effect on the contracts of employment, at least where the business does not entirely cease.²⁶ Similarly, “a voluntary winding up does not necessarily operate as a discharge of the company’s servants”.²⁷ In *Reigate V. Union Manufacturing Co., (Ramsbottom) Ltd.*²⁸, it was held that “the passing of the resolution for voluntary winding up does not operate as notice of discharge of the employees of the company if the business is continued by the liquidator or the liquidation is only with a view to reconstruction”. Moreover, in *Midland Counties District Bank Ltd. V. Attwood*²⁹, it was held that “where the voluntary winding up is for the purpose of amalgamation or reconstruction, the resolution to wind up voluntarily does not operate as a notice of discharge to the employees”. Indeed, voluntary liquidation has nothing to endanger the entitlements of the employees. On the other hand, there is creditors’ voluntary liquidation. Referring the work of *Keenan D and Riches S*³⁰, noticeably in this type of liquidation nothing has to go about the statutory declaration, instead, the company must cause a meeting of its creditors to be held not later than 14 days after the resolution to wind up is passed. Whereupon, an insolvency practitioner/ liquidator will be appointed by the creditors.³¹ However, one should note that creditors’ voluntary liquidation applies to insolvent companies.³²

Compulsory Liquidation

This type of liquidation significantly results from an order of the court. A winding up order is pronounced pursuant to the presentation of the petition by the company or the directors, members or creditors as the case may be.³³ It is usually on the grounds that the company cannot pay its debts.³⁴ In due process, on a winding up order being made in respect of a company, there may be an appointed official liquidator to administer the proceedings in winding up and performing other statutory functions vested with him.³⁵ *Binamungu, C.S.M*³⁶ defines ‘liquidator’ to mean an agent for the company and may bind the company without him/ her becoming personally liable. He/ she is also vested with power to carry on the business of the company in so far as it may be beneficial for the winding up. The author further illustrates that “since the aim of winding up is to realize the assets and distribute the proceeds, the liquidator has wide powers and duties with which to achieve that. In some instances, his/ her powers can only be exercised with the consent

²³Golding S., *Company Law*, (2nd Ed.), (1999), Cavendish Publishing Limited, London, United Kingdom, p.389.

²⁴Supra.

²⁵Keenan D, and Riches S, p.198.

²⁶<https://cdn.auckland.ac.nz/assets/nzpglejournal/subscribe/Documents/2005> accessed on 9th May 2018.

²⁷<https://www.scribd.com/document> accessed on 12th June 2018.

²⁸(1918) 1 K.B. 593.

²⁹(1905) 1 Ch. 357.

³⁰Loc. Cit.

³¹In the event where the creditors cannot nominate the liquidator of the company, then the company can nominate someone. It should be noted that “the liquidator is under similar obligation in a creditors’ winding up as he is under a members’ winding up in respect of calling a general meeting of the company when the company’s affairs are fully wound up, except that he must also call a meeting of the creditors for the same purpose of laying the account before it.” See. Golding S, p. 394, *Supra*.

³²<https://www.scribd.com> accessed on 18th May, 2018.

³³Loc. Cit, p. 390.

³⁴Op. Cit, Keenan D and Riches S, p. 197.

³⁵Kapoor, N.D., *Elements of Company Law*, (27th Ed.), (2003), Sultan Chand & Sons, New Delhi, India, pp. 197 & 198.

³⁶Loc. Cit, *Business Law Student’s Manual*, p. 153.

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of the court or by a committee of creditors (in case creditors nominate one)".³⁷ The company liquidator is essentially appointed by the court or creditors; however, if no liquidator is appointed or the liquidator's job position is vacant, then the official receiver takes on as the liquidator.³⁸

Entitlements of Employees

The entitlements or rights of an employee are always determined primarily by the contract of employment.³⁹ In the ordinary course of business the interests of creditors are protected through appropriate contractual provisions governing the relationship of the company with its creditors. Thus, the directors, through their fiduciary duties to the company, are duty bound to enter into transactions with third parties, which take into account the interests of their companies and the shareholders.⁴⁰ In both situations, employees and unsecured creditors have an entitlement to be paid what is owed to them in accordance with agreed terms, contractual and statutory rights, collective agreements and those rights arising from custom and practice.⁴¹ Gordon W. Johnson⁴² in his article states the following:

"Employees sometimes possess a contractual right to entitlements accrued under their work contracts. In terms of relative priority, these entitlements and rights are no different than those of other unsecured creditors holding contractual rights and claims to payment. Both groups of creditors are on an even legal footing to be paid from the general assets of the company, as distinct from the rights of secured whose in rem rights entitle them to satisfaction from specific assets in the event of a default. Employees are commonly the silent or lost voice in bankruptcy proceedings, however, and often have little influence or bargaining power (outside the collective bargaining process). Yet, they stand to lose the most".

The general common understanding is that in the event of company liquidation, the employees' position basing on their entitlements are put into more less favorable attention over secured class of creditors.

Preferential Payments of Debts upon Liquidation

Section 367 of the Companies Act specifies in details the preferential claims in terms of hierarchy should a company be wound up. Albeit, the determination of the preferential claims does depend on the appointment of the receiver.⁴³ The provision, in essence, says that in a winding up, the company's preferential debts shall be paid in priority to all other debts. All Government taxes that include local rates and customs and excise duties due from the company at the relevant date and having become due and payable within twelve months next before that date are the top rank of priority under section 367 (2) (a) of the Act and must be paid first in the event of winding up. The second category of preferential debts is all Government rents not more than one year in arrears by virtue of section 367 (2) (b) of the Act. The third priority debts under section 367 (2) (c) of the Act is all wages or salary (whether or not earned wholly or in part by way of commission) of any employee not being a director in respect of services rendered to the company during four months next before the relevant date. The last category which occupies rank four under section 367 (2) (d) of the Act is workers' compensation and any other such right owed to the employees.⁴⁴

³⁷ *A Dictionary of Law* (7th Ed) defines liquidation committee as a committee set up by creditors of a company being wound up in order to consent to the liquidator exercising certain of his power. When the company is unable to pay its debts, the committee is usually composed of creditors only; otherwise it consists of both creditors and contributories.

³⁸ <https://www.neophytou-law.com> accessed on 18th May, 2018.

³⁹ <https://dbei.gov.ie/en/publication-files/CLRG-Report> accessed on 10th May, 2018.

⁴⁰ Supra

⁴¹ Ibid.

⁴² Insolvency and Social Protection: Employee Entitlements in the Event of Employer insolvency; accessed from <https://www.oecd.org/daf/ca/corporategovernance-principles/38184691> on 9th May, 2018.

⁴³ In the case of *Leonard Clement Mususa V. Attorney General and Another* [2000] T.L.R. 181. Was stated that "the appointment of a Receiver does not alter the tax liability of the company. However, the appointment of the Receiver does determine which tax liability is preferential and which is not..."

⁴⁴ It is illustrated that "unless the company is being wound up voluntarily merely for the purposes of reconstruction or amalgamation with another company, or unless the company has, at the commencement of the winding up, under any contract, rights capable of being transferred to and vested in the employee, all amounts due in respect of any compensation or liability for compensation under any law for the time being in force in Tanzania relating to compensation of employees, being amounts which accrued before the relevant date."

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“...Although the scheme of preferential debts applies to all types of winding up, the scheme will only be relevant if the company is insolvent and there are insufficient funds to pay to all unsecured creditors in full. The fundamental principle is that each class of debts is paid in full in accordance to the list of priorities. If this is the case, there is possibility that the subsequent class of creditors will not be paid at all...”⁴⁵

Apart from the preferential debts in corporate liquidation, it is also necessary to note that the expenses that relate to winding up tend to be paid up first out of assets of the company. The order of such preference is provided for in the *Companies Insolvency Rules*.⁴⁶ The provision clearly stipulates that the expenses of the liquidation are payable out of the assets in the following order of priority:

- (a) Expenses properly chargeable or incurred by the official receiver or the liquidator in preserving, realizing or getting in any of the assets of the company;
- (b) The fees payable under the Act or Rules, including those payable to the official receiver other than the fee referred to in paragraph (d), and any remuneration payable to him under general regulations;
- (c) The fee payable for the performance by the official receiver of his general duties as official receiver;
- (d) Any repayable deposit lodged under any such order as security for the fee mentioned in paragraph (d);
- (e) The cost of any security provided by an interim liquidator, or special manager in accordance with the Act or the Rules;
- (f) The remuneration of the interim liquidator if any;
- (g) Any deposit lodged on an application for the appointment of an interim liquidator;
- (h) The costs of the petitioner, and of any person appearing on the petition whose costs are allowed by the court;
- (i) The remuneration of the special manager if any;
- (j) Any amount payable to a person employed or authorized, under Chapter 6; to assist in the preparation of a statement of affairs or of accounts;
- (k) Any allowance made, by order of the court, towards costs on an application for release from the obligation to submit a statement of affairs, or for an extension of time for submitting such a statement;
- (l) Any necessary disbursements by the liquidator in the course of his administration including any expenses incurred by members of the committee of inspection or their representatives and allowed by the liquidator under rule 215, but not including any payment of corporation tax in circumstances referred to in paragraph (p);
- (m) The remuneration or emoluments of any person who has been employed by the liquidator to perform any services for the company, as required or authorized by or under the Act or the Rules;
- (n) The remuneration of the liquidator, up to any amount not exceeding that which is payable to the official receiver under general regulations;
- (o) The amount of any corporation tax on chargeable gains accruing on the realization of any asset of the company without regard to whether the realization is effected by the liquidator, a secured creditor, or a receiver or manager appointed to deal with a security.
- (p) The balance, after payment of any sums due under paragraph (o) of any remuneration due to the liquidator.

Accordingly, any surplus assets available after having paid the expenses of liquidation and the various claims of the creditors must be distributed among members according to their defined rights and interests in the company⁴⁷ The question here comes; should the employee rights and entitlements receive special attention and or protection above and beyond other creditors should the company assets proved insufficient?

The International Labour Organization (ILO)⁴⁸

The ILO, through its Convention⁴⁹ spells out the widely recognized principle that aims to protect the workers' wage in the event of bankruptcy or judicial liquidation of an enterprise. Article 11.1 reads as follows:

⁴⁵ Op. cit.

⁴⁶ Rule 254 (1) of the Companies (Insolvency) Rules, 2005.

⁴⁷ <https://onlinelibrary.wiley.com/doi/pdf/10.1002/iir.93> accessed on 10th June, 2018.

⁴⁸ The ILO is the international institution framework which makes it possible to address issues related to employees and to find solutions allowing working conditions to improve everywhere. Accessed from <http://www.ilo.org> on 26th June, 2018.

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*“In the event of the bankruptcy or judicial liquidation of an undertaking, the workers employed therein shall be treated as privileged creditors either as regards wages due for service rendered during such a period prior to the bankruptcy or judicial liquidation as may be prescribed by national laws or regulations, or as regards wages up to a prescribed amount as may be determined by national laws or regulations”.*⁵⁰

The Convention declares that employees' claims should be considered to have preference over other preferential debts, especially state debts.⁵¹ Article 11 of the Convention was indeed revised by the Protection of Workers' Claims (Employer's Insolvency) Convention⁵², which was adopted in 1992, purposely to improve the protection enshrined in the 1949 Convention by setting specific standards concerning the scope, limits and rank of the privilege, which are scarcely provided in the said Convention, and introducing new concepts; namely, wage guarantee schemes, designed to offer better protection than the traditional privilege system.⁵³

Application for Protection of Employees under Section 367 of the Tanzania Companies Act

The provision offers the preferential status to all wages and salary to employees in respect of service rendered in the four months prior to liquidation. Accordingly, employees rank as unsecured creditors (with no preferential status) in the order of priority. To this end the position of employees in respect of their entitlements significantly cast some doubts.

The literatures, in many jurisdictions, reveal that in the event where the company is being wound up, either voluntarily or involuntarily, the first and foremost consideration by the company is upon the payment of debts to the secured or insured creditors simply because are the ones who hold the benefit of any guarantee or mortgage on property of the company in the course of loan transactions and the like. Therefore, those stakeholders, including employees whose rights are not secured by the assets or property of the company, must wait until the ranking order of payments based on preferential debts is fully executed.

Legislative Provisions for the Consideration of Employees by Directors under the Tanzania Companies Act

The Companies Act imposes the duty to the directors to have regard to interests of the employees.⁵⁴ It says that “the matters to which the directors of the company are to have regard in the performance of their functions include, in addition to the interests of the members, the interests of the company's employees”. It is argued that since the insolvency or liquidation of a company and consequently the suspension of payments directly threatens the means of subsistence of employees and their families, and the fact that they do not normally have share which may ultimately determine their share or interest or loss of the profit (i.e. they share nothing), their wage claims deserve special protection.⁵⁵ It is found that, though, the directors owe this statutory duty to the employees, the duty is not directly enforceable by employees rather it is owed to and enforceable by the company.⁵⁶ The provision is silent on striking a balance should the conflicts of interest between the members and company's employees emerge.⁵⁷ What is in fact provided under sub-section 1 is absolutely taken away by sub-section 2. Sub-section 2 states that “the duty imposed by this section on the directors is owed by them to the company (and the company alone) and is enforceable in the same way as any other fiduciary duty owed to a company by its directors”.⁵⁸ This position was indeed described by the common law in Parke V. Daily News⁵⁹ where the court held that “there was no authority to

⁴⁹ The International Labour Organization (1949), C95 Protection of Wages Convention.

⁵⁰ Ibid.

⁵¹ <http://www.ilo.org/wcmsp/groups/public/europe/-ro-geneva> accessed on 26th June, 2018.

⁵² Convention (No. 173).

⁵³ Op. cit.

⁵⁴ Section 183 of the Companies Act.

⁵⁵ <https://www.ijbs.unimas.my/repository/pdf/vol> retrieved on 10th May 2018, p. 214.

⁵⁶ Op. cit.

⁵⁷ Ibid.

⁵⁸ The word ‘fiduciary’ here refers to trust and confidence. A fiduciary is a person who agrees, or undertakes to act of, or on behalf of, or in the interest of, another person in the exercise of a power or discretion, which will affect the interests of that other person in a legal or practical sense. See Binamungu, C.S. et al (2003), supra note 8, p.8.

⁵⁹ [1962] Ch 927. This case was retrieved from <https://dbei.gov.ie/en/Publication-files/CLRG-Report>

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support the proposition advanced by one of the parties that the board of directors must take into account its duty to employees. The duty imposed by section 46⁶⁰ was owed to the company alone and was only enforceable by the company and not the employees.”

Since the directors are officers of the company, they owe statutory duties to the company, the shareholders, creditors, and employees in all life time of the company even in the event of winding up the business under takings. It is essential to examine the relevant provisions of law that imposes duties to the directors and make analysis as whether their application may directly afford the protection of employees’ interests should a company being wound up. Alternatively, the examination of the duties of directors would ultimately answer the question that to whom the interest should prevail or taken into consideration over another in the course of exercising the statutory duties vested to the directors? The statute, at common law, has by necessity been forced to intervene to increase such duties owed by directors to their company and the shareholders, employees and creditors of that company in order to provide a measure of protection for those concerned.⁶¹ Indeed, in Tanzania jurisdiction, the *Companies Act* provides the basic legal duties of directors when exercising their powers. That the law requires them to act honestly and in good faith for the best interests of the company for proper purposes, and the duty to exercise care, skill and diligence.⁶² Section 182 (1) strictly spells out “the best interests of the company”⁶³ of which the directors should always rely upon in the course of performing their functions. The Report on the Protection of Employees and Unsecured Creditors⁶⁴ stated the following:

“The directors of the company have an overriding duty to act in the best interests of the company...In terms of hierarchy, the director’s overriding duty is to act in the best interests of the company; when a company is solvent, this is generally considered to be seen as being for the benefit of the company’s members; when a company is insolvent, as being for the benefit of its creditors.”

Section 182 (1) of the Act and the words quoted above have substance in order to improve the viability or effectiveness of the business, though, it expressly suggests uncertainty of duty owed to directors with section 183 (1) of the same law as previously pointed out. To recap, the latter requires the directors to consider the interests of the members in addition to the interests of the employees. These two provisions put the directors in a dilemma in the event when the interests of the company’s members are in conflict with the long-term interests of the continuing existence of the company and the relationship with its employees.⁶⁵ To this end, unlike the general duty of directors to the employees, it is necessary to specifically examine the duty owed to directors towards the creditors in the event of liquidation

Application for Protection of Employees in Priority Ranking in Other Jurisdictions

The Uganda Position

Uganda developed a specific Act for insolvency issues; namely, the Insolvency Act.⁶⁶ This Act upholds the interests of unsecured creditors, including employees. Section 10 of the Act allows unsecured creditors to make claims in writing. Moreover, section 12(4) (c) of the same law spells out that, any person who petitioned court claims for the reasonable costs upon liquidation or bankruptcy is among the first creditors to be paid. This includes, as per author’s view, unsecured creditors. The notable challenge in the Act as regards to the protection of employees is that, the fore most priority is given to settlement of remuneration and any expenses incurred by the liquidators, trustees, receivers, and administrators, then followed by employees’ rights (i.e., all wages or basic salary, all amounts due in respect of any compensation, and all amounts that are preferential debts), and finally government taxes. At this juncture, government taxes and insolvency expenses is not that much crucial to be paid in full before other company’s debts. Again, Gordon

⁶⁰A similar duty had been imposed in the United Kingdom in section 46 of the Companies Act 1980.

⁶¹Supra, note 27, p. 379.

⁶²Ibid, Sections 182 (1), 184 and 185.

⁶³*What is said to be the best interests of the company should be reasonably and with due care and skills determined by directors themselves, unless otherwise expressly provided by the articles of the company.* (Emphasis is mine).

⁶⁴Supra, note 56.

⁶⁵Ibid.

⁶⁶ No. 14 of 2011.

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W. Johnson⁶⁷ in his paper critically examines the varying legal treatment of employees' entitlements in the case of employer's insolvency or judicial liquidation and encourages developing countries to develop insolvency laws which both achieve market strength and efficiency while protecting the rights of those most vulnerable in the insolvency process.

The South Africa Position

It has been examined by the author that insolvency terminates all employment contracts. It follows therefore that, in South Africa, upon termination, the employees' entitlements are highly considered than secured creditors in a sense that there is no preference over secured. First ranked are wages up to 3 months, and the next ranked (all paid *pari passu*) are holiday, leave, and severance pay.

The India Position

Under the India position, the employees are accorded *pari passu* treatment with secured claims. Also, they ranked equally among taxes and fiscal claims. The entitlements due to employees considered thereof include wages or salaries not exceeding 4 months in prior year, accrued holiday pay, amounts owed under Employees State Insurance Act and Workmen's Compensation Act, and pension fund benefits as the author observes furthermore.

Analysis of the Protection of Employees upon Corporate Liquidation

The Companies Act does not Protect Employees during Liquidation Process

The examination of the provisions of the Tanzania *Companies Act* in respect of the treatment of employees reveals the following discussion;

Preferential Debts

This is the cornerstone element on which the study intended to focus and generate the minimum standard of protection of employees thereof on corporate liquidation process. The study has *inter alia* examined section 367 of the Act and found that the requirement of having debts being paid basing on the prescribed ranks of priorities directly impacts the position of employees as unsecured creditors. The principle that each class of debts is paid in full in accordance with the list of priorities may significantly create the possibility that the subsequent class of creditors would not be paid at all. Employees' wages and government taxes, local rates and customs and excise duties are real examples of preferential debts under the Companies Act. However, priorities are subject to limitations. Employees' claims are prioritized to wages of four months only, whilst government taxes, local rates and customs, excise duties and rents to be paid in preference are of twelve months in arrears.⁶⁸ Therefore, the wording of section 367 of the Act does not protect the interests of employees, as the requirement to pay all wages or salary of the employees in respect of services rendered only during four months next before the relevant date is unjust. This is due to the fact that sometimes the employees may not have been paid for quite more than four months. Hence, four months payment is deemed unfair as far as the protection of employees is concerned. It is also submitted that, the entitlements of employees are also not termed as liabilities of the company by section 357 of the Act, hence, less preferred to be paid by the company.⁶⁹

As examined earlier, the international experience emphasizes on the protection of employees should the employer becomes insolvent. The article has pointed out the well-established international principle formulated by ILO that requires the countries to treat the employees as privileged creditors in the event of judicial liquidation. It follows, in essence, employees are the creditors most affected by the insolvency of their employer. Their position can be contrasted with the position of other creditors who are likely to have

⁶⁷ Supra, note 115, pp.11-24.

⁶⁸ See section 367(2) (a-c) of the Act.

⁶⁹ The provision reads that "subject to the provisions of this Act as to preferential payments, the assets of a company shall, on its voluntary winding up, be applied in satisfaction of its liabilities *pari passu*, and, subject to such application, shall, unless the articles otherwise provide, be distributed among the members according to their rights and interests in the company."

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other sources of revenue and may have securities or personal guarantees to support their debts. Hence, the principle suggests that employees should be fairly protected over other creditors under the law.⁷⁰

The paper has clearly examined different countries which significantly offer the preference to the employees over and above other debts and claims including the secured in the employer's insolvency. To this end, the said international principle by ILO regarding the standard of treatment of employees in judicial liquidation of the corporate entity is hereby honored and observed.

Lack of Enforcement Mechanism by Employees against the Directors of a Company

Chapter VII of the Act provides duties and liabilities of the directors. In particular, the Act requires directors to exercise their power for proper purposes,⁷¹ to act honestly and in good faith for the best interests of the company.⁷² The law also requires directors to consider, in addition to the interests of the shareholders, the interests of the company's employees when performing their duties.⁷³ The implementation of such requirement can be problematic both conceptually and in practice. Conceptually, shareholders' interests and those of employees tend to conflict. For instance, employees desire stable employment and higher salaries, whilst shareholders require a greater return on their investments in the form of dividends and capital gains.⁷⁴ The questions arise here about the criteria for resolving these conflicting interests. In practice, the implementation of this provision is problematic because directors are appointed or selected by shareholders. Therefore, in essence, directors owe their positions and hence allegiance to the company and not to the employees.⁷⁵

Protection of Employees during Liquidation of Companies in some other Jurisdictions is Fairly Adequately Compared to Tanzania Jurisdiction

Tanzania is not a solely regime that ought to provide legal framework on protection of employees during liquidation process. That being a case, the article has explored the experiences from other jurisdictions and pinpoints the adequacy of protection to employees should a company stand liquidated.

Conclusion

It is the main contention in this paper that, the protection of employees upon corporate liquidation in Tanzania has been very weak. To be strong, the following matters must be taken into account by the respective authorities; firstly, to have amendment of the Companies Act to incorporate an absolute protection to the employees. Secondly, to have a specific Act for insolvency matters. In fact, the insolvency issues are currently regulated by the scattered legislations as a result minimizing the awareness of protection of company stakeholders. Thus, if the specific insolvency law is enacted like that of Uganda and the like, automatically the claimed point of lack of awareness towards insolvency laws and rules will be resolved.

⁷⁰Supra, note 165.

⁷¹ See section 184 of the Act.

⁷² See section 182.

⁷³ See section 183.

⁷⁴ Nyaki, J.V., (2013), A Critical Analysis of Tanzania Corporate Governance Regulation and its Impact on Foreign Investment, LLM Thesis, University of the Western Cape, pp. 43 & 44.

⁷⁵ Ibid.

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Influence of Job Characteristics on Employees' Job Satisfaction: A Case of College of Business Education – Mwanza

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Abstract:

Job satisfaction is one's feelings or state of mind associated with the work. The job characteristics consisted of skill variety, task identity, task significance, autonomy, and job feedback. The job satisfaction content factors studied were achievement, recognition, and responsibility, which were purposively chosen because of their recurrence in models for work motivation. The study sample involved 52 employees of College of Business Education (CBE), Mwanza Campus, both academic and administrative staff. The study was approached quantitatively, and data were statistically analyzed in terms of frequencies and percentages. Questionnaire with 5-level Likert Scale was used as a research instrument to collect data. The findings indicated that all job characteristics have positive influence on job satisfaction through employees' achievement, recognition, and responsibility, except skill variety that indicated low level of influence on responsibility. The general finding revealed that job feedback highly influences employees' achievement, recognition, and responsibility than other job characteristics involved in the study. The general implication is that getting job feedback makes the employee able to assess his or her achievement of goals, which awakes in him or her sense of responsibility for job outcomes, which in turn may lead to recognition for the work well done. Consequently, job satisfaction, which is essential for job satisfaction is induced in the employee.

Key Words: Job Satisfaction, Job Characteristics, and Job Feedback

Introduction

Altuntas (2014), stated job satisfaction as the extent to which people like or dislike their jobs, resulting into satisfaction or dissatisfaction respectively. Consequently, dissatisfaction leads to poor job performance and productivity, absenteeism and turnover (Altuntas, op. Cit). With the above statement it proves that job satisfaction is a subjective term on which people have no common agreement of what it means and what really motivates people. It seems to be situational and circumstantial because a person is not likely to be satisfied or dissatisfied throughout as factors which satisfy or dissatisfy may not be static but dynamic with time and place. For example, incentives that are used to motivate workers may be cut off, thus leading to dissatisfaction, or factors that caused dissatisfaction may be improved, hence leading to satisfaction.

Job satisfaction has a long historical background. It can be traced back from 1911 when theories of job satisfaction started with the idea of "Scientific Management or "Taylorism" by Fredrick.K.W Taylor (Luthans, 2011). In order to motivate people at work, Fredrick W.Taylor, Frank Gilbreth, and Henry Gantt proposed salary incentive modes (ibid).

The College of Business Education applies Taylor's Scientific Management or Task Management approach as described above to motivate employees. This is reflected in the College Staff Regulation (1999) and Human Resources Management Policies and Operation Procedures (2013) as it uses the same factors to motivate workers. It is stated in the college human resources management policies that the Management have to determine the remuneration package as per Treasure's Directives and Circulars (College Of Business Education (CBE), 2013). Thus, it implies that the implementation of such policies is may remain theoretical rather than practical as they depend on the approval of the third party.

Contrastively, Sedem (2012) strongly argues that job satisfaction is dependent on the nature of the job itself (intrinsic factors) on which, as suggested, researchers should focus to understand what motivates people to be satisfied with their jobs. The College of Business Education (College Of Business Education (CBE)), since its establishment by the government in 1965, has been highly concerned with employees' motivation

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and job satisfaction through promotion, performance-based incentives, career development, improving employees' health and security, and assisting employees with personal problems as expressed in its Staff Regulation and Operation (1999) and in its HRMPOP document: Human Resources Management Policies and Operation Procedures (2013). Therefore, this study aims to orient organizations towards application of job characteristics as an alternative approach to employees' job satisfaction instead of relying on extrinsic factors only.

Problem Statement

The College of Business Education (College Of Business Education (CBE)), since its establishment by the government in 1965, has been highly concerned with employees' motivation and job satisfaction through promotion, performance-based incentives, career development, improving employees' health and security, and assisting employees with personal problems as expressed in its Staff Regulation and Operation (1999) and in its HRMPOP document: Human Resources Management Policies and Operation Procedures (2013). But such motivating factors are extrinsic, which have been found ineffective to give employees internal satisfaction (Sedem, 2012). Since the College of Business Education, as a public institution, depends on remuneration packages determined by Treasury's directives and circulars for motivating employees, as stated in the college HRMPOP, such policies are likely to be not smoothly implemented and therefore becoming causes of dissatisfaction among the employees. As Moynihan & Pandey (2007) have earlier observed, public organizations have limited mandate to motivate employees in terms of pay, promotion or bonuses because of restrictive civil rules. Although thousands of papers and research have been conducted on job satisfaction all over the world, It is possible that there are significant factors that influence job satisfaction which have not been brought to light, here in College Of Business Education (CBE) as a public institution this is one of the least studied research fields therefore, this study aims to orient organizations towards application of job characteristics as an alternative approach to employees' job satisfaction instead of relying on extrinsic factors only.

The Objectives of this Study Were:

- i.** To examine the level at which skills' varieties influence achievement, recognition, and responsibility.
- ii.** To determine the degree at which task identity influence achievement, recognition, and responsibility
- iii.** To explore the extent at which job feedback influence achievement, recognition, and responsibility.

Scope of the Study

The study was conducted in Mwanza city at the College of Business Education in Nyamagana district, involving all of its workers for a broad comprehension of the problem.

Literature Review

Theoretical Literature Review

Job Satisfaction has been defined as a positive attitude an employee holds towards the organization, fellow workers and the job as well. Syppniewska (2014). However, such a definition has shed light on the general understanding of the concept of job satisfaction but has not directly linked the study. Against this, the study has adopted a definition by Robbins and Timothy (2015), which is directly related to the study. It defines job satisfaction as "a positive feeling about a job resulting from an evaluation of characteristics" (p.105). That brings the argument that redesigning job in consideration of job characteristics is more likely to result into more intrinsic motivation to employees. The study was carried out to determine the influence of job characteristics on employees' job satisfaction. The characteristics considered are skill variety, task identity, task significance, autonomy, and feedback presented in the job characteristics model of this study. Measuring job satisfaction is difficult, for it is abstract personal cognition that only exists in the mind of individual. However, most researchers select a more objective and in-depth survey instrument (Spector, 1997). Spector suggested using an existing job satisfaction scale for the following advantages: 1) it has been reported to exhibit acceptable levels of reliability, 2) it has been used a sufficient number of times to provide norm, 3) it has been used in research to provide good evidence for construct validity, and 4) using known scales saves the considerable cost and time necessary to a develop a scale.

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Job satisfaction represents one of the most complex areas facing today's managers when it comes to managing their employees. Sang et al (2009) found that aspects of job satisfaction that often have been researched upon are pay, colleagues, supervisors, working conditions, job security, promotion prospects, the company in question and the nature of work. They state that these facets have all proven to be correlating to overall job satisfaction and positively inter-correlated with each other. And it is represented that the factor leading to satisfaction are achievement, recognition, work itself, responsibility, advancement and growth and the factors leading dissatisfaction are company policy, supervision, relationship with boss, work conditions, salary and relationship with peers. A study by (Daljeet, Manoj & Dalvinder, 2011) asserts that Workplace must be in normal condition allowing employee to do their job properly. In work places where there is not sufficient conditions, employee motivation level decreases and such a situation affects job satisfaction negatively. Hawthorne studies started 1924 till 1933, sought to find the effects of various conditions on workers' productivity. The studies reflected that novel changes in work conditions temporarily increase productivity referred to as Hawthorne Effect. It was later found that this increase resulted was not from the new conditions, but from the knowledge of being observed. This finding deduced that people work for purposes other than pay, which paved the way for researchers to investigate other factors in job satisfaction.

Despite the economic effect on organizations, job satisfaction also plays an important part in employees' well-being (Kwok et al., 2015; Van Saane, Sluiter, Verbeek, & Frings-Dresen, 2003). Job satisfaction is usually associated with the sense of achievement, while job dissatisfaction, on the other hand, is often related to the psychological issues like depression and worry (Aziri, 2011; Spector, 1997). As work has significant importance to the life of people, job satisfaction is also linked with life satisfaction and happiness as they are all grouped as subjective well-being (Kwok et al., 2015; Zelenski, Murphy, & Jenkins, 2008). Job satisfaction is a widely used term in organizational studies (Agarwal & Sajid, 2017) as well as in daily life; however, there is still no consensus as regards its definition

Conceptual Framework

Conceptual framework is “a representation, either graphically or in narrative form, of the main concepts or variables and their presumed relationship with each other” (Punch, 1998, p.56). In this study the job characteristics are independent variables (ID) and employees' job satisfaction content factors, namely achievement, recognition, and responsibility are dependent variables (DV). The researcher was interested to find the level of influence of each of the job characteristics on achievement, recognition, and responsibility.

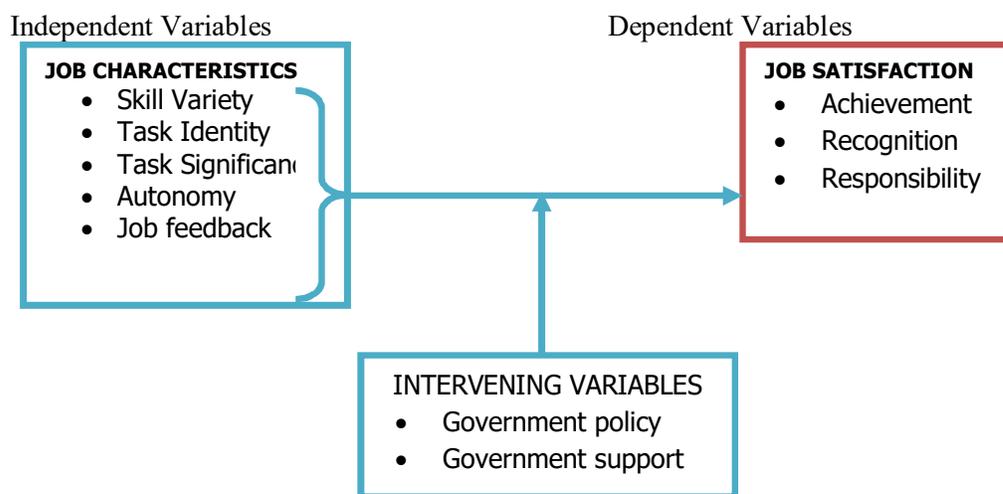


Figure 1.1. Conceptual Framework for the study of the influence of job characteristics on job satisfaction

To understand the causes of job satisfaction the following models have been applied, namely need fulfillment, discrepancy, value attainment, equity, and dispositional/ genetic components as described here below (Luthans, 2005). Studies on the influence of Job Characteristics on Employees' Job Satisfaction have been conducted mainly in European countries and less in African countries. However, in Tanzania the

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reviewed empirical studies on Employees' job satisfaction have focused on non-job related (extrinsic) factors- (Uan, 2007; Kafyeta, 2015; Mteteleka, 2016; Msuya, 2016; HakiElimu, 2016) - rather than on job-related (intrinsic) factors identified in this study. Therefore, conducting the proposed study in the context of Tanzania will add knowledge on the concept of job characteristics and their influence on employees' job satisfaction to help business organizations, both public and private, have alternative strategy for employees' motivation and satisfaction. Job satisfaction is one's feelings or state of mind associated with the work. This definition is similar to that of Locke cited above in that both view job satisfaction as an individual's psychological reaction towards job (Chughati and Perveen, 2013).

Methodology

Research area

The study was conducted in Mwanza city at the College of Business Education in Nyamagana district, involving all its workers for a broad comprehension of the problem.

Research Design

The study applied case study design; case study method recommends the triangulation of data by using different techniques, such as a survey, interview, and experiment. For this study the case study approach was used to collect information from College Of Business Education (CBE) mwanza staffs in getting an in depth analysis of the factors which influence job satisfaction.

Target Population

The target population for this study was the total number of employees, both academic and administrative staff, at the College of Business Education, Mwanza Campus.

The College of Business Education, Mwanza Campus had a population of 52 employees at the time of this study, who are less than 100 subjects. According to Wilson (2010 p. 202), "If the population is small, for example, less than 150, the entire population are in the position to be included in the study, the advantage being that it eliminates sampling error data on all individuals". From this view, the study involved the whole population of 52 employees, making 100% of the total population.

Table 1. 1 The target population of the study

S/N	Unit of Study	Number of Employees
1	Lecturers	22
2	Administrative Staff	30
3	Total	52

Source: College Of Business Education (CBE) Mwanza Human Resource Office (2018).

Methods of Data Collection and Study Tools

Method refers to the instrument to be used to collect data during the study process (Kothari, 2004). Different instruments such as interview, focus group discussion, and questionnaire are used by researchers to collect data, involving only one or more than one instrument (Wilson, 2010). The researcher, for the purpose of this study, used a questionnaire instrument only to collect data.

Questionnaire Method

Questionnaire refers to a list of written questions for respondents to answer in order to provide the researcher with information sought in relation to the problem to be solved (Kothari, 2004). The researcher designed questionnaire based on the specific objectives of the study and distributed them to respondents for self-administration at their own time. The questions were all closed-ended with specific stimuli on which to respond. Responses from closed-ended questions are easier to analyze as well as time serving (Saunders et al, 2012). Another reason to justify the researcher's choice of questionnaire is that it excludes the researcher's bias (Adam & Kamuzora, 2008). The researcher prepared questionnaire in a form of Likert-

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Scale (LS). LS is an ‘attitude question’ with an aim to understand a respondent’s attitude toward a particular subject by selecting a statement or statements that matches with their opinions (Wilson, 2010). The questionnaire had five job characteristics with three statements each, making a total of 15 statements. From each job characteristic, the respondents were instructed to tick on the respective statement that matched with their perceptions basing on the five Likert scale item; namely, strongly disagree, disagree, uncertain, agree, and strongly agree. Likert scaling is easy to record, analyze, and interpret, that is why the researcher opted this question asking technique.

The researcher prepared the questionnaire before the study began and it consisted of two parts. Part one was about demographic items such as gender, age, education level, and Part two was about job characteristics, namely skill variety, task identity, task significance, autonomy, and job feedback in relation to job satisfaction on which statements were made about achievement, recognition, and responsibility. To achieve and ensure reliability and validity, the questionnaire was piloted involving part of the target population who then were not involved in the actual study. The questions that proved to be unintelligible or ambiguous were omitted and others were designed or reconstructed to elicit clear and direct responses. Thereafter, the questionnaires were distributed by hand to the respondents to fill in and return them at a specified time. The researcher made close follow up through physical visits or via telephone calls to encourage respondents’ full participation.

Methods of Data Analysis

The term analysis refers to “computation of certain measures along with searching for patterns of relationship that exist among data groups” (Kothari 2004). Thus, analysis of data is an important process to reach at concrete findings of the study. Data were analyzed using descriptive statistics method and presented using distribution tables, graphs, and simple percentage.

Reliability and Validity

In research, validity shows the degree to which an instrument measures what it is supposed to measure (Kothari 2004). To achieve validity the researcher will design research questionnaire which are not ambiguous to be well and clearly understood by the respondents. Also, the questionnaire items will base on job characteristics factors, which are the focus of this study and on how these factors influence job satisfaction in terms of achievement, recognition, and commitment. To ensure construct validity the questions pre-tested the questionnaire using a pilot study. For the case of content validity, the researcher involved specialists including the research supervisor to review the questions prior to composing the final version. The content validity was also cross checked throw review of literature on job characteristics and job satisfaction as well as composing questions in a simple and direct language for easy understanding.

Reliability refers to the extent to which data collection methods yield consistent results (Kothari 2004). To ensure reliability the researcher tested the instruments before beginning to collect data to ensure that they are accurate and well understood by the respondents. In this regard, questions were constructed in simple and direct language, which respondents can clearly understand. Additionally, the researcher gave respondents enough details or explanations to make them understand what they were supposed to do. On top of this, the researcher composed questions which were free from bias to avoid predetermined responses.

Results and Discussion

The fifteen statements on which the respondents provided their views focused on how each of the core job characteristics mentioned influences job satisfaction. Specifically the study aimed at determining:

- i. The level to which skill variety influence achievement, recognition, and responsibility.
- ii. The degree to which task identity influence achievement, recognition, and responsibility.
- iii. How much task significance influence achievement, recognition, and responsibility.
- iv. The extent to which job autonomy influence achievement, recognition, and responsibility.
- v. The extent to which job feedback influence achievement, recognition, and responsibility.
- vi. Job characteristics which have higher influence on achievement, recognition, and responsibility.

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S/No.	Job content Satisfaction	Strongly agree		Agree		Uncertain		Disagree		Strongly disagree		Total %
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	Achievement	13	31.0	18	42.9	4	9.5	3	7.1	4	9.5	100
2	Recognition	10	23.8	11	26.2	4	9.5	8	19.0	9	21.4	100
3	Responsibility	7	16.7	13	31.0	5	11.9	9	21.4	8	19.0	100

The study revealed that 31(73.9%) of the respondents agreed and strongly agreed that skill variety influences achievement; 7(16.6%) disagreed and strongly disagreed, and 4(9.5%) were uncertain. With respect to recognition, 21(50%) agree and strongly agree that skill variety influences recognition while 17(40.4%) were disagree and strongly disagree; 4(9.5%) were also uncertain. Besides, 20(47.7%) were agree and strongly agree with the view that skill variety has influence on responsibility but 17(40.4%) were disagree and strongly disagree and 5(11.9%) were not sure. All this shows clearly the levels of influence of skill variety on the three dependent variables. This finding implies that employees get satisfaction in job when they meet their achievement need. It also suggests that employers need to consider employees' achievement need as a source of employees' job satisfaction. The finding is also in line with Pink(2011) with his mastery drive for work motivation when he states that people require to get(achieve) better at what they do.

S/No.	Job content Satisfaction	Strongly agree		Agree		Uncertain		Disagree		Strongly disagree		Total %
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	Achievement	13	31.0	19	45.2	4	9.5	6	14.3	0	0.0	100
2	Recognition	12	28.6	15	35.7	6	14.3	7	16.7	2	4.8	100
3	Responsibility	10	23.8	21	50.0	3	7.1	6	14.3	2	4.8	100

The study also revealed that on achievement 32(76.2%) respondents were strongly agree and agree; on contrast 6(14.3%) were disagree and strongly disagree, and 4(9.5%) of the respondents were uncertain. With regard to recognition, 37(64.3%) were strongly agree and agree. On the other hand, 9(21.5%) were disagree and strongly disagree and 6(14.3%) were uncertain. On the aspect responsibility, 31(73.8%) were strongly agree and agree; 8(29.1%) were disagree and strongly disagree and 3(7.1%) were uncertain. This finding implies that the job that gives the employee feelings achievement, recognition, and responsibility is

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likely to be regarded significant by the employee, and this is likely to motivate him or her to work. However, this finding does not concur with that of Tungkiatsilp's (2013) study in which task significance was found to have no positive relationship with job satisfaction.

S/No.	Job content Satisfaction	Strongly agree		Agree		Uncertain		Disagree		Strongly disagree		Total %
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	Achievement	22	52.4	14	33.3	1	2.4	2	4.8	3	7.1	100
2	Recognition	12	28.6	20	47.6	3	7.1	6	14.3	1	2.4	100
3	Responsibility	15	35.7	18	42.9	2	4.8	5	11.9	2	4.8	100

The data presented in Table generally reveal that 36(85.7%) of the respondents agreed that job feedback give them feeling of achievement; another 5(11.9%) disagreed, and1 (2.4%) of the respondents was uncertain. On the statement whether getting information back about their jobs gave the respondents feeling of recognition, the results were 32(76.2%) strongly agree and agree, 7(16.7%) disagree and strongly disagree, and 3(7.1%) uncertain. Those who generally agreed that getting information about their job gave them feeling of responsibility were 33(78.6%) and those who generally disagreed were 7(16.7%), meanwhile 2(4.8%) were uncertain.

This finding implies employees' great need for job feedback. This is because it helps them get information about their job outcomes and make any improvements where is applicable.

The finding of this study agrees with David McClelland theory in which he observed that the three important motives that drive people to work are: the need for achievement, power and affiliation.

Conclusion and Recommendations

The major conclusion is that, the job characteristics of skill variety, task identity, task significance, autonomy, and feedback, although at different levels, provide employees with feeling of job satisfaction if they are integrated in their jobs. There is limited knowledge about job characteristics and their internal satisfying effect for work motivation. This might be the reason for those respondents who were uncertain about the statements on whether the job characteristics studied gave them feeling of achievement, recognition, and responsibility. Job satisfaction is prerequisite to employees' job performance as a satisfied worker tends to work harder and well, a goal which every business organization must strive to achieve and accomplish for improved performance and increased productivity.

Recommendations

Job characteristics as presented in this study should be considered and incorporated in work during job redesigning and job description. Organizations (employers) should assist employees achieve their personal goals and that of the organizational as achievement has proved to have higher influence among other variables of job satisfaction. Organizations, particularly College Of Business Education (CBE), should conduct in-house training on job characteristics, as they seem to be unfamiliar, to empower employees with knowledge of their influencing effect on job satisfaction, to help them change their mindset.

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Relationship Between Customer Satisfaction Levels And Service Quality In Tanzania, The Case Of Households Connected With Natural Gases In Dar Es Salaam

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Abstract

The main objective of this study was to examine the relationship between levels of customers' satisfaction and service quality in Tanzania, taking households connected to natural gas service in Dar es salaam as a case study. Questionnaires were used in data collection from natural gas customers in 146 houses connected to natural gas service, all residing in Dar es salaam in a following distribution; 65 natural gas customers residing at TPDC housing estates (Mikocheni) and other nearby estates which include Twiga flats that accommodate 24 residents and government officials' estates (Mawaziri Estates) having 47 residents and 10 houses at Survey Street. Additionally, interview was conducted with TPDC staff from gas business department to solicit more information about natural gas sector. Data were analysed using SPSS software; Pearson correlation analysis were used to deduce the relationship between customer satisfaction and service quality while Cronbarch's Alpha were used to determine reliability of data collected. The findings revealed that in most cases service quality delivered equals the level of customers' expectations which lead to customers' satisfaction. Furthermore, there is significant strong relationship between customers' satisfaction and all dimensions of service quality (tangible, responsiveness, reliability, empathy and assurance). However, service provider empathy showed highest correlational coefficient of all other dimensions. Since there is just a small Tanzanian population enjoying domestic supply of natural gas such that delivered service equals to their expectation, a researcher calls for speeding up the connection of more households to service, this should go together with improving bills payment systems through installation of pre-paid meters.

Key words: Service quality and customer satisfaction

Introduction

Over many years, natural gas has been one the primary sources of energy. Natural gas forms 24% of total world primary energy consumption just behind a coal 30% and oil (Petrol) 33% (World Energy Council, 2020). Natural gas is hydrocarbon drilled from reservoir rock of onshore and offshore of some parts of world, and it includes Methane, Ethane and Propane. Natural gas resources should be distributed from the source to the targeted market. In city/town gas distribution market segment, a common method of distribution is either through compressed natural gas (CNG) or piped natural gas. Piped natural gas is for domestic use, industrial use or commercial activities. Domestically, natural gas is used for cooking and heating, it is environmentally friendly and cost-effective alternative to other household sources of energy such as liquefied petroleum gas (LPG), electrical energy and charcoal (Paliwal & Yadav, 2019).

In Tanzania, the implementation of exploration, development and distribution of natural gas is done by Tanzania Petroleum Development Corporation (TPDC), a national oil company under a Ministry of Energy. More ever, Gas Supply Company (GASCO), a TPDC subsidiary company has been established specifically for distribution of natural gas (www.tpdc.co.tz, accessed on 15th April 2021). Furthermore, Tanzania has plenty reserves of natural gas, it is estimated that total natural gas discovered so far from both onshore and offshore basins is around 57.3 trillion Cubic Feet (TCF) of which only small gas fields have been developed. For this reason, the Government laid down 533Km gas pipeline from Mtwara to Dar es salaam to capitalize the domestic market. Until now, more than thirty-eight (38) industries, eight (8) electrical power plant and more than 150 households are connected with natural gas in Dar es salaam while there are almost 425 households connected to natural gas service in Mtwara. So, in order to be economical while competitive in the industry there were a need to conduct the thoroughly researches about service quality and level of satisfaction for current customers.

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It should be noted that companies including international oil and gas companies have been seeking strategies to satisfy their customers because it is important for the business profitability as well as a business success in long run. Customer satisfaction is one of the determining factors for customer loyalty and in many cases; it results customer retention (Zhou, 2019). It is not easy to please and satisfy a customer but in a concept of customer orientation, the customer is always should be treated as correct and right in what she/he states, the customer should not be viewed as only a consumer or buyers of business services or product but also should be considered as business strategic partner, it is a reason business theorist suggested that customer is a king. Marketers believes that maintaining and satisfying customers is cheaper than acquiring new customers, satisfied customers will keep buying a business services or products and also being a good ambassador of a business (Hamzah & Shamsudin, 2020).

Many determinants for customer satisfaction are available. Ajema (2019) suggested that 4ps of marketing namely; product quality strategy, price strategy, distribution strategy and promotion strategy if are implemented well may influence customer satisfaction. Parasuraman et al., (1988) linked customer satisfaction to perceived service quality, and designed a model to show the linkage between five dimensions of service quality and five gaps of which gap 5 is the discrepancy between perceived and expected service (that is a definition of customer satisfaction). Service quality defined as is a subjective term used to explain how well the service received matches with the customer perception and expectation.

According to Parasuraman et al., (1988), five dimensions defined below were suggested to be applicable in measurement of service quality:

Reliability:	Extent of service or product dependability with full trust
Tangibles:	Refers to staff physical appearance, service facilities and equipment
Assurance:	Level of confidence possessed by customers on a company service
Responsiveness:	Rate of responding to customers
Empathy:	Customer feeling of being cared by service provides

Customer satisfaction is seemed to be a challenge for many sectors of Tanzania public services. The business researchers highlighted that unsatisfactory customers' cases on public services are due to poor customer care among the government staff and lack of regular government support to improve infrastructure and services (Haule 2016). For the case of natural gas service supply, customer complaints were noted such as long procedures of paying service bills. It should be noted that Tanzania is becoming larger producer of natural gas and a big region competitor due to the enormous discoveries of natural gas in sedimentary basins of southern coastal region (TPDC, 2018). As expansion of high capital and technological intensive project of distributing natural gas to houses in Dar es salaam as well as Lindi, Mtwara and Pwani undertake, it is important to keep current customers happy and satisfied in order increase current and future customer purchases thus justify a value of planned expansion.

Therefore, this study focused on five dimensions of service quality in examination of relationship of service quality with customer satisfaction taking household connected with natural gas in Dar es salaam as case study. A choice of households as a case study based on the fact that researcher needed to collect opinions and views from ordinary Tanzanians because that natural gas supply service may serve the interest of many Tanzanians.

General Objectives

The main objective of this research was to examine the relationship between levels of customer satisfaction and service quality in Tanzania, taking of households connected to natural gas service in Dar es Salaam as a case study.

Specific Objectives

- To determine customers' expectations on service quality of household natural gas supply.
- To examine the customers' perceptions on service quality of household natural gas supply.

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- To examine the relationship between service quality dimensions and customer satisfaction levels.

This study will bring basic information necessary for natural gas operators to keep their wide range of customers happy and satisfied. Satisfied customers mean a lot to natural gas sub sector, energy industry and the government also. Satisfied customers spread positive word mouth to others, they help to outpace competition but also, they increase current and future customer purchases also this study adds necessary facts important for academicians and other researchers. The primary data that collected then analyzed bring important knowledge for academic reference and for literature review; the study created further opportunities for other researchers to work on because identified other important areas related to levels of customer satisfaction on perceived service in natural gas work on.

Theoretical Framework

SERVQUAL model is a five-gap model established to show the five dimensions of service quality and discrepancies that may exist between customers expected service and perceived service (Gap 5), service delivery and external communication (Gap 4), service quality specifications and service delivery (Gap 3), management perception and service quality specification (Gap 2), customer expectation and management perception (Gap 1) (Parasuraman et al., 1988). Basing on the model, Gap 5 (exist between customers expected service and perceived service) illustrate the perceived service. If the perceived service is equal or slightly above the customer expectation then there is a satisfaction of customer, if the perceived service is below the expectation the customer there is a dissatisfaction of customer (Leninkumar, 2017).

Figure 1 shows Service quality (SERVQUAL) model, a simplified model to show the discrepancy between perceived service and expected service

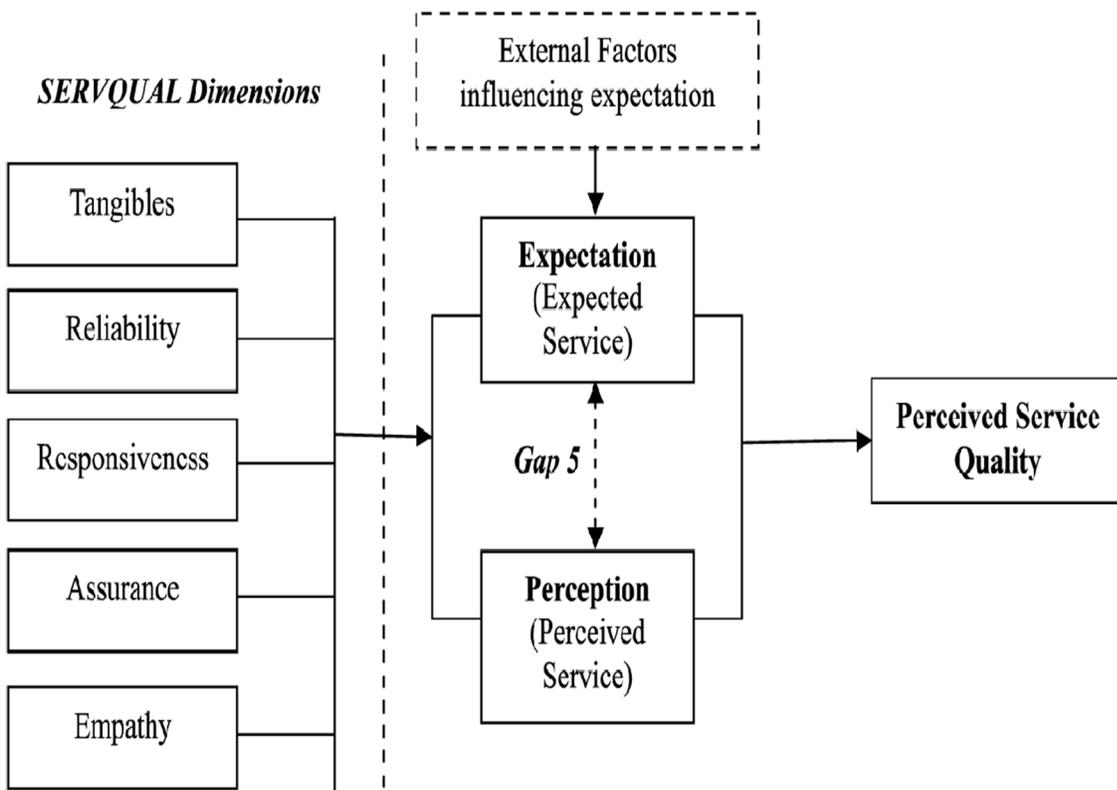


Figure 1: Simplified Service quality (SERVQUAL) Model
Source: Kumar et al., (2009)

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Recently, Service quality (SERVQUAL) Model has been important model in studying the relationship between service quality and customer satisfaction (Nkyami 2016; Iddrisu et al., 2015; Temba, 2015). The strength of the model lay on the fact that customer satisfaction relies on the perceived service rather the actual service but also it accounts the presence of external factors that influence customer expectation. The applicability of Service quality (SERVQUAL) Model in this study holds due to fact that the study involves constructs which are also the variables of the model. On other sides, some scholars have presented their arguments on the applicability of the model in studying the relationship between service quality and customer satisfaction levels, according to Temba (2015) pinpointed that there were few evidences that justify customer evaluate service quality in terms of discrepancy between perceived service and expected services but also there an ambiguity in measuring the customer expectation.

Methodology

Description of the Study Area

The study population consisted of 146 natural gas customers in Dar es salaam distributed as follows; 65 customers residing at TPDC housing estates (Mikocheni) and other nearby estates which include Twiga flats that accommodate 24 residents and government officials Estates (Mawaziri Estates) having 47 residents and 10 houses at Survey Street (TPDC, 2020). This study population involving households connected with natural gas chosen as case of study over others such industries and hotels because a researcher needed collected diversified views, opinions, comments from mixed groups of natural gas users who are ordinary Tanzanians so that natural gas supply service may serve the interest of many. Additionally, staff from department of gas business of Tanzania Petroleum Development Corporation (TPDC) was involved in order to solicit more information about natural gas sector but also checking and balances responses collected from the customers. This department consisted of 11 staff was selected because their core function relates to subject under investigation.

Research Design and Sampling Techniques

This study employed cross sectional design and quantitative approach. Quantitative research is the research that use quantitative methods to examine measurements and data collected (Saunders, 2009). Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon. The choice of this approach is based on the fact that a study involved variables that a researcher needs to measure them quantitatively. Cross section research design refers to type of research design where by data collection is done at a point of time, it is contrary to longitudinal research design (Saunders, 2009). The choice of mentioned research design is based on the consideration that the study contained many variables; according to Levin (2006) cross sectional design is a good design for study having many variables needed to be studied at same time.

Sampling Strategies

The study employed both proportional stratified sampling and simple random sampling for selecting responds from population of natural gas customer but also Purposive and Convenience sampling techniques were used to selecting TPDC staff for Interview. According to Saunders (2009), Stratified sampling technique refers to a type sampling which involve population members with different characteristics. A stratified sampling is proportional if the sample sizes are distributed according the size of strata, purposive sampling refers to purposive selection of participants in the study considering a number of characteristics based on a phenomenon being investigated while convenience sampling refers to the type of sampling done due to respondent availability. Purposive sampling techniques chosen is such a way that only department of gas business of TPDC were selected in order for the researcher to achieve the objectives of study. Also, convenience sampling techniques were chosen because staff from department of gas business was very busy with onsite assignment and rarely available in their office, then researcher interviewed staff who were available and willing to respond.

A statistical formula Yamane (1967) elaborated below were used during calculation of the sample size for respondents.

$$n = N/[1+N (e^2)]$$

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Whereby,

n- Sample size

N- Total target population

e- Degree of accuracy desired set at = 0.05

$$n = N / (1 + N(0.05)^2)$$

Sample sizes are summarized under the table below:

S/N	STRATA (RESPONDENTS)	POPULATION SIZE	% POPULATION SIZE	SAMPLE SIZE
1	TPDC Housing Estates residents	65	45%	48
2	Mawaziri Estates residents	47	32%	34
3	Twiga flats residents	24	16%	17
4	Survey streets residents	10	7%	8
TOTAL (Customers)		146	100%	107

Furthermore, sample size for staff from Tanzania Petroleum Development Corporation (TPDC), Department/Section of Gas business was determined as follows:

N = 11 (Total staff from gas business section/department)

$$n = 11 / [1 + 11(0.05)^2] = 11$$

Sample size for TPDC staff was 11 only TPDC Staff from Gas Business Section/Department were involved in the study because the core function of these departments relates to the nature of subject being investigated. Total samples size for this study was: 107 (customers) + 11 (staff) = 118

Types of Data and Variables

Research involved dependent and independent variables; dependent variable was customer satisfaction while independent variable was service quality comprising five dimensions including service Reliability, Empathy, Assurance, Responsiveness and Tangibles. Table below describe of depend and independent variables with factors that used to measure them.

S/no	VARIABLE	DIMENSION	STATEMENT (Factors to measure a variable)
1	Customer satisfaction	Customer satisfaction	Customer willingness to switch to competitor
			Customer willingness to spread positive word-of-mouth about the natural gas service
			Extent to which customer expectation is met
			Customer willingness to use a service for longer time
			Extent to which customer complaints are resolved
2	Service quality	Reliability	The supply of services being exactly as promised
			Ability of service providers to meet repair and maintenance schedules
			Trustfulness of service providers handles challenges and technical problems
		Empathy	Service provider operation hours being convenient to customers
			Willingness of service provider to make follow up or

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			looking for feedbacks on the issues
			Service provider having customer interest at his/her heart
		Responsiveness	Availability of easy access to contact a service provider
			Availability of regularly and timely information relating to provision of service.
			Convenience and easiness of payment service bills
		Tangibles	Presence modern natural gas facilities
			Appearance of Service provider staff
			How service provider staff equipped with working tools
		Assurance	Service provider staff well-disciplined when interacting with customers
			Service provider staff have adequate knowledge on service provided
			Customers feel safe when using natural gas

Furthermore, a researcher collected quantitative data natural gas customers using questionnaire but also results were supplemented by qualitative data collected from TPDC Staff (Gas Business Section/Department) by interview

Data Presentation and Analysis

General Characteristics of the Respondents

The study involved total 118 respondents, of which 107 were household natural gas customers residing at TPDC Housing Estate, Twiga flats (Mikocheni), Survey Street and Mawaziri Estates while 11 respondents were TPDC staff from a department gas business. Data were collected using questionnaire for customers and interview for TPDC staff, the average response rate were 76.3% for which 84% were for questionnaire and 54.5% for interview

Gender, Age, Education and Years in using natural gas for respondents (Source: field data, 2021)

		Frequency	Percent (%)
Gender	Male	61	67.8
	Female	29	32.2
	N	90	100
Age	Below 30 years	4	4.4
	31-40 years	60	66.7
	41-50 years	21	23.3
	Above 51 years	5	5.6
	N	90	100
Education	Below Form IV	6	6.7
	Form IV/ Certificate	17	18.9

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	Diploma/Degree	41	45.6
	Masters/PhD	26	28.8
	N	90	100
Number of years in using natural gas (Customers only)	0 - 2 years	53	63.1
	1 - 5 years	21	25.0
	More than 5 years	10	11.9
	N	84	100

Results show that majority of respondents were male forming 67.8% while female were fewer forming 32.2%. The age of respondents was such that majority were between 31-40 years while minority below 30 years. Results showed many respondents were having diploma/degree while fewest were possessing education below form IV. Furthermore, 61.1% of household natural gas customers have been using natural gas between 0.2 years while 11.9% have been using natural for than 5 years

Validity and Reliability of Data

To ensure data collection tools are valid, a discussion with some experts and supervisor were done; opinions from few potential respondents were collected to ensure the clarity of questionnaire guide. There were few improvements to correct errors and inclusion of missing items. The pilot study was followed, behaviors of responses were observed in comparing to study objectives and information already available about subject under the study, few significant recommendations to improve study were taken before real data collection.

Reliability analysis of data was done using Cronbach's Alpha. Cronbach's Alpha is the statistical method for testing constructs' reliability in research. Alpha value above 0.76 up to 0.96 is the acceptable level in most of the studies (Glesne and Peshkin, 1992). Results showed that Cronbach's Alpha follows between 0.810 and 0.869 which is within the acceptable range of 0.76 to 0.99 thus good for further data analysis. However there were a good range of Cronbach's Alpha, a room for improving Cronbach's Alpha for few variables (assurance and customer satisfaction) were observed such that Cronbach's Alpha for customer satisfaction were modified by deleting one item (i.e. Willingness to spread positive word of mouth about the natural gas service) to change from 0.826 to 0.869, also Assurance (expected assurance) were improved by deleting one item (Service provider staff have adequate knowledge on the service provided) to change from 0.816 to 0.819.

Analysis of Specific Objectives

Objective One: To determine customers' expectation on service quality of household natural gas supply

For this objective, set of predetermined questions were used to assess the extent on which the customers expected to perceive basing on five dimensions/variables of service quality namely empathy, responsiveness, reliability, assurance and tangibles, results are tabulated in table 7 below. Scores are delivered from a scale; 1 = Strongly disagree, 2= disagree, 3= Neutral/ don't know, 4= Agree, 5= Strongly agree as used in 5-point likert scale of questionnaire used in measuring customers expectation on the service quality.

Results showed that Mean score for customers' expectation on service quality range between 3.77 and 3.84 while the minimum score was 1.00 and maximum score were 5.00, thus results show that there were high expectations for good service quality. Furthermore, results for statements used to measure service quality dimension showed that there were low customers' expectations on professional dressing which mean scores were 3.75 while highest customers' expectations were on Handling challenges and technical problem which mean scores were 3.93.

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Objective two: To examine the customers’ perception on service quality of household natural gas supply. In examining the quality of service received, set of predetermined questions were used basing on five dimensions/variables of service quality namely empathy, responsiveness, reliability, assurance and tangibles, results are tabulated in table 9 below. Scores are delivered from a scale; 1 = strongly disagree, 2= disagree, 3= Neutral/ don’t know, 4= Agree, 5= strongly agree as used in 5-point likert scale of questionnaire were used in measuring customers expectation on the service quality

Results showed high perception on assurance while was low on service provider responsiveness. Furthermore, results for statements used to measure service quality dimension showed that there were low customers perception on easiness of paying service bills and Convenient operating hours which mean scores were 3.74 while higher customer perception were on availability of natural gas as promised which mean scores were 3.92.

DIMENSION		TANG	REL.	RESP.	EMP.	ASS.	SATIS
	Sig. (2-tailed)						
	N	84					
P-RELIABILITY	Pearson Correlation	.950**	1				
	Sig. (2-tailed)	.000					
	N	84	84				
P-RESPONSIVENE SS	Pearson Correlation	.945**	.907**	1			
	Sig. (2-tailed)	.000	.000				
	N	84	84	84			
P-EMPATHY	Pearson Correlation	.923**	.956**	.921**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	84	84	84	84		
ASSURANCE	Pearson Correlation	.915**	.898**	.963**	.935**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	84	84	84	84	84	
P-SATISFACTION	Pearson Correlation	.953**	.932**	.952**	.972**	.967**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	84	84	84	84	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Correlation matrix presented in the above table shows the significant relationship between dependent variable and independent variables, such that there is a strong significant relationship between customer satisfactions and service quality dimension. Correlation coefficient is ranging between 0.932 to 0.972, thus service provider empathy reveals strongest relationship to customer satisfaction than others.

Analysis from the Interview Data Collected

Data collected through questionnaires were supplemented by those collected through interview with TPDC staff from department of gas business. The following are additional information that were extracted;

Customer Expectation

Respondents agreed to results from questionnaires that the expectation is higher, there is a customer trust on service provider to deliver good services, media have been helpful in informing public about how good natural gas is for domestic use, thus create an excitement to others who not yet connected to natural gas service however the speed of connecting more households is low. The fundamental reason for low speed in expanding supply of service is high cost; for instance, it was reported that cost for connecting 10 houses with natural gas is more than connecting 100 houses with water supply hence the connection to more houses

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is on-going in phases subject to availability of funds.

Customer Perception

Responses revealed that the feedbacks that received indicates that customers perceive well natural gas services, there is customer delight which is one indicator for customer satisfaction. Also, the questionnaire results agree with that of interview in regard to customer perception, furthermore respondents agree customers are willing to spread positive word mouth about natural gases services.

Customer Satisfaction

As the questionnaires results revealed in regard to customer satisfaction, interview justified that there is customers' satisfaction. Respondents agreed that customers are enjoying a cheap service in relation to other available sources of energy for cooking. It was noted that, using natural gas is cheaper by 40 % than domestic liquified petroleum gas. They have been handling so quickly reported technical issues and challenges, this agrees with results from questionnaire.

Findings Discussion

Empathy

Service provider empathy was the dimension having the most significant and the strongest relationship with customer satisfaction among others with Pearson coefficient $r=0.972$ at $p<0.05$. Empathy was defined by operating hours of service provider, availability of regularly and timely information relating to provision of service but also the convenience and easiness of payment service bills. However, this service quality dimension having the strongest relationship with customer satisfaction, results reveal customer expectation could not met in some areas, for instance operating hours were not convenient for most of questionnaire respondents thus its mean score on expectation were 3.77 while mean score on perception were slightly low as 3.74. It was further discovered that inconvenient operating hours for most of customers were because there only 2 hours of operation per day in three days of the week for processing service bills. It has revealed that many studies agree that there is a strong relationship between service provider empathy and customer satisfaction. However, other researches are contrary to the finding, for instance according to Panjaitan & Yulianti (2016) who studied customer satisfaction in freight company of Indonesia namely Cabang JNE Bandung showed that empathy were having low influence towards customer satisfaction while others dimension showed significant influence.

Assurance

Natural gas supply assurance was defined by customer safety levels when using natural gas and staff discipline when interacting with customers. Correlation coefficient between Service assurance and customer satisfaction was 0.967 at $P<0.05$; this is a significant and strong relationship. The customer perceptions mean score was 3.84; this was higher than the expectation which its mean score was 3.78 implying satisfaction with natural gas supply assurance. The results agree with Johnson & Karley (2018) who analyzed the customer satisfaction as influenced by service quality in Liberia taking Liberia Revenue Authority as a case study and revealed that customer satisfaction was much influenced by number of factors including service assurance. This was contrary to the research done by Naidoo (2011, 2014), Khan & Fashi (2014) who suggested different views.

Tangibles

Tangibles were defined by availability of modern infrastructures and facilities, staff equipped with sufficient tools and professional outfit. This dimension of service quality was having significant strong relationship with customer satisfaction having correlation coefficient $r = 0.953$ at $p<0.05$, the results show that customer expectation in regards to service tangibles were 3.77 and customer expectation were 3.83 implying satisfaction. Furthermore, this agree that customers are satisfied with the quality of household natural gas infrastructure and facilities, service tools used by staff maintenance team but also staff professional outfit. These results disagree with Matthews & Mokoena 2020 studied examination of relationship between customer satisfaction and service quality in Visa provision centers of South Africa who revealed there were no significance relationship between tangibles and satisfaction and suggested that Visa facilitating centers managers should find and established best customer satisfaction strategies.

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Reliability

This dimension also was having a significant strong relationship ($r= 0.932$, $p<0.05$) however it was the lowest in comparing to others. Availability of natural gas supply as promised, meeting repair and maintenance schedules, handling challenges and technical problem were a statement used to defined service reliability. Customer expectation on service reliability were 3.83 while perception was slightly low as 3.80. Service perception on natural gas availability were higher than expectation implying satisfaction on its natural gas supply similar perception on meeting repair and maintenance schedules were higher what expected. However, different results were revealed by Sandanda & Matibiri (2016) who studied South African airline to analyze the influence of service quality such as reliability (frequent flier program and safety issues) on customer satisfaction. Findings suggested that good service quality have positive relationship with customer satisfaction however there were no relationship between frequent flier programs and safety perception with customer satisfaction. However, customer satisfaction, frequent flier programs and safety perception are antecedents of customer loyalty.

Responsiveness

Service provider responsiveness was defined by timely provision of information, accessibility of service provider and easiness of paying service bills. The mean score on 5-likert scale of customer expectation in regard to service provider responsiveness was 3.81 while perception was slightly before 3.79. The results shows that customers are not satisfied with the way paying service bills, the mean score on customers' perception in regards to procedures of paying service bill were 3.74 comparing to expectation mean score of 3.76 however they agree with the way information regards to supply of natural gas in households are disseminated. Moreover, this dimension of service quality shows the strong relationship with customer satisfactions, the Pearson Coefficient was 0.952 at $P<0.05$. Results agrees with Kiangi (2015) studied electrical billing system who took TANESCO Ilala as a case study revealed the availability of two type of payment systems which prepaid and payment after use. Some customers were not satisfied with payment difficult due network issues and other lamented that they have to travel over long distances to TANESCO offices to look for solution related to billing payment system.

Customer Satisfaction

Levels of customer satisfaction were determined using indicators of self-satisfaction including customer willingness to switch to competitor, willingness to spread positive word of mouth about the natural gas service, extent to which customer expectation is met, willingness to use a service for longer time and extent to which customer complaints are resolved. One indicator, "willingness to spread positive word of mouth about the natural gas service" were eliminated in order improve internal consistence of the results. Results showed that mean score for customer satisfaction was 3.81 on a 5-likert scale, this imply that customers agree they are satisfied with quality of natural gas services received. Furthermore, Pearson Coefficient of correlation was used to determine the relationship with dimensions of service quality. Results showed that there were strong significant relationship at $P<0.05$, Pearson Coefficient of correlation were ranging between 0.972 and 0.932. The results agrees with many other studies, for instance Bharwana et al (2013) analyzed the impact of service quality on customers' satisfaction and retention in Pakistan; the results showed that better services are the most important factors toward the customer satisfaction, the results indicated a positive correlation between satisfaction and service quality.

Furthermore, results disagree with Haule (2016) who analyzed the level of customer satisfaction in government services and revealed there is customer dissatisfaction which is due to poor customer care among the government staff and poor infrastructures.

Conclusion and recommendations

The conclusion that can be drawn from the results is that, the customer's expectation on service quality of household natural gas supply is higher; there is a customer trust on service provider to deliver good services. The services delivered almost meet customers' expectations, however there are few areas where the perceived service quality was slightly below the expectation included service provider responsiveness, empathy but also long procedures of paying service bills as well as time allocated to process requests for

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service bills. Results agree that there is a significant strong relationship between customers' satisfactions and quality of services.

Basing on the findings, researcher recommends service provider should increase a speed of connecting natural gas services to more other households. It is suggested that as expansion of household connection to natural gas is to be in consideration, should go together with improving bills payments systems to reduce time taken by customers to process service payments. Service provider may consider the installation

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Financial performance of Commercial Banks and the Camel model. A case of National Microfinance Bank and Cooperative Rural Development Bank in Tanzania

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Abstract

The study focused on evaluating the financial performance of two major banks in Tanzania namely National Microfinance Bank (NMB) and Cooperative and Rural Development Bank (CRDB) and a CAMEL model was fully applied to assess these banks financial soundness. CAMEL parameters used entails (Capital adequacy, asset quality, Management efficiency, Earning quality and liquidity). Secondary data was sourced from the annual reports from 2012-2019. For analysis of the data, the study used both descriptive analysis (to show the financial soundness of the two banks via Microsoft excel) and a fixed effect Panel regression analysis (on the components of CAMEL model). Fixed Effect Panel . Regression was used to ascertain the relationship between CAMEL parameters and financial performance (ROE) of these selected banks via SPSS version 23. The findings reveals that, commercial banks in Tanzania are mostly affected by earning capacity and liquidity position. The other three factors are not consistently affecting ROE as a measure of financial performance. The study recommends that the Bank of Tanzania (BOT) should not focus on revoking the licenses of least performing banks as this act can harm the well-being of the economy rather the latter should support and advice the commercial banks on the best ways of being financial sound by improving banks internal factors (CAMEL).

Key words: Capital adequacy, Asset quality, Management efficiency, Earning quality, Liquidity and Tanzania

Introduction

Background Information

Financial sector is the backbone of the economy of any country. It works as a facilitator for achieving sustained economic growth through providing efficient monetary intermediation. A strong financial system promotes investment by financing productive business opportunities, mobilizing savings, efficiently allocating resources and makes easy the trade of goods and services. One of the most important prerequisite for ensuring the proper functioning of the economy of each country is undoubtedly the performance of its banking system. Banking sector is capable to fulfill its role of financial intermediary and sustain the economic growth and it's for a fact that banks as an intermediary serve as the backbone to the financial service sector which facilitates the proper utilization of the financial resources of a country (Tsegazeab & Ganesh, 2019; Boateng, 2019; Samuel, 2018). According to Aburime (2009) he contended that commercial banks plays significant role in channeling funds and contributing towards economic and financial growth and stability. A well-established and managed banking sector can absorb major financial crisis in the economy and can provide a platform for strengthening the economic system of the country. Podder (2012) further argued that the bank financial performance is vitally important for all stakeholders, such as the owners, the investors, the debtors, the creditors, and the depositors, the managers of banks, the regulators and the government. Further Padachi (2006) pointed out clearly that financial performance is the process of measuring the results of an organization policies and operations in terms of monetary value. The latter results are the inputs of the firm's profitability, liquidity, and leverage. Evaluating the financial performance of a business allows decision-makers to judge the results of business strategies and activities in objective monetary terms. Normally the ratios are used to determine the financial performance of an organization. A well designed and implemented financial management is expected to contribute positively to the creation of a firm's value

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Statement of the Problem

The banking sector's performance is believed to be a snapshot of the economic activities of the economy at large thus the banking industry development is a mirror reflection of the development of the economy of any country (Misra & Aspal, 2013). Commercial banks in Tanzania have passed through various regulatory and technological changes, some of the regulations that governs the banks and financial institutions are BOT Act 2006 and BFI Act 2006. In Tanzania specifically, in the beginning of 2018, the Bank of Tanzania closed five relatively small banks namely Mbinga Community Bank, Covenant Bank, Njombe Community Bank, Kagera Farmers' Cooperative Bank and Meru Community Bank Ltd for failing to meet capital requirements for an extended period. In July 2018 one of the top 10 banks in the country was put under Bank of Tanzania administration following persistent liquidity challenges (PWC, 2019). It's from this premise that the researchers decided to carry out a financial performance analysis study of two of the best performing commercial banks in Tanzania (CRDB and NMB) by measuring the financial soundness using CAMEL approach from the period of 2012 to 2019.

General and Specific Objectives

The objective of the study was to analyse the financial performance of selected banks with the aim of testing the relationship between financial performances by the use of CAMEL model

- a) To analyse the financial soundness of NMB and CRDB bank
- b) To find out the relationship between the parameters of the CAMEL rating model and the performance (ROE) of NMB and CRDB bank.

Significance of the Study

This particular study has a significant contribution to various parties. First and foremost the study provides relevant and significant information to the banking industry in the aspect of financial performance and suggestions of areas that need improvements. This study gives an insight about the current trends and performance of banks to the Bank of Tanzania (as a regulatory body), managers, customers and investors. On top of that the findings of this study will be used as reference by researchers interested in this line of work

Scope of the Study

The scope of this particular study was mainly constricted to two banks namely NMB and CRDB banks. The time period was from 2012-2019. The financial performance of these selected banks was measured using five elements of CAMEL.

Hypotheses of the Study

This study was guided by the following hypothesis

- H01: There is no significant influence of Total equity to total asset ratio on ROE.*
H02: There is no significant influence of Total debt to total asset ratio on ROE.
H03: There is no significant influence of financial asset to total asset ratio on ROE.
H04: There is no significant influence of NPL to total loans ratio on ROE.
H05: There is no significant influence of fixed asset to total asset ratio on ROE.
H06: There is no significant influence of Profit per employee ratio on ROE
H07: There is no significant influence of Total loans to total deposits ratio on ROE
H08: There is no significant influence of Net profit to total assets ratio on ROE
H09: There is no significant influence of Net interest income to total assets ratio on ROE
H010: There is no significant influence of Non-interest income to total assets ratio on ROE
H011: There is no significant influence of Liquid assets to total assets ratio on ROE
H012: There is no significant influence of Liquid assets to total deposits ratio on ROE.
H013: There is no significant influence of Government securities to total assets ratio on ROE

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In the context of this study the variable used were financial performance of the banks (dependent variable) measured by the return on equity (ROE) while the dependent variables were the CAMEL parameters namely Capital adequacy, asset quality, management efficiency, earning capacity and liquidity.

Literature Review

Theoretical and Empirical Perspective

Capital Adequacy

Capital adequacy is considered to be the primary indicator of banks financial performance. It is a very useful tool for measuring the banks' capability to bear unexpected losses as well as ability to sustain pressure arising from the financial systems. Capital adequacy is a reflection of the inner strength of a bank. It may have a bearing on the overall performance of a bank, like opening of new branches, fresh lending in high risk but profitable areas, manpower recruitment and diversification of business (.Ermias, 2016; Hamdu et al, 2015; Getahun, 2015).

Asset Quality

The financial health of banks may be assessed through its Asset Quality. Asset quality is another important aspect of the evaluation of a bank's performance under BOT guidelines, which covers the advances of a bank in terms of loans and assets and help the bank in understanding the risk on the exposure of the debtors.

Management Efficiency

Management quality reflects the management soundness of a bank which is usually qualitative and can be understood through the subjective evaluation of Management systems, organization culture, and control mechanisms and so on. Excellent management minimizes cost and increases productivity, ultimately realizing higher profits (Hazzi & Kilani, 2013).

Earning Quality

While, earning quality measures the profitability and productivity of the bank, explains the growth and sustainability of future earnings capacity. (Hazzi & Kilani, 2013).

Liquidity

According to Hazzi & Kilani (2013) liquidity ratio in a bank measures the ability to pay its current obligations Banks needs to have high liquidity solvency and transferability to enable them to meet short-term obligations. Liquidity crisis seems to be a curse to the image of banks and hence a prime concern to banks.

Theoretical perspective

CAMEL Model

The CAMEL Model was originated in 1979 as among the tools for measuring financial performance of Financial Institutions when the Uniform Financial Institutions Rating System (UFIRS) was implemented by the United States Banking Institutions to introduce ratings for onsite examination of banking. Under this system, banks are evaluated on the basis of five rating parameters with regards to bank's financial performance and operations (Sahajwala & Van den Bergh, 2000). These parameters are Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality and Liquidity are seen to mirror financial performance, financial condition, operations soundness and regulatory compliance of the banking institution (Getahun, 2015). Under these parameters banks are rated on a scale ranging from 1 to 5 for each of the parameter. The rank 1 is the highest rank indicating best performance while rank 5 is the lowest rank represents the worst performance. A composite rating is allocated as an abridgement of the parameter ratings and is used as the main indicator of the bank's financial situation (Aleku & Aweke, 2017). Moreover, several studies that used this model revealed that CAMEL framework was the best fit measurement the findings from Ethiopian banking industry proved helpful for the governor to set a well determined policy and procedures. (Hamdu *et al*, 2015).

Empirical Perspective

The Financial Performance of Banking sector has been measured by a number of researchers, academicians and policy makers previously in several years. A review of the significant studies that was conducted

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previously using the CAMEL Model is presented hereunder starting with the studies that concentrated on the rankings then the casual relationship between the CAMEL parameters and financial performance.

Measurement of Financial Performance of Banking Sector and CAMEL Approach

Ranking/Ratings

Several studies have been conducted using CAMEL model to assess the performance of banks across the world. Kaur *et al* (2015) analyzed the Financial Performance of selected Public Sector banks in India using the CAMEL Approach for the period 2009 – 2014. They revealed that the Bank of Baroda was leading in all CAMEL parameters followed by Puchab International Bank in Capital Adequacy, Management efficiency and Earning capacity and Bank of India in Asset Quality whereas State Bank of India has not performed well according to the study though it hold highest amount of assets and cash reserves. Which aligns with Alemu and Aweke (2017) findings of six Private Commercial Banks of Ethiopia that capital adequacy parameter, rated WEGAGEN and NIB bank first followed by UB Bank whereas DB Bank retained the last position. Moreover, Bastan *et al*. (2016) in their study of Iranian Banks found out that capital adequacy, management quality and asset quality are the most important parameters. Whereas, Kandel (2019) in his study revealed that the banks financial performance is derived by three key factors such as assets quality ratio, earning ability and liquidity. Additionally, Ferrouhi (2014) analyzed the performance of major Moroccan financial institutions for the period 2001-2011 using camel approach. He revealed that all the six banks did well over the period of study. His findings were based on ranking the average of each ratio, showed that some banks are better off than others.

Causal Relationship

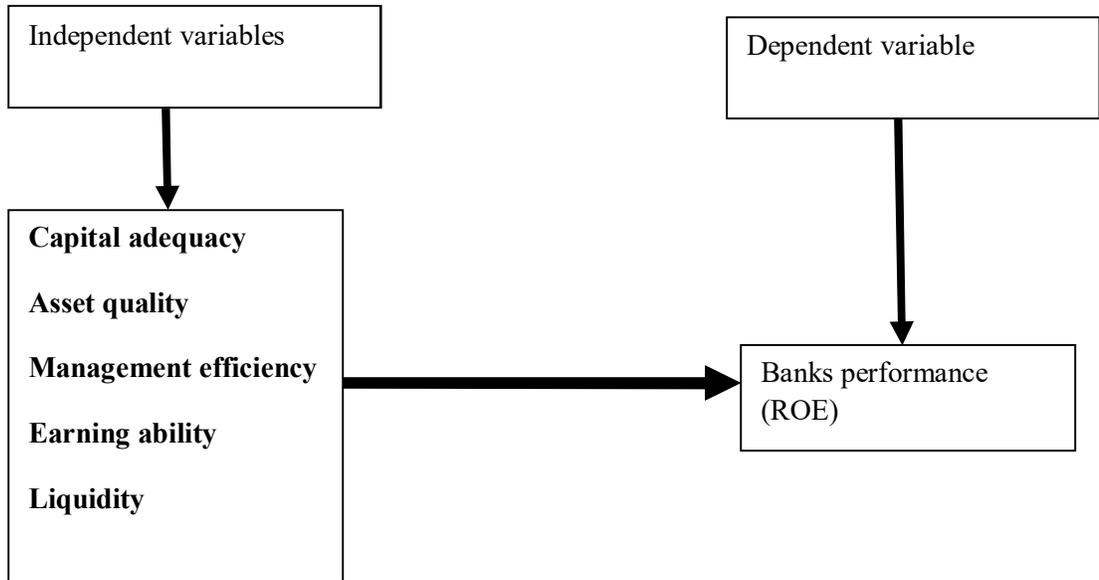
When the casual relationship is taken into account, Munir & Bostamam (2017) conducted a study in Malaysia and Indonesia from 2010-2015 and the results proved that CAMEL analysis has a significant relationship with banks' profitability. Similarly, Muhmad and Hashim (2015) used CAMEL framework to evaluate banks' performance in Malaysia for a period of 2008 – 2012. The result of their study showed that capital adequacy, asset quality, earnings quality and liquidity have significant impact Malaysian banks performance. Additionally, Rostami (2015) applied the CAMEL model to evaluate the performance of banks and financial institutions and it was found that there was a significant relationship between each category of CAMELS. The study conducted by Yuksel *et al*(2015) on the examination of the relationship between CAMELS ratios and credit ratings of twenty nine commercial banks in Turkey for period 2004 – 2014 revealed that asset quality, management efficiency and sensitivity to market risks have significant effect on banks credit ratings.

Desti (2016) conducted a study through CAMEL ratings on the financial analysis of thirty African best banks as identified by the Global Finance Magazine for a period of 2012 – 2014 and concluded that banks are rated as strong and satisfactory when rated in relation to capital adequacy ratio and earnings ability. Yet, they were rated as less satisfactory, deficient and critically deficient when rated in relation to asset quality, management quality and liquidity. Getahun, (2015) study based on fourteen Ethiopian Commercial Banks using the CAMEL parameters reveals that Capital Adequacy, Asset Quality and Management Efficiency had negative relationship, whereby earnings and liquidity showed positive relationship with both profitability measures with strong statistically significance except for Capital Adequacy which was insignificant for ROA and Asset Quality for ROE. A similar study conducted by Eric *et al* (2017) showed that banks profitability as well as financial performance is affected by the asset quality. Conclusively the study revealed that Asset quality have extremely influence on the banks' Return on Asset. However, Assfaw (2018) on the determinants of Ethiopia private banks financial performance reveals that asset quality, earning ability and bank size have a significant influence on the financial performance measured by return on asset, return on equity and net interest margin. Thus, the banks' management should strengthen the identified significant factors.

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Conceptual Framework

These CAMEL parameters are then used to examine the casual relationship with the financial performance based on researcher’s own formulation



Source: Researcher’s own formulation (2021)

Table 1: Description of CAMEL parameters

Capital adequacy		
C1	Total Equity/Total assets	Total equity to total asset ratio
C2	Total debt/total assets	Total debt to total asset ratio
Asset quality		
A1	Financial assets/Total assets	Financial asset to total asset ratio
A2	Non- performing loans/Total loans	NPL to total loans ratio
A3	Fixed assets/Total assets	Fixed asset to total asset ratio
Management Efficiency		
M1	Profit per employee	Profit per employee ratio
M2	Total loans/total deposits	Total loans to total deposits ratio
Earning quality		
E1	Net profit or loss/Total assets	Net profit to total assets ratio
E2	Net interest income/Total assets	Net interest income to total assets ratio
E3	Non-interest income/Total assets	Non-interest income to total assets ratio
Liquidity		
L1	Liquid assets/Total assets	Liquid assets to total assets ratio
L2	Liquid assets/Total deposits	Liquid assets to total deposits ratio
L3	Government securities/Total assets	Government securities to total assets ratio

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Methodology

For the purpose of the present study, the research instrument used is the CAMEL Model which is the recent innovation in the area of financial performance evaluation of banks. According to Boateng (2019), he contended that CAMEL rating model is used because it encourages transparency, evolution and transformation among banks. It clearly identifies institutional strength and weaknesses in all facets of financial and managerial abilities.

Basically, this study is analytical in nature and executed using the published financial statements of banks. The study involved both longitudinal and cross-sectional features that is panel in nature. This paper evaluates the financial performance of the two top banks namely CRDB and NMB bank. These two banks were purposely selected for the study, as they compose of more than 50% of the market share in the banking industry (PWC, 2019). The eligibility criterion for selection of these two banks was based on the availability of data, their performance as well as their role and involvement in shaping the economic conditions of Tanzania, specifically in terms of advances, deposits, manpower employment, branch network etc.

Data sourced for this particular study was secondary in nature (documentary review) retrieved from annual financial reports for two selected banks (NMB and CRDB banks) for a period of 8 years from 2012-2019. For analysis of the data, the study used both descriptive analysis (to show the financial soundness of the two banks via Microsoft excel) and a fixed effect Panel regression analysis (on the components of CAMEL model). Fixed Effect Panel Regression was used to ascertain the relationship between CAMEL parameters and financial performance (ROE) of these selected banks via SPSS version 23. The variables used for NMB and CRDB were fixed on both banks and time (t).

Specification of the Model

$$ROE = \beta_0 + B_1C_{it} + B_2A_{it} + B_3M_{it} + B_4E_{it} + B_5L_{it} + \varepsilon$$

The data are on each cross-section unit over T time periods and the vector it represent the vector of individual outcomes for person i across all time periods t:

Where: ROE = Return on Equity (performance measure)

C = Capital Adequacy

A = Assets quality

M = Management Efficiency

L = Liquidity

β_0 = Constant term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficients of the respective independent variables

ε = the error term

Results and Discussion

Financial soundness of the banks (descriptive statistics)

To tackle the first objective, descriptive statistics were involved to depict the mean and standard deviation to enable the ranking of the banks. Each bank was ranked with reference to the parameters involved under each CAMEL variable.

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Table 2: Capital adequacy

BANKS	C1			C2		
	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK
CRDB	0.119432462	0.01178987	2	0.880567538	0.01178987	1
NMB	0.203193041	0.018441804	1	0.145487084	0.006905583	2

From table 1.1 above, both banks were financially sound. CRDB was ranked the first when using C1 to compare them, while NMB Bank was ranked the first in terms of C2. Despite the exchange shown in raking, both banks had an adequate capital.

Table 3. Asset quality

BANKS	A1			A2			A3		
	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK
CRDB	0.944978046	0.009735786	2	0.087259215	0.033333136	1	0.039011568	0.010458243	1
NMB	0.948088428	0.01471993	1	0.023333333	0.004714045	2	0.026747904	0.002678444	2

The descriptive stats on table 1.2 shows the asset quality of each bank. CRDB Bank had a sound asset quality compared to NMB Bank as evidenced by the number 1 ranking it obtained in A2 and A3. NMB Bank was ranked the first in only one variable; A1.

Table 4: Management efficiency

BANKS	M1			M2		
	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK
CRDB	32.52756507	11.91068896	2	0.706134506	0.0511602	1
NMB	58.94250024	11.59649633	1	0.675137739	0.058225451	2

From table 1.3 above, both banks had a good score in terms of management efficiency as measured by M1 and M2. NMB Bank had the highest mean of 58.94 and ranked the first compared to that of 32.53 scored by CRDB Bank when observing their M1 scores; while CRDB was ranked the first when using M2 to compare them.

Table 5: Earning capacity

BANKS	E1			E2			E3		
	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK
CRDB	0.018147639	0.006800568	2	0.072077111	0.005948833	2	0.036223033	0.003277181	1
NMB	0.029496959	0.008948708	1	0.090093495	0.00751911	1	0.032772929	0.002208539	2

When comparing their mean score to ascertain the earning capacity of each bank, NMB Bank was ranked the first in both E1 and E2 comparison while CRDB Bank was ranked the first on E3. Despite the differences shown, both mean score had a slight difference depicting that both banks had a good earning capacity.

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Table 6: Liquidity

BANKS	L1			L2			L3		
	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK	MEAN	STD. DEVIATION	RANK
CRDB	0.762919462	0.051737576	2	0.963430846	0.067895168	2	0.166223695	0.033412017	1
NMB	0.76612435	0.032667684	1	0.981045542	0.061741368	1	0.159132503	0.04067608	2

From table 1.5 above, there is a very slight difference between the mean score of the two banks, revealing that both banks had a good liquidity position through the years. Focusing on L1 and L2, NMB Bank was ranked the first indicating a better liquidity position compared to CRDB Bank. On L3, CRDB Bank showed a higher mean score of 0.166 compared to 0.159 scored by NMB Bank.

CAMEL Model Impact on Financial Performance

To reveal the impact of the CAMEL model on the financial performance, the regression analysis was deployed to show the influence of the model towards ROE. The findings presented were preceded by the model summary table and the ANOVA table. From the model summary table, the R square of 1.0 depicts that; 100 percent of variance in financial performance (ROE is explained by the model (13 variables). The ANOVA table on the other hand, shows the statistical significance of the model. A P-value of 0.00 and F value of 12211.367 depict that the model explain well the dependent variable and it is accepted as a good predictor of the outcome variable.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000 ^a	1.000	1.000	.0007205

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.082	13	.006	12211.367	.000 ^b
	Residual	.000	19	.000		
	Total	.082	32			

a. Dependent Variable: ROE
b. Predictors: (Constant), L3, M1, E3, A3, A1, M2, C2, E2, L2, A2, L1, E1, C1

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CAMEL MODEL ROE

Table 1.8 presents the Panel regression coefficients of the CAMEL parameters towards the Return on Equity (ROE). From the findings, it was revealed that CRDB and NMB bank are insignificant influencing the ROE. This was depicted by the P-value of 0.889 and 0.677 that the banks scored respectively.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.870	.845		-1.030	.316
	CRDB	-3.782	8.606	-.042	-.712	.889
	NMB	-1.237	13.323	-.079	-.518	.677
	C1	-.739	.833	-.167	-.887	.386
	C2	.899	.816	.203	1.102	.284
	A1	.010	.071	.002	.139	.891
	A2	-.150	.026	-.075	-5.752	.000
	A3	-.004	.008	-.001	-.514	.613
	M1	.000	.040	.081	2.776	.012
	M2	.025	.014	.020	1.802	.087
	E1	0.737	.290	.781	19.799	.000
	E2	.733	.112	.115	6.546	.000
	E3	.015	.002	.035	8.375	.000
	L1	.336	.023	.203	14.476	.000
	L2	-.137	.014	-.125	-9.600	.000
L3	.097	.013	.051	7.226	.000	

a. Dependent Variable: ROE

Capital Adequacy

In assessing the impact of Capital adequacy on ROE, C1 and C2 were applied. C1 was revealed to have a negative impact on ROE (coefficient of -0.739) which however was insignificant (0.386). On the other variable, C2 was revealed to have a positive impact of 89.9% s shown by the Coefficient of 0.899 which was not significant (p-value of 284 which is greater than the alpha value of 0.05). Basing on these results, both HO1 and HO2 were accepted to conclude the absence of significant impact of Capital adequacy on ROE. The insignificant impact shown by capital adequacy on ROE projects that, the observed banks have low cushion to absorb a reasonable amount of losses before they become insolvent and loose both depositors funds and trust (Ahbar and Alper, 2011; Shazad, 2018).

Asset Quality

The impact of Asset quality on ROE was assessed through A1, A2 and A3. The results shows; A1 and A3 had an insignificant impact on ROE by the P-value obtained (0.891 and 0.613 respectively). Despite A1 having a positive impact to ROE (coefficient of 0.010) the impact level was insignificantly. A2 has a significant impact towards ROE as depicted by the p-value of 0.000. By these results, both HO3 and HO5 were retained. This means any improvement in A2 leads to 15% decrease on ROE, hence HO4 was

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rejected. The findings of A1 and A3 are compatible with that of (Kandel, 2019; Getahun, 2015). On the other hand, A2 findings were also in line with that of Melaku, 2017 who conducted a likely study at Ethiopia.

Management Efficiency

The management efficiency was assessed by M1 and M2 respectively. M1 was significant impacting the ROE as shown by the P-value of 0.012 and a coefficient of 0.040. This lead to the rejection of HO6; meaning any one unit of improvement in M1 lead to 4% improvement of ROE. On the other, M2 was insignificant contributing to ROE, as showed by p-value of 0.087 despite the coefficient of 0.025. With such results, HO7 was accepted. The insignificant shown by M2 is relevant to the banking sector as the trend shows the presence of high Non Performing Loans from the last quarter of 2015 onwards, (<https://www.tanzaniainvest.com/finance/banking/bot-close-five-banks>)

Earning Capacity

In assessing the influence of earning capacity on ROE, three variables were employed (E1, E2 and E3). All three variables were significantly influencing financial performance of the banks (ROE). E1 was significantly impacting ROE by a coefficient of 0.737, followed by E2 which had 0.733 and E3 with a coefficient of 0.15. By these results, HO8, HO9 and HO10 were rejected. These findings aligns with that of Tsegazeab & Ganesh, (2019) they conducted a similar study in Ethiopia.

Liquidity

The impact of bank's liquidity on the ROE of CRDB and NMB Bank was assessed through L1, L2 and L3. The regression results shows both variables were significant, by the p-value of 0.000 that all variables scored. However, L1 and L3 impact on ROE was positive (coefficient of 0.335 and 0.097 respectively) different to L2 which had a negative impact to ROE (beta coefficient of 0.097). By these results, all these Hypotheses (HO11, HO12 and HO13) were rejected to show the presence of significant influence of liquidity to ROE. These results are of no doubt, as the two observed banks mark more than 50% of the banking market share(PWC, 2019)

Conclusion and Recommendations

Based on the discussed findings above, commercial banks in Tanzania are mostly affected by earning capacity and liquidity position. This is to say Banks should improve these internal factors for a better financial performance. Last but not least it is observed that Commercial banks have low cushion to absorb a reasonable amount of losses before they become insolvent and loose both depositors' funds and trust from the public due to their capital adequacy status. The Central Bank of Tanzania (BOT) should frequently support and advice commercial banks on the need to improve these internal factors (CAMEL) towards improving their financial performance to overcome the closure of non-performing banks witnessed in the recent years.

The researcher also recommends that the Central Bank of Tanzania should not only focus on revoking the licenses of least performing banks as this act can harm the well-being of the country's economy. We advise in some instances BOT should bail out the banks so as to protect the well-being of the banks and economy at large

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The Impact of Trade Policy Reforms on Economic Performance in Africa

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Abstract

This study examined the impact of common policy reform on trade and economic performance in Africa. It adopted a quantitative research approach using the Difference in Differences (DID) econometric technique to establish empirical evidence on the effect of Common External Tariff (CET) as a proxy for trade reforms on economic performance. The East African Community (EAC) was used as treatment variable while other randomly selected African countries which do not exercise CET approach were used as a control group. The time series data from the WDI for the period of 1994 to 2019 were used to reveal empirical evidence. The key findings indicate that common external tariff which is a proxy for trade policy reforms indicates a significant and positive effect on economic performance. However, the magnitudes of DID coefficients across EAC member states used in the study as treatment group indicate asymmetrical results; which are ($\beta_3 = 38,453.1355$, $p < 0.001$), ($\beta_3 = 34,846.2112$, $p < 0.001$), and ($\beta_3 = 32,419.3868$, $p < 0.001$) for Tanzania Kenya and Uganda respectively. The reasons for this variation could be explained by differences in resources endowment that determine the levels of utilization of trade opportunities available among these countries. The policy implication of the study implies that, African economies should embrace a joint effort through trade policy reforms so as to boost their level of economic performance. The best way to achieve that is by adopting a common trade policy initiative through economic integration in order for individual countries to experience the increase in trade volume that may boost economic growth.

Key words: Trade, policy, reforms, economic, performance.

Introduction

Trade policy reform is the process of liberalizing trade regimes to ensure reduction in trade barriers on imports and exports through the reduction of tariff and non-tariff obstacles. Development and prosperity of any nation depends partly on better and appropriate trade policies that would harmonize trade environment, reduce trade barriers and attract more trade partners. International trade improves economic performance to countries that enjoys production surplus that can be traded across borders. This can be achieved through the increase in wealth of countries caused by technological transfer between countries necessary for growth in productivity level. This calls for the need to be developed relevant trade policies that need to be expected and reformed from time to time. Some developing countries have developed harmonized policy initiatives so as to synergize their trade and economic performance (Schumacher, 2012). In Africa for instance, some economies liberalized their trade regimes since early 1980s. Nevertheless, most had only implemented sustained and significant reduction in barriers to imports since late 1980s or 1990s on individual country basis. On the other side, the introduction of international agreements among trading partners have concentrated the reforms efforts. For instance, the multilateral negotiations of the General Agreement on Tariffs and Trade (GATT) that resulted to the establishment of World Trade Organization (WTO) in 1995, which consequently made many countries commit to open trade policies such as regional integrations (Morrisey, 2004). Despite such initiatives, some countries in Africa that have delayed to join such policy reforms, making most African economies far lower as compared to other developed economies. Therefore the interest of this study is to find out whether joint harmonized policy reforms may have impact on economic performances of the countries in Africa.

Statement of the Problem

There is no reservation that African countries have liberalized their trade systems quite considerably over the past decade. Nevertheless, the trade and economic performance of individual countries vary comparatively. Although tariffs have been considerably reduced as a means to liberalize trade in various products, still African regional economic performance is far lower compared to developed economies. In

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Africa as a whole, the share of the African regional stock on trade has also been considerably reducing over time. Despite the fact the WTO has made progress in compelling countries to reduce restrictions through trade policies and rules, there has been great disparities on trade and economic performance across countries in the region with maximum economies facing unfavorable return on economic performance as equaled to those in developed regions (Morrissey, 2004). In addressing the challenge some African countries have independently decided to embark on trade policy reforms by adopting policies which are deemed appropriate to revamp their economic performance. However, individual actors⁷⁶ have proven insufficient return on expected outcomes. In addressing the issues, in 2004 for example, the East African Community (EAC) decided to embark on a cooperative effort. This was aided through application of common external tariff to each member state on the most frequent tradable merchandises across borders. However, some of the remained states in Africa have not embraced such approach and continued to act individually based on each country's perspectives. It is obvious that trade and economic performance of countries in African region remain relatively weak and vary significantly across economies. Since trade performance is one of the key drivers of economic performance of any open economy, there raises a basic question; what then is the effect of harmonized trade policy reform on economic performance of countries that have embarked on common external tariff initiative as opposed to those which have not in African region? This is the question that the present study needs to address based on a comparative study between African countries exercising common external tariff and those which do not.

Study Objectives

The main objective of this study is to empirically examine the impact of policy reforms on economic performance in Africa.

Specific Objectives

- i. To examine the effect of common external tariff adopted by the EAC on economic performance.
- ii. To examine the differences in economic performance of the EAC member states which adopted common external tariff.

Study Hypotheses

In order to reveal empirical evidence in achieving the abovementioned objectives, the study tested the following pairs of hypotheses;

i. **H₀**: There is no significant difference on economic performance between countries that adopted common external tariff initiatives and those which did not in Africa.

H₁: There is a significant difference on economic performance between countries that adopted common external tariff initiatives and those which did not in Africa.

ii. **H₀**: There is no significant difference in economic performance of the EAC member states which adopted common external tariff.

H₁: There is a significant difference in economic performance of the EAC member states which adopted common external tariff.

Research Significance and Justification

The findings of the study will enlighten the importance of harmonized policy reforms on trade and economic performance in developing countries particularly in African region. This is especially an important insight to African economies which are marginalized by internationally set up standards on trade restrictions, policies, rules and seek the panacea to boosting cross border trade and their economic performance. The findings shall also shade light to other economic integrations in developing economies across the globe on how to improve trade and economic performance based on trade policy reforms initiatives. Similarly, lessons learned from the findings may provide a decisive benchmark to economies which have not affiliated to any economic integration whether to join or not. Thus, generally the study shall provide knowledge on the impact of trade policy reforms on trade and economic performance that can be manipulated by the other countries for the betterment of their economic performance

⁷⁶ Individual actors are those working individually not through a common initiative organized by economic integration

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Literature Review

Summary of Trend Economic Performance of EAC from 1994 and 2020

East Africa is a region in Africa consisting of Tanzania, Kenya, Rwanda, Burundi, Uganda and South Sudan. These countries embarked into regional integration under the umbrella of the East African Community (EAC). The trend of trade and economic performance in East Africa during 1994- 2019 has generally shown positive growth. Considering two periods, from 1994-2004, and 2005-2019, it can be observed that, the periods were of slow and high economic growth respectively. East African member countries presented in average a higher real growth rate during 2005-2019 substantially above that of 1994-2004. Figure 2.1 and 2.2 presents the trend in economic performance and trade performance for East African economies during 1994 to 2019.

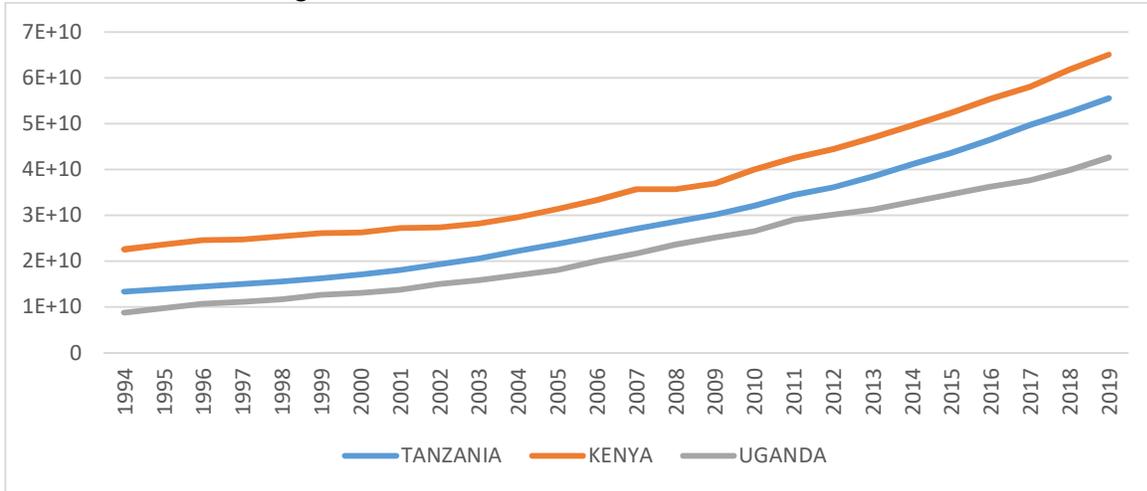


Figure 2.1: Real GDP at 2010 Market Price in EAC

Source: WDI, 2021

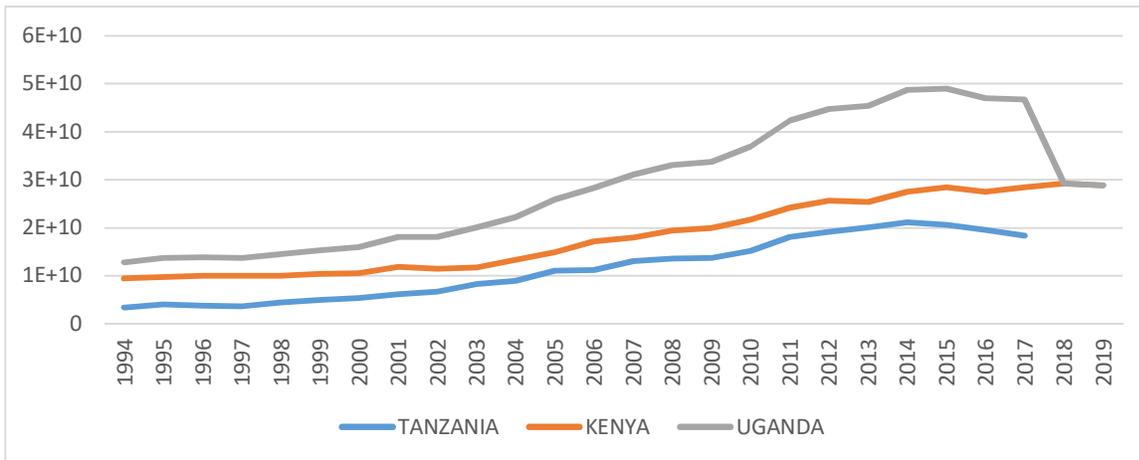


Figure 2.2: Trend of Total Trade in EAC

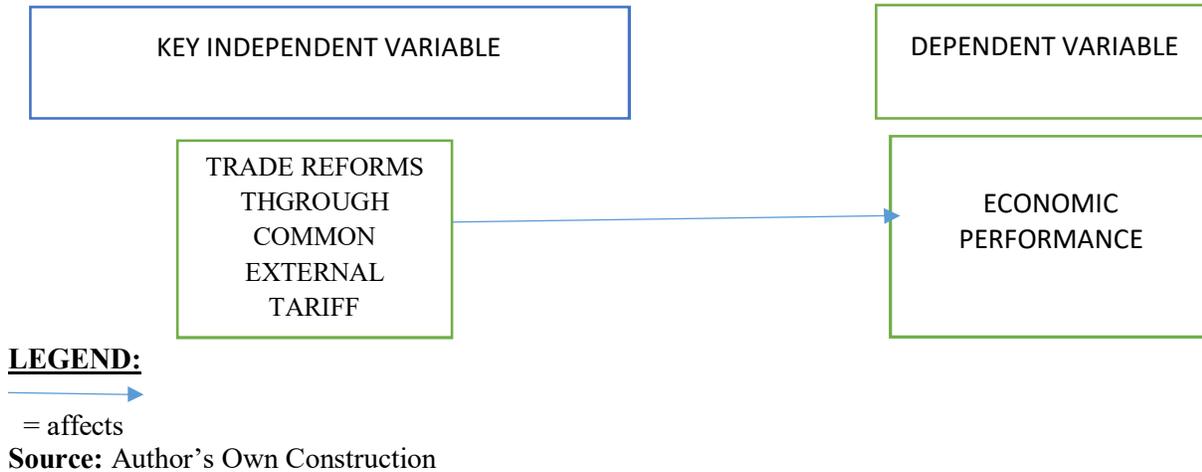
Source: WDI, 2021

Conceptual Framework

This research work encompasses independent and dependent variables as shown on the following illustrations.

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Figure 2.9: The relationship between trade reforms through international Trade and Economic Performance



Through time to time reforms on trade policies such as common external tariff, trade and eventually economic performances will be affected. This is because there is likelihood that smuggling acts in international trade would be reduced and trade volume would increase and consequently the general economic growth or performance registered. In this study independent variable is common external tariff as proxy for trade policy reforms while dependent variable is economic performance proxied by GDP. The study is underpinned by the theories of Adam Smith (1776) and David Ricardo (1815) who proclaimed that trade had a general effect on the positive growth of the economy. The concept of positive growth of economy as a result of trade is because they believed that trade brought about a higher accretion of capital and technical progress that eventually leads to the improvement of productivity. One thing to remember is that the economic growth has always been present throughout the human history even though the rate of growth has been fluctuating from slow and irregular to a more rapid, dynamic and continuous rate with more radical innovations and industrial revolution. The major concern about international trade still remains on its influence on the level of growth of the economy. Trade theories indicate generally that there is always a positive association among openness of an economy, inflation, investment to Gross Domestic Product (GDP) ratio and export to GDP ratio (Azdak, 2019).

Empirical Review

Matusz and Tarr (2014) investigated the relationship between trade reform and growth in selected countries. Their findings suggest that trade reform has been accompanied by significant investment inflows. Adeleye et al. (2015) examined the impact of international trade on economic growth in and found that, international trade plays a major role in economic growth. Narain and Varela (2017) examined the effect of trade policies to increase its competitiveness growth and found that, reducing tariffs is likely to help increase export competitiveness and economic growth. Mabugu and Chitiga (2011) studied on inequality impacts of trade policy reforms in South Africa and found a negative welfare and poverty reduction impacts Mkubwa et al. (2014) studied on the effect of trade policy on economic growth in Tanzania and found a positive effect of openness policy on economic growth. Harris & Kulkarni (2016) explored the effects of tariff policy on development of Tanzanian economy and found that tariff plays a huge role in economic development. Alshayeb and Hatemi-J (2016) investigated the dynamic interaction between trade openness and GDP per capita in United Arab Emirates (UAE) and found that trade openness results in a substantial growth in GDP per capita. Azdak (2019) examined the impact of international trade on global economy and confirmed that international trade has a huge positive impact on global economy. Farahane and Heshmati (2020) found in Southern African Development Community (SADC) that export expansion stimulated economic growth. Fankem and Oumarou (2020) assessed the effect of trade openness on economic growth in Sub-Saharan African Countries (SSA). They found that, trade openness promotes economic growth in SSA countries.

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Most studies have tried to address the effect of policy reforms on economic performance based on different methods. In the above studies only Farahane and Heshmati (2020) and Al-shayeb and Hatemi-J (2016) equally considered a study scope on economic communities, SADC and UAE respectively. However, in their studies they did not consider a joint effort through harmonized trade reforms, they rather used openness to trade as a proxy for policy intervention which does not capture the policy shock necessary to establish the policy impact after policy institution. This study provides a unique contribution to existing literature by application of most appropriate econometric technique, Difference in Differences (DID) applicable to policy based studies not previously used in existing literature of this field. To the best of our knowledge, no study has been carried out to address the impact of policy reforms on economic performance on countries within regional integrations applying common external tariff initiative in Africa based on DID approach

Methodology

Data

The study employed data from the World Development Indicator (WDI), annual time series data set spanning from 1994 to 2019 was used in this study. Table 3.1 presents the brief description variables used in the sample.

1.0 Table 3.2: Variables Description

Variable	Full name	Measure/Description
<i>Dependent Variable</i>		
GDP	Gross domestic product	Real GDP at constant market price 2010
<i>Treatment</i>		
DID	Difference-in-Difference	Interaction dummy as a proxy for policy reform/common external tariff 1 if a country is in EAC and time is after 2004, 0 otherwise.
<i>Controls</i>		
Time	Period from 1994 - 2019	Dummy variable 1 if the time is after 2004, 0 otherwise
Group	Treatment and Control	Dummy variable 1 if a country is in EAC, 0 otherwise
Interest rate	Real interest rate	Real interest rate in percentage
Inflation	Consumer price index	Inflation as measured by consumer price index in percentage

Sample Size and Description

The sample comprises of countries within African continent earmarked from the East African Community (EAC) which was used as a treatment group⁷⁷ while a control group⁷⁸ consists of four non EAC member states which were randomly selected. After data cleaning due to missing values and outliers, a sample of 129 observations was obtained and employed in the analysis. It is worth noting that Burundi, Rwanda and South Sudan have been excluded from the study because these countries disqualify in this study as they were initially not in EAC membership, they joined the EAC and later after 2005 when policy reform through common external tariff had already been executed.

⁷⁷ This group consists of Tanzania, Kenya and Uganda which are the only qualified EAC member states for this study.

⁷⁸ This group consists of Algeria, Angola, Mauritania and Mozambique.

Research Approach

The study employed the quantitative research approach using secondary data specifically document review and analysis to review and analyze data for the research. The study used experimental strategy which is also known as hypothesis testing strategy. The strategy sought to determine if a specific treatment influences an outcome /impact by providing a specific treatment to one group and withholding it from another (Control Group). Precisely, the study applied the Difference in Deference (DID) econometric technique to establish the effect of policy reform on trade and economic performance of the treatment group.

Identification Strategy and Model Specification

The study employed DID econometric technique that provides a comparative analysis between a treatment and control groups based on before and after time demarcations. DID operates within the framework of the following model;

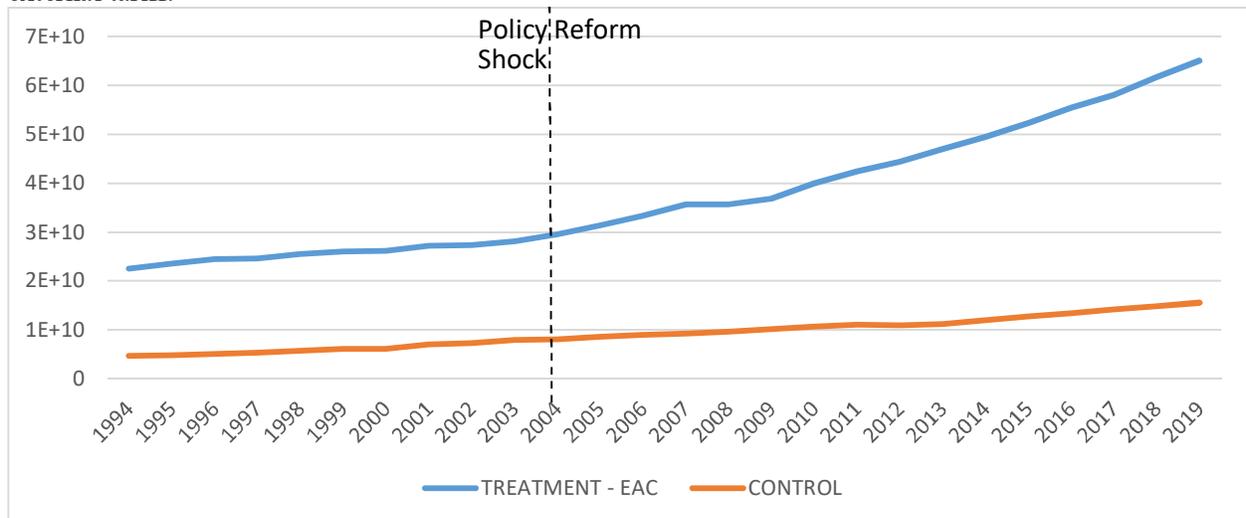
$$Y_{gt} = \beta_0 + \beta_1 T_g + \beta_2 P_t + \beta_3 (T_g \times P_t) + \varepsilon_{gt} \dots \dots \dots (6)$$

where; Y_{gt} treatment outcome in this economic performance indicated as GDP as a proxy for economic performance, β_0 , β_1 , β_2 are constant term, group and period coefficients respectively where β_3 is DID coefficient. T_g is a group dummy 1 if is in treatment (country which opted for common tariff) and 0 otherwise, P_t is period dummy 1 if is after treatment period and 0 otherwise ($T_g \times P_t$) is a composite interaction term of the treatment effect while ε_{gt} is a composite error term. The model was executed under the key assumptions of DID model including the time invariant group characters and period time-variant attributes and strictly exogenous policy intervention.

Findings and Discussion

Common Parallel Trend Assumption

The DID estimator requires an assumption about how trends for controls and for treated in absence of treatment are related. The most common assumption for that purpose is the common parallel trend assumption. The assumption requires that in absence of treatment the average change in the dependent variable for the treatment group (EAC) equals the observed average change in the outcome variable for the control group. The study tested this assumption by plotting the mean values of dependent variable (GDP) against time periods before and after the policy shock. Figure 4.1 indicates the outputs from data plots which confirm the existence of the common parallel trend which confirms that the assumption is met by the dataset used in this study. The figure indicates that that there is a common parallel path between the two groups from 1994 to 2004 prior to policy reform. Subsequently, the plot shows a deviation from the common path by the treatment group (EAC) from 2005 to 2019 after the application of the common external tariff.



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Figure 4.1: Common Trend – Parallel

Source: WDI (2021)

Main Findings

The Impact of Trade Policy Reform through Common External Tariff on Economic Performance

Hypothesis (ii): There is no significant difference on economic performance between countries that adopted common external tariff initiatives and those which did not in Africa. The study tested this null hypothesis based on DID econometric technique. The treatment variable was DID while controlling for time and group dummies, interest rate and inflation. The results presented in Table 4.1 indicate that there is a positive and statistically significant at one percent significance level of DID variable. Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) accepted.

2.0 Table 4.1: Baseline Model on the Impact of Common External Tariff on Economic Performance

VARIABLES	(1) GDP1	(2) GDP1	(3) GDP1
DID	29,209.8073*** (8,784.920)	29,209.8073*** (8,784.920)	29,504.5089*** (8,673.348)
Time	28,606.3560*** (7,249.931)	28,606.3560*** (7,249.931)	28,485.5903*** (7,036.483)
Group	21,499.1143*** (4,442.790)	21,499.1143*** (4,442.790)	21,206.2268*** (4,266.371)
Real interest rate	49.2309 (204.452)	49.2309 (204.452)	
Inflation	-36.1357 (62.775)	-36.1357 (62.775)	-48.4735 (42.307)
Constant	-3,698.9498 (7,805.775)	-3,698.9498 (7,805.775)	-2,813.2727 (7,077.784)
Observations	129	129	129

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source; Stata output

This implies that there is a significant difference on economic performance between countries that adopted trade policy reform through common external tariff initiatives and those which did not in Africa. It implies that on average, the EAC member states which adopted common external tariff experienced higher positive economic performance level by an average of 29,209 value of GDP (in ‘000,000,000” TZS) compared to member states which did not adopt the common external tariff policy reform. The reason for relatively higher GDP to EAC could be explained by technological transfer inflows to the regional which enhances productivity level and boost economic growth of member states through the increase in export volumes. This finding corresponds to the previous findings in the study conducted by Boiwo, Onono, & Makori (2015).

Robustness Checks

Robustness Checks – Impact of Common External Tariff on Economic Performance

The study validated the above findings based on economic performance measured by per capita GDP as proxy for dependent variable. The results presented in Table 4.2 indicate that there is a positive and statistically significant at five and ten significance level of DID effect on economic performance proxed by per capita GDP in the EAC countries. Therefore, the null hypothesis (H_0) was rejected and the alternate hypothesis (H_1) accepted. This confirms the baseline finding that there is a significant difference on trade performance between countries that adopted policy reform through common external tariff and those which did not in Africa.

3.0 Table 4.2: Robustness Checks on the Effect of Common External Tariff on Economic Performance

	(1)	(2)	(3)
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VARIABLES	Per Capital GDP	Per Capital GDP	Per Capital GDP
DID	473,005.0299* (251,416.234)	473,005.0299* (251,416.234)	488,532.4297** (244,985.824)
Time	1390903.7048*** (269,188.277)	1390903.7048*** (269,188.277)	1384540.7393*** (256,440.757)
Group	780,530.4867*** (165,381.370)	780,530.4867*** (165,381.370)	765,098.6700*** (154,730.225)
Real interest rate	2,593.9020 (7,092.440)	2,593.9020 (7,092.440)	
Inflation	-762.4472 (2,216.328)	-762.4472 (2,216.328)	-1,412.5066 (1,416.932)
Time dummy	Yes	Yes	No
Country dummy	Yes	No	Yes
Constant	-144602.9132 (290,946.029)	-144602.9132 (290,946.029)	-97,937.8744 (257,602.975)
Observations	129	129	129

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Source; Stata output

A Comparative Analysis by EAC Member States

A comparative analysis between countries in treatment group was established in order to observe if there were any variations. Table 4.3 presents the magnitudes of coefficients for each member state in EAC. The results reveal positive and statistically significant estimates of the key variable DID across all member states at one percent significance level. Although the results substantiate with previous findings, the DID coefficients unveil asymmetrical magnitudes by each member state in which the coefficients for Tanzania, Kenya and Uganda are; 38,453.1355, 34,846.2112 and 32,419.3868 respectively. It is evident that Tanzania indicates the highest magnitude followed by Kenya while Uganda indicates the lowest magnitude. The reason for the highest magnitude in Tanzania might be due to a comparative advantage on large share of resources and opportunities it enjoys over the rest of EAC member states. This potential attracts inflows in technologies necessary to improve productivity and increases trade volumes compared to less potentials in such resources and opportunities faced by Kenya and Uganda.

Table 4.3: A Comparative Analysis by EAC Member States

VARIABLES	(1) Tanzania	(2) Kenya	(3) Uganda
DID	38,453.1355*** (5,526.685)	34,846.2112*** (5,242.804)	32,419.3868*** (4,176.478)
Real interest rate	280.8497 (338.067)	303.9714 (364.992)	115.9947 (187.706)
Inflation	-605.4764 (370.826)	-626.2380 (369.990)	-683.0939 (558.454)
Group			-2,252.1482 (10,114.225)
Constant	42,975.1809*** (6,707.441)	44,310.8509*** (7,583.746)	30,531.3761** (11,467.483)
Observations	23	24	24

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Source; Stata output

Conclusion and Recommendations

The purpose of this study was to examine the impact of trade policy reform on economic performance in Africa. The study adopted a quantitative research approach by using the DID econometric model to establish empirical evidence. The EAC member states and a group of randomly selected countries were

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used as treatment and control group respectively. The time series data set from the WDI for the period of 1994 to 2019 was employed to reveal empirical evidence. The key findings showed that common external tariff which is proxy for policy reform have a significant and positive effect on economic performance in African economies.

The results were consistent after substituting real GDP to GDP per capita confirming robustness of the baseline findings. In comparative analysis by member state in EAC region, the findings unveiled asymmetrical magnitudes of coefficients by each member state in which the largest was for Tanzania followed by Tanzania Kenya and Uganda. The reason for this variation could be explained by differences in levels of resources endowment that determine the levels of utilization of trade opportunities available among these countries. The policy implication of the study implies that, African economies should embrace a joint effort through trade policy reforms so as to boost their level of economic performance. The best way to achieve that is by adopting a common trade policy initiative through economic integration in order for individual countries to experience the increase in trade volume that may boost economic growth.

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Nexus Between Covid-19 Pandemic, Liquidity and Profitability of Listed Banks in Tanzania

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Abstract

This study intends to explore the relationship between COVID 19 pandemic, liquidity and profitability of selected listed banks at the Dar es Salaam Stock of exchange (DSE) in Tanzania. Causal comparative design (Ex post Facto Design) was fully applied in order to compare the profitability and liquidity of the listed banks at the DSE pre-COVID 19 period of quarter 1 and 2 of 2019 financial statements and post-COVID-19 period of quarter 1 and 2 of 2020. This was done to examine the impact of COVID-19 pandemic on liquidity and profitability of purposively selected two (2) listed banks at DSE. The statistical test of parameter estimates was conducted by Wilcoxon statistical test tool from SPSS-20 version where Liquidity position of the selected banks were analyzed based on comparison of cash position through the liquidity ratios of cash ratio and operating cash flow ratio in the pre-COVID-19 period of quarter 1 and 2 of 2019 financial statements and post-COVID-19 period of quarter 1 and 2 of 2020 and return of equity (ROE) was used as the measure of performance of the mentioned banks. The findings reveal that COVID-19 pandemic has significantly affected the liquidity and profitability position of two selected banks at DSE in Tanzania at 5% level of significance though the effect was not massive.

Keywords: COVID-19 pandemic, liquidity, profitability, ROE

Introduction

Background to the study

It is good to note that the world is currently under a devastating period of the deadly disease called COVID-19 and it is estimated that the novel virus has spread to about 210 countries since its outbreak in Wuhan, China and this has resulted to more than 240,000 deaths and infecting more than 3.4 million people across the globe. The World Health Organization (WHO) officially declared this virus as 'Global Pandemic (Mohiuddin, 2020; Hughes, 2020). COVID-19 pandemic in 2020 had a disruptive impact to many business operations in almost all industries and the impact continues to evolve and this creates the uncertainty of what lies ahead in different markets including the banks in Indonesia. It was reported that in the first quarter of 2020, Indonesia's economy slimmed down by 3.49% compared to the prior year (Sugiharto, Azimkulovich and Misdiyono, 2021) whereas in china for the first quarter the economy fell from about 10% before the pandemic to -20% or lower in February 2020 (Liu,2020). In South Africa, Arndt et.al (2020) reports that the overall, GDP at factor cost is down by 34 per cent in the full shock.

The banking sector is among the most complicated economic sectors of countries and its impact to the economy cannot be left unchecked due to its contribution to the economic development and financial stability of countries across the globe (Henriques et al., 2020; Assafet et al., 2019). The banking sector has been severely affected by the ongoing COVID-19 pandemic and this sector has witnessed difficult time due to increasing size of non-performing loans (NPLs) which is a great threat to the health of the economy. Many companies lost revenues and were not able to repay the loan and to the households witnessed a decrease in income which led to the latter not being able to repay loans or credit installments. It is wise to note that a prolonged and severe disruption caused by COVID-19 pandemic could substantially lead to an increase in NPLs due to a high rise in household and company defaults and thus banks will be forced to increase their loan loss provisions (LLPs) and allowances. This act will eventually lead to a deterioration of banks' asset quality and earnings prospects as banks will not be in a position to absorb higher losses in the long run (Islam, 2019; Ugoani, 2015; OECD,2021).

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Due to poor liquidity management most banks are facing liquidity crisis. Liquidity crisis can occur due to COVID-19 as people and companies may opt to reserve the money they have for their fear of not being able to generate more cash (Rahmi and Sumirat, 2021; Sugiharto, Azimkulovich and Misdiyono, 2021; Karim, Shetu and Razia, 2021). Financial institution lacks cash or easily convertible to cash assets thus it becomes difficult for the latter to meet its short term obligations as they come due and this is what is termed as liquidity crisis. The higher the liquidity crisis to a financial institution the lower the probability position and this may consequently lead to huge loan defaults from customers and even bankruptcy of the said institution in the worst case scenario. It ought to be noted that liquidity risk is a factor that not only affects the performance of a bank but also its reputation can be jeopardized as banks risk losing their confidence from depositors if funds are not timely provided to them. In worst case scenario poor liquidity position may attract penalties from regulatory bodies such as the Central bank. Thus it is imperative that banks maintain a sound liquidity arrangement (Chappelow, 2020; Jenkinson, 2008; Ari and Anees, 2012)

Statement of the Problem

There Is Vast Literature and conceptual papers on the aspects of the impact of COVID-19 in different aspects such as energy, stock market, tourism, and the banks (Iyke, 2020; Baker et.al, 2020; Baum, & Hai, 2020; Barua, 2021) but still there is less evidence of the effect of COVID-19 pandemic on liquidity and profitability of firms particularly in developing countries such as Tanzania. Liquidity management is an aspect of working capital management and profitability on the other hand entails the general measure of firm's overall financial health over a certain period of time (Waseem and Kifayat, 2011; Okeke, 2015). Furthermore, literature reveals that studies that have been conducted about liquidity management and profitability of banks were mostly done before COVID-19 outbreak (Arif and Anees, 2012; Sahyouni and Wang, 2018; Khan, Khan and Tahir, 2017; Jara-Bertin, Moya and Perale, 2014). Banks liquidity position and profit making ability amid COVID-19 era is an area of study that needs more literature because in times of crisis poor liquidity management can adversely affect both banks' earnings and capital. Thus this study intends to fill this literature vacuum by empirically testing the impact of COVID-19 on liquidity and profitability of listed banks in Tanzania

General and Specific Objectives

The general objective of this particular study is to study the relationship between COVID-19 pandemic on liquidity and profitability of selected listed banks at DSE in Tanzania.

The specific objectives are;

- a) To examine the impact of COVID-19 pandemic on liquidity of selected listed banks at DSE in Tanzania
- b) To examine the impact of COVID-19 pandemic on profitability of selected listed banks at DSE in Tanzania.

Research hypothesis

Hypothesis 1: COVID-19 pandemic has a significant impact on the liquidity position of the selected listed banks at DSE in Tanzania

Hypothesis 2: COVID-19 pandemic has a significant impact on the profitability of the selected listed banks at DSE in Tanzania

Significance of the Study

This particular study intends to benefit various stakeholders at various levels such as CRDB bank, NMB bank, policy makers, researchers and academician interested in this line of research. To CRDB and NMB banks this study will give an insight to what extent COVID-19 pandemic has affected these banks in terms of their liquidity position and profit making ability. To policy makers this study will serve as a platform through which best policies will be instituted to curb the impact that this pandemic has caused to the financial institutions in Tanzania. Last but not least to the researchers and academician the study will excite their quest to further discover the multidimensional impact this pandemic has caused to the financial institutions across Tanzania

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Literature Review

Definition of Key Terms

Banks Liquidity

Banks liquidity connotes the ability of banks to fulfill short term financial obligation. Banks needs to have high liquidity, solvency and transferability to enable them to meet short term obligations and better banks liquidity represents better financial performance (Majeed and Zainab, 2021; Omaliko an Okpala, 2020).

Banks Profitability

Bank profitability is basically the measure of bank's performance. Banks make profit from various sources such as service fees, earned interests from assets, various investments that banks undertake and just to name a few. To determine the profit making ability of banks it is paramount to know how effectively and efficiently a bank is able to utilize its assets and equity in profit generation. Three major profitability ratios to consider while evaluating the performance of a bank are Return on assets, Return on equity and lastly Net interest margin (Majeed and Zainab, 2021; Omaliko an Okpala, 2020).

Theoretical Perspective

Large Scale Social Restriction Policy

One of the measures that is practiced worldwide to reduce the spread of COVID 19 pandemic is social restriction. Most governments implemented this policy which meant that some economic activities had to stop and ultimately affecting the banking industry. Companies whose activities rely on direct contact with customers (i.e., hotels, tourism and transportation) were suddenly losing their source of income and also individuals working in these sectors were also losing their incomes and jobs (Rahma & Arvianti, 2020; Rodríguez-Antón & Alons-Almeida, 2020). Due to loss of incomes and jobs, these companies and employees lost their ability to repay the loan, as a result the profit obtained by the bank and the capital owned by the bank reduced. Subsequently, banks experience losses because stocks, bonds and other financial instruments traded on the capital market experience a decline in value. Furthermore, banks are faced with a situation where demand for credit is increasing, because companies experiencing decreased liquidity require additional cash flow to meet their costs. Lastly, the non-interest income earned by banks is decreasing because the demand for their different services has also decreased (Demirgüç-Kunt et al., 2020; Economic Observatory, 2021)

Empirical Perspective

Banks Profitability and Liquidity Position

A study conducted in Nigeria about the efficiency liquidity management and banking performance where 300 bank employees were randomly given questionnaires revealed that there is a substantial relationship between efficient liquidity management and banking performance. The study further stated that an efficient liquidity management improves the soundness of the banks and hence efficient liquidity management and profitability are positively correlated and it was revealed that profitability ratios like EPS, P/E ratio, ROA and ROE had significant role in determining the level of liquidity. (Andrew and Osuji, 2013; Islam and Chowdhury, 2009). According to De Vito and Gomez (2020) who conducted a study on the impact of COVID-19 pandemic on the liquidity of 14,245 listed firms across 26 countries revealed that 10% of the total sample has the possibility of becoming illiquid within six months. Further they contended that tax deferrals and the loans can be helpful to mitigate the liquidity risk. Li et al. (2020) contended that banks in United States of America (USA) faced the largest liquidity demand in March 2020. Smaller banks faced a relatively small increase in demand of liquidity as witnessed to larger banks as the latter serve the largest firms and it becomes the reason of insufficient liquidity faced by larger banks. However, the banks have managed it with Federal Reserve and deposits.

COVID-19 Pandemic and Liquidity Crisis in Banks

According to Karim, Shetu and Razia (2021) who conducted a study based on the impact of COVID-19 on financial health and liquidity crisis of the listed 30 banks in Bangladesh revealed that the banking sector in Bangladesh had a lower liquidity ratios and poor financial health before the emergence of COVID-19. The authors concluded that after the emergence of COVID-19 banking sector in Bangladesh witnessed an

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increase in NPLs, capital flight, and the aggressive lending practices contributed to the current liquidity condition and consequently the latter profitability and financial health was affected as well. Liquidity is crucial as it can affect the most important goal of the business which is profitability

COVID-19 Pandemic and Banks Performance

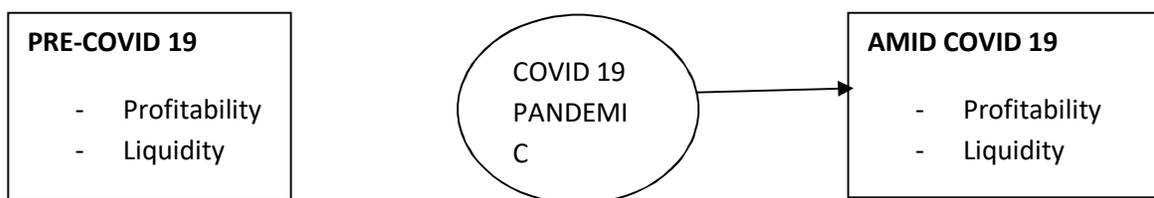
According to Demirgüç-Kunt, Pedraza and Ruiz (2020) they contended that the impact of COVID-19 pandemic on the banking sector performance had a countercyclical impact on the lending role of these banks as the banking systems are exposed to significant financial stress. Hope, Sadu and Success (2020) further revealed that there is a relationship between COVID-19 pandemic and the firm's performance in Nigeria. The results from the linear regression revealed that COVID-19 pandemic harms both financial and non financial performance of private businesses in Nigeria. The study concluded that COVID-19 pandemic has a negative impact to firm's performance in Nigeria. Tesfaye (2020) assessed the impact of COVID-19 pandemic on the Ethiopia's private banking system. A Ten (10) years historical data from 2010 to 2019 was sourced and data analyzed and it was found that the COVID-19 pandemic impacted both the statement of financial position and the income statements of selected Ethiopia private banks

Conceptual Framework and Variable Measurement

This section gives a brief on the conceptual framework used and the measurement of the variables.

Conceptual Framework

It ought to be noted that casual comparative design seeks to show that there is a relationship between the independent variable and dependent variables. This relationship is not manipulative but rather reminiscent. The study hypothesizes that COVID 19 pandemic does have an impact on profitability and liquidity after the COVID-19 outbreak as shown below;



Variables and Conceptual Framework

The description of how the dependent variables are measured is given below

S/N	Variables	Formula	Interpretation
Dependent variable			
1	Liquidity	Cash ratio= (Cash +cash Equivalents)/ Current liabilities Operating cash flow ratio= Cash flow from operations/ Current liabilities	Value more than 1 means there is more cash than the short-term obligations. Value less than 1 means cash which is available, is not sufficient for meeting the short-term obligations Value less than 1 indicates that the company generates less cash from operations than is needed to pay the short-term obligations. Value more than 1 indicates availability of more cash from operations to meet the short-term obligations
2	Profitability	ROE = Net profit or loss/Total Equity	
Independent variable			
1	COVID-19 pandemic impact	COVID-19 pandemic impact is measured by comparing liquidity ratio and ROE variable pre-COVID-19 period of quarter 1 and 2 of 2019 financial statements and post-COVID-19 period of quarter 1 and 2 of 2020	

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Methodology

Causal comparative design (Ex post Facto Design) was fully applied. A causal comparative design is a non-experimental that attempts to figure out a causative relationship between an independent variable & a dependent variable. It is often used when a researcher wants to identify consequences or causes of differences between groups of individuals after an action or event has already occurred. Comparative design was used in order to compare the profitability and liquidity of the selected listed banks at the DSE pre-COVID-19 period of quarter 1 and 2 of 2019 financial statements and post-COVID-19 period of quarter 1 and 2 of 2020. This was done to examine the impact of COVID-19 pandemic on liquidity and profitability of listed banks at the DSE.

The sampling technique is a non-random sampling with the method of purposive sampling where two listed banks (CRDB Plc and NMB Plc) were selected. These two banks were purposely selected for the study as they compose of more than 50% of the market share in the banking industry (PWC, 2019). The eligibility criterion for these selected banks was based on the availability of data, size of the banks, their performance as well as their role in shaping the economic conditions in Tanzania.

Data Sources

To determine the impact of COVID-19 on liquidity and profitability of two (2) listed banks and secondary data were extracted from the Dar es Salaam stock of exchange (DSE) and the annual reports of banks websites. For the purpose of this study two set of data were sourced which are pre-COVID-19 period of quarter 1 and 2 of 2019 financial statements and post-COVID-19 period of quarter 1 and 2 of 2020

Data Analysis

Here, data is reported as a ratio for each group using descriptive statistics. The liquidity position and profitability of the selected banks were analyzed based on comparison of cash position (cash ratio and operating cash flow ratio) and return on equity respectively. Data of these variables pre-COVID-19 period of quarter 1 and 2 of 2019 financial statements and post-COVID-19 period of quarter 1 and 2 of 2020 period. Then is followed by determining the significant mean difference between the groups using inferential statistics (in this case the Wilcoxon Signed Rank Test) was fully applied. Wilcoxon signed-rank test is a nonparametric test that can be used to determine whether two dependent samples were selected from populations having the same distribution. It is a statistical hypothesis test used to compare two related samples, matched samples, or repeated measurements on a single sample to assess whether their population mean ranks differ (Desai, 2018). Hence it was used to compare the statistical mean difference of the ratios of liquidity and profitability pre-COVID 19 and post COVID 19 period specified in terms of Q1 and Q2 2019 and Q1 and Q2 2020 respectively.

Results and Discussions

Liquidity Ratios of CRDB AND NMB Banks

This study used Cash ratio (CR) and operating cash flow ratio (OCFR) (liquidity ratios) to assess the liquidity position and financial health of CRDB and NMB banks.

Table 1: Cash ratio and operating cash flow ratio for CRDB Plc. and NMB Plc.

Banks	CR				OCFR			
	Q1-2019	Q2-2019	Q1-2020	Q2-2020	Q1-2019	Q2-2019	Q1-2020	Q2-2020
CRDB Plc	0.92	0.88	0.86	0.85	-0.05	0.13	-0.04	0.04
NMB Plc	0.93	0.99	1.03	1.01	0.06	0.07	-0.02	0.11

Cash ratio: Cash ratio as depicted from table 1 above clearly reveals that **CRDB Plc** cash ratio is below 1 in the year 2019 (before Covid-19 outbreak) and the same is seen in 2020 (after the outbreak of Covid-19 pandemic). To **NMB Plc** the cash ratio was below 1 in 2019 but it witnessed a steady increase in cash ratio in 2020 (above 1). It should be noted that a cash ratio value more than 1 reveals that there is more cash than the short term obligations and a value less than 1 means cash which is available is not sufficient enough to

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meet the current obligation of these mentioned banks. COVID-19 pandemic had an impact on cash ratio to CRDB Plc. as the ratios decreased post covid era as witnessed in table 1 above this was not the case for NMB Plc. as the cash ratio increased up to the required rate of 1 in 2020 despite the outbreak of COVID-19 pandemic. This tells us that COVID-19 positively affected the cash ratio of NMB Plc. The reason behind this cash position status of NMB Plc. could be the fact that one among the bank major shareholder is the Treasury Registrar (31.8% ownership) (a government agency). With this in light the government might have bailed out the bank during the Covid-19 era.

Operating Cash flow ratio: Table 1 reveals that the operating cash flow ratio for all the banks was below 1 in all quarters from 2019 to 2020. A value less than 1 indicates that the company generates less cash from operations than is needed to pay the short term obligations. This by implication suggests that operating activities in both banks that generates cash was minimal after the COVID-19 pandemic.

Table 2: Profitability ratio (ROE) of CRDB AND NMB Banks

Banks	ROE (%)			
	Q1-2019	Q2-2019	Q1-2020	Q2-2020
CRDB Plc	2.3	2.7	4.7	4.4
NMB Plc	2.2	4.1	4.9	4.4

ROE: ROE as depicted from table 2 above clearly reveals that to both Banks (CRDB and NMB) there was a slight increase in ROE in quarter 1 and quarter 2 of 2020 compared to the previous year of 2019. This means that banks were not severely affected by the pandemic in the sense that their ROE were not negatively affected.

Test of Hypotheses

Wilcoxon statistical Test tool was used to test the significance of the relationship between the dependent and independent variables and table 2 and 3 below depicts the results

Hypothesis 1: COVID-19 pandemic has a significant impact on the liquidity position of selected listed banks (CRDB and NMB Plc.) in Tanzania.

Bank	Test	Sig (Q1 and Q2 2019)	Sig (Q1 and Q2 2020)	Decision
NMB Plc	Wilcoxon Signed rank test	Exact Sig. (2-tailed)=.003	Exact Sig. (2-tailed)=.025	Hypothesis supported
CRDB Plc	Wilcoxon Signed rank test	Exact Sig. (2-tailed) = .001	Exact Sig. (2-tailed)=.047	Hypothesis supported

The findings reveal that COVID-19 pandemic in general had a significant impact to the liquidity positions of CRDB and NMB bank. The latter was affected positively as seen in table 1 above. These findings were in line with the findings done by Li et al. (2020) who contended that banks in United States of America (USA) faced liquidity problems.

Hypothesis 2: COVID-19 pandemic has a significant impact on the profitability of selected listed banks (CRDB and NMB Plc.) in Tanzania

Bank	Test	Sig (Q1 and Q2 2019)	Sig (Q1 and Q2 2020)	Decision
NMB Plc	Wilcoxon Signed rank test	Exact Sig. (2-tailed)=.250	Exact Sig. (2-tailed)=.025	Hypothesis supported
CRDB Plc	Wilcoxon Signed rank test	Exact Sig. (2-tailed) = .025	Exact Sig. (2-tailed)=.025	Hypothesis supported

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The findings reveals that there was a significant impact of COVID-19 to the banks performance though both of the bank's ROE increased slightly in the quarter 1 and quarter 2 of 2020 (after the COVID-19 outbreak). These findings were in line to a study conducted by Hope, Sadu and Success (2020) they revealed that there is a relationship between COVID-19 pandemic and the firm's performance in Nigeria.

Conclusion and Recommendations

The findings reveal that COVID-19 pandemic has significantly affected the liquidity and profitability position of CRDB Plc an NMB Plc in Tanzania at 5% level of significance though the effect was not massive.

Recommendations

- 1) The study recommends that the government of Tanzania should device stimulus packages to banks in times of crisis and these packages must be legally enforced as the future is uncertain and we are yet to know when the next crisis will hit the country
- 2) To the central bank of Tanzania it should keep a close eye on banks operations so as to avoid liquidity crisis by enforcing strict regulations that enables banks to meet their short term obligations even in times of crisis.

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Business Model Innovation in Technical Higher Education Institutions in Tanzania

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Abstract

Technical Higher Education Institutions (THEIs) are faced with frightening challenges of long-established business models. The cost of providing higher education continues to increase against the decreasing of funds' flow. The same Institutions are challenged to cope with current technology and produce graduates who are up-to-dated and competent in the labour market. One of the alternatives proposed to address the given challenges is transforming higher education through Business Model Innovation (BMI). However, little is known about the performance of BMI in the THEIs from in Tanzania. Therefore, this study assessed performance of BMI in THEIs by specifically determining the extent to which THEIs provide education through distance and online platforms; and determining the performance of THEIs in collaborating with industry, professionals and other stakeholders in transforming their education. Quantitative approach with explanatory survey design was used in this study. Questionnaire was applied to collect data from 500 randomly stratified sample of students who graduated THEIs as from 2015-2020. The Descriptive Statistics was used to analyze the collected data. The findings indicate that, THEIs provided education through distance and online platforms to a small extent from 2015-2020. Furthermore, the THEIs performed satisfactorily in collaborating with industry, professionals and other stakeholders in transforming their education. Generally, the performance of the BMI in the THEIs is poor as from 2015-2020; while the BMI is significantly and positively related to transforming higher education. This study advocates for the improvement of BMI in THEIs for them to solve the current challenges in transforming their respective education.

Key Words: Business Model Innovation, Transforming Higher Education, Performance

Introduction

Technical Higher Education Institutions (THEIs) are faced with frightening challenges of long-established business models and the cost of providing higher education continues to increase against the decreasing of funds' flow (Lapovsky, 2021). This means that, the same Institutions are challenged to cope with current technology and produce graduates who are up-to-dated and competent in the labour market. The THEIs have thus been questioned to redefine their roles in producing employable graduates and with added value due to factors like globalization of the employees, decrease in state funding, technological advancements, and increasing cost of education (Young, 2016; Lee & Patel, 2019). Specifically, the THEIs are now challenged with burden cost of education, complex job searching process of the THEIs' graduates, required investment in THEIs, complex pressure on career development services, and needed transformation of THEIs' systems.

One of the alternatives proposed to address the given challenges is transforming higher education through Business Model Innovation ([BMI], Munk, 2016). The insistence on the Model has been increasing due to the development of the internet and technology contributed by need for career development and change (Smith, 2015; Lee & Patel, 2019). BMI is the structure and process that enables the organizations to create, deliver and commercialize the new ideas and technologies (Zottet *al.*, 2011)

In this proposed BMI, there is a need to create graduates' connections in job environment (connect students and other stakeholders) for continuous, collaborative, and proactive learning environment including a robust starting when students arrive on-campus and continuing after graduation (Lee & Patel, 2019). This stresses the situation whereby the BMI addresses the issue of identifying stakeholders and understanding what values are meaningful to each party, the THEIs and employers (industry) in this context. Some efforts have therefore recently been made to strengthen the ties between higher education and employers, however, no

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fruits' performance assessed on the efforts' contributions to reducing skill gaps and shortages (Suleman, Videira and Araújo, 2021).

Several researches are previously conducted on BMI particularly by concentrating on profit and business organizations because their profits are quantifiable (Lee & Patel, 2019). However, the non-profit organizations like THEIs likewise need to practise BMI in order to improve their traditional business models for the purpose of delivering more value with fewer resources and staying competitive in the current competitive environment.

The THEIs are as well not exempted from the practice of BMI being influenced from what takes place in other organizations in Tanzania and the world at large. The same Institutions are challenged to cope with current technology and produce graduates who are up-to-dated and competent in the labour market. One of the alternatives proposed to address the given challenges is transforming higher education through Business Model Innovation (BMI). However, little is known about the performance of BMI in the THEIs in Tanzania. Therefore, this study assessed performance of BMI in THEIs by specifically determining the extent to which THEIs provide education through distance and online platforms; and determining the extent to which the THEIs collaborate with industry, professionals and other stakeholders in transforming their education

Methodology

This study used quantitative approach due to the nature of the objectives which demanded the study to be approached quantitatively with support of quantitative data. The approach likewise facilitated the establishment of BMI performance in the THEIs. This study applied cross-sectional survey (descriptive) as it facilitated studying individual graduate as a unit of analysis. It assisted in covering large geographical area while measuring the individual graduate's views, attitudes and characteristics; and it produced the easy way of analyzing the information from the surveyed graduates (Isaga 2012; Thomas 2010). The "what" questions of this research demanded the use of survey design (Yin 2003; Saunders 2011). The area of this study were three cities: Mbeya, Dar es Salaam, Mwanza, and Arusha in Tanzania. The cities are big cities in Tanzania which absorb many graduates. They have numerous zonal headquarters of private and government sectors. They are occupied with businesses and other entrepreneurial enterprises compare to other cities in Tanzania. They have more higher learning institutions (HLIs).

This study employed firstly snowball sampling technique in sampling 500 THEIs' graduates. The snowball sampling was used after failing to get the established number and their current locations from THEIs and other concerned organizations. The 650 questionnaires were distributed to THEIs' graduates of which 500 questionnaires were responded as useful for the data analysis. The response rate was 77%. This study applied Descriptive Statistics in analyzing the collected data. The results were simply presented in terms of frequencies and percentages for both objectives of the study. The main variables of this study include online and distance learning (ODeL) and performance in collaboration between THEIs and industry, professionals and other stakeholders. Online and distance learning was measured based on online T/L (planning, deliver, assessment); ICT infrastructures (computer labs, servers, speed of Internet connectivity, and information systems) support the delivery of online teaching and learning; Policies and Guidelines that support the delivery of T/L; Information systems (Zoom, Moodle Learning Management System, Postgraduate Information Management System (PGMIS), and Zoom video conferencing system); and online communication and interaction between trainers and students (Innocent & Masue, 2020; Mtebe, Fulgence & Gallagher, 2021). The 5-point Likert scale ranging from 1 (Very Small Extent) to 5 (Very large Extent) was used to measure the statement items of Online and Distance Learning among surveyed THEIs' graduates. Collaboration between THEIs and industry, professionals and other stakeholders was measured in terms of search and recruitment for good candidates (S./R. G.Cs), information on candidates (IoCs), internships/IPT for students (IPTs), assessment of students (A.Ss.), industry teaching at THEIs (IaT), course co-design (CoCn.), collaboration in research projects (CiRP.), member of THEIs' management (IoMM.), etc. (Araújo, Suleman & Videira, 2021). The 5-point Likert scale ranging from 1 (Extremely Dissatisfied) to 7 (Extremely Satisfied) was used to measure the statement items of performance in collaboration between THEIs and industry, professionals and other stakeholders.

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Findings

Demographic Information of the Surveyed Graduates

Both sexes of THEIs' graduates were surveyed. In so doing, 60% were male graduates while 40% were female graduates (**Table 1**). The majority of the surveyed THEIs' graduates were the male. This implies that, the number of male graduates is more compare to female graduates in Tanzania.

Concerning the variable age, the range of ages is from 21 to 40 and above years. The results of surveyed THEIs' graduates demonstrate that, 19% of the graduates had the age between 21-24 years, 30% between 25-29 years, 37% between 30-34 years, 10% between 35-39 years and 4% of the graduates had 40 years and above (**Table 1**). The majority of the surveyed THEIs' graduates had therefore the age between 25 and 29 years old.

Marital status was one of the personal information explored among the surveyed THEIs' graduates in this study. The results show that, 59% of the surveyed THEIs' graduates were single, 30% married, 6% divorced and 5% widow (**Table 1**). The majority of the THEIs' graduates were single. This means that, THEIs' graduates who graduated since 2015 to 2020 were single in Tanzania.

Since the area of this study was big four cities in Tanzania, the THEIs' graduates were asked to identify the particular city they were living and working in. In so doing, 24% of the graduates lived/worked in Arusha, 28% lived in Dar es Salaam, 25% lived Mbeya and 23% lived in Mwanza. The majority of the surveyed THEIs' graduates were therefore living in Dar es Salaam.

Furthermore, the results in **Table 2** display that, 25% of the surveyed THEIs' graduates had no employment, 44% had self-employment and 31% had paid employment. The majority of the THEIs' graduates had self-employment.

The lowest education level considered in this study is the Ordinary Diploma level while the highest level is Postgraduate in either science or engineering. The results in **Table 2** established that, 40% of the surveyed graduates had an Ordinary Diploma level, 50% had bachelor degree, and 10% had postgraduate level. The majority of the surveyed graduates had bachelor degree in Tanzania.

The study intended to survey THEIs' graduates since 2015/2016 to 2019/2020. Identifying particular graduate for his/her year of graduation was very paramount. The results display that, 25% graduated in 2015/2016, 28% graduated in 2016/2017, 24% graduated in 2017/2018, 12% graduated in 2018/2019 and 11% graduated in 2019/2020. The majority of surveyed THEIs' graduates graduated in 2016/2017 though with minimum difference with 2015/2016 and 2017/2018.

Table 1: Personal Information of the Surveyed Graduates

Personal Information	Scale	Frequency	Percent
Sex	1. Male	300	60
	2. Female	200	40.0
	Total	500	100.0
Age	1. 21-24 years	095	19.0
	2. 25-29 years	150	30.0
	3. 30-34 years	185	37.0
	4. 35-39 years	050	10.0
	5. 40 and above years	020	4.0
	Total	350	100.0
Marital Status	1. Single	295	59.0
	2. Married	150	30.0
	3. Divorced	030	06.0
	4. Widow	025	05.0
	Total	500	100.0
Residential Area	1. Arusha	120	24.0
	2. Dar es Salaam	140	28.0
	3. Mbeya	125	25.0
	4. Mwanza	115	23.0
	Total	500	100.0

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Employment Status	1. No employment	125	25.0
	2. Self-employment	220	44.0
	3. Paid employment	155	31.0
	Total	500	100.0
Education Level	1. Ordinary Diploma	160	32.0
	2. Bachelor Degree	180	36.0
	3. Postgraduate	085	17.0
	Total	500	100.0
Year of Graduation	1. 2015/2016	125	25.0
	2. 2016/2017	140	28.0
	3. 2017/2018	120	24.0
	4. 2018/2019	060	12.0
	5. 2019/2020	055	11.0
	Total	500	100.0

Source: Field Data, 2021

Online and Distance Teaching/Learning

This section addresses the establishment of the extent to which the education is provided through ODeL platform by THEIs from 2015 to 2020. The results in **Table 2** indicate that, **Online Teaching/Learning** was provided to a very small extent by 21%, to a small extent by 53%, to a large extent by 12%, and to a very large extent by 8%. The 6% of the surveyed THEIs' graduates were neutral on the extent to which Teaching/Learning was provided through online platform. Generally, the majority of the surveyed graduates established that Teaching and Learning was provided through online platform to the **small extent**. The Online Teaching/Learning was provided by the THEIs to the **small extent** than what was expected by the surveyed graduates. Furthermore, the same results in **Table 2** indicate that, **ICT infrastructures** for ODeL provision in the THEIs were in place to a very small extent by 31%, to a small extent by 52%, to a large extent by 10%, and to a very large extent by 2%. The 5% of the surveyed THEIs' graduates were neutral on the extent to which the ICT Infrastructures for providing online teaching and learning were in place. Generally, the majority of the surveyed graduates portrayed that the ICT Infrastructures for ODeL platforms were in place in THEIs to the **small extent**.

Additionally, the results in **Table 2** exemplify that, information systems for online teaching and learning were available to a very small extent by 58%, to a small extent by 32%, to a large extent by 5%, and to a very large extent by 4%. Only 1% of the surveyed THEIs' graduates were neutral on the extent to which the information systems for teaching and learning were available. Principally, the majority of the surveyed graduates view that the information systems for teaching and learning were available in the THEIs to the **very small extent**.

Moreover, the given results in **Table 2** show that, policies and guidelines for ODeL provision in THEIs were in place to a very small extent by 27%, to a small extent by 54%, to a large extent by 8%, and to a very large extent by 6%. The 5% of the surveyed THEIs' graduates were neutral on the extent to which the policies and guidelines for providing online teaching and learning were in place. Commonly, the majority of the surveyed graduates depict that the policies and guidelines for ODeL platforms were in place in the THEIs to the **small extent**.

Finally, the results in **Table 2** illustrate that, online communication and interaction between students and trainers in teaching and learning was taking place to a very small extent by 34%, to a small extent by 57%, to a large extent by 6%, and to a very large extent by 1%. The 7% of the surveyed THEIs' graduates were neutral on the extent to which the online communication and interaction in teaching and learning between students and trainers was taking place. Largely, the majority of the surveyed graduates paint that the online communication and interaction between students and trainers in teaching and learning was taking place in the THEIs to the **small extent**.

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Conclusively, the THEIs used ODeL (online teaching-learning) to their respective students to the small extent in terms of planning, delivering and assessing from 2015 to 2020. The ICT infrastructures; policies and guidelines; and information systems for online teaching and learning were available to the small extent in the THEIs from 2015-2020. The online communication and interaction between students and trainers for teaching and learning was taking place to a very small extent in the THEIs from 2015-2020.

Table 2: Online and Distance Teaching/Learning

The extent to which education is provided to students on ODeL platform by THEIs (2015-2020)

ODeL Variables	Very Small Extent		Small Extent		Neutral		Large Extent		Very large Extent	
	F	%	F	%	F	%	F	%	F	%
Online T/L	105	21	265	53	30	06	60	12	40	08
ICT Infrastructures	155	31	260	52	25	05	50	10	10	02
Policies/Guidelines	135	27	270	54	25	05	40	08	30	06
Information Systems	292	58	161	32	05	01	23	05	19	04
Online Comm./Interaction	172	34	283	57	07	02	32	06	06	01
Total	500	100	500	100	500	100	500	100	500	100

Source: Field Data, 2021

THEIs' Performance in Collaborating with Industry in Transforming Education

This section presents the findings on the performance of THEIs in collaborating with industry, professionals and other stakeholders in transforming their education as from 2015-2020. The graduates were asked to rate their satisfactions on the performance of the THEIs in collaborating with industry, professionals and other stakeholders in transforming their education as from 2015-2020. Regarding the performance of collaboration in terms of **searching and recruitment for good candidates (S./R. G.Cs)**; the surveyed THEIs' graduates were extremely satisfied by 13%, satisfied by 21%, slightly satisfied by 52%, neutral by 1%, slightly dissatisfied by 7%, dissatisfied by 4%, and extremely dissatisfied by 2% (**Table 3**). The majority of the surveyed THEIs' graduates were therefore **slightly satisfied** regarding the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their education in terms of searching and recruiting good candidates (S. /R. G.Cs) for the labour market. **Table 3 results** further establish that, the surveyed graduates were extremely satisfied by 16%, satisfied by 19%, slightly satisfied by 54%, neutral by 1%, slightly dissatisfied by 4%, dissatisfied by 3%, and extremely dissatisfied by 2% on the performance of the THEIs in collaborating with industry, professionals and other stakeholders in acquiring information on candidates (IoCs). The majority of the surveyed THEIs' graduates were therefore **slightly satisfied** regarding the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their education in terms of acquiring information on candidates (IoCs).

Table 3 results auxiliary institute that, the surveyed graduates were extremely satisfied by 56%, satisfied by 20%, slightly satisfied by 19%, neutral by 0%, slightly dissatisfied by 3%, dissatisfied by 1%, and extremely dissatisfied by 1% on the performance of the THEIs in collaborating with industry, professionals and other stakeholders in obtaining internships/Industrial Practice Training for students (IPTs). The majority of the surveyed THEIs' graduates were therefore **extremely satisfied** regarding the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their

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education in terms of obtaining internships/ Industrial Practice Training for students (IPTs). **Table 3 results** likewise maintain that, the surveyed graduates were extremely satisfied by 24%, satisfied by 60%, slightly satisfied by 11%, neutral by 0%, slightly dissatisfied by 4%, dissatisfied by 1%, and extremely dissatisfied by 0.4% on the performance of the THEIs in collaborating with industry, professionals and other stakeholders in **assessing students (A.Ss.)**. The majority of the surveyed THEIs' graduates were therefore **satisfied** regarding the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their education in terms of assessing students (A.Ss.).

Table 3 results similarly uphold that, the surveyed graduates were extremely satisfied by 1%, satisfied by 2%, slightly satisfied by 7%, neutral by 1%, slightly dissatisfied by 58%, dissatisfied by 19%, and extremely dissatisfied by 12% on the performance of the THEIs in collaborating with industry, professionals and other stakeholders whereas the industry teach at THEIs (IaT). The majority of the surveyed THEIs' graduates were therefore **slightly dissatisfied** regarding the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their education whereas the industry teach at THEIs (IaT).

Regarding the performance of collaboration in **course co-designing (CoCn.)**, the surveyed graduates were extremely satisfied by 22%, satisfied by 55%, slightly satisfied by 17%, neutral by 00%, slightly dissatisfied by 4%, dissatisfied by 1%, and extremely dissatisfied by 1%. The majority of the surveyed THEIs' graduates were therefore satisfied regarding the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their education in terms of course co-designing (CoCn.). Regarding the performance of collaboration in **course co-designing (CoCn.)**, the surveyed graduates were extremely satisfied by 22%, satisfied by 55%, slightly satisfied by 17%, neutral by 00%, slightly dissatisfied by 4%, dissatisfied by 1%, and extremely dissatisfied by 1%. The majority of the surveyed THEIs' graduates were therefore satisfied regarding the performance of collaboration between the THEIs and industry, professionals, and other stakeholders in transforming their education in terms of course co-designing (CoCn.).

Concerning the performance of collaboration in **conducting research projects (CiRP.)**, the surveyed graduates were extremely satisfied by 13%, satisfied by 27%, slightly satisfied by 56%, neutral by 2%, slightly dissatisfied by 1%, dissatisfied by 1%, and extremely dissatisfied by 0.2%. The majority of the surveyed THEIs' graduates were therefore **slightly satisfied** about the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their education in conducting research projects (CiRP.).

With reference to the performance of collaboration whereas the industry is the **member of THEIs' management (IoMM.)**, the surveyed graduates were extremely satisfied by 14%, satisfied by 60%, slightly satisfied by 15%, neutral by 0%, slightly dissatisfied by 2%, dissatisfied by 2%, and extremely dissatisfied by 1%. The majority of the surveyed THEIs' graduates were therefore **satisfied** on the performance of collaboration between the THEIs and industry, professionals and other stakeholders in transforming their education by involving the industry as the member of THEIs' management (IoMM.).

Convincingly, the performance of THEIs in collaborating with industry, professionals and other stakeholders in transforming their education as from 2015-2020 was extremely satisfactory in internships/IPT for students (IPTs); satisfactory in assessment of students (A.Ss.); course co-design (CoCn.); and member of THEIs' management (IoMM.); slightly satisfied in searching and recruitment of good candidates (S./R.G.Cs), seeking information on candidates (IoCs), and collaboration in research projects (CiRP.); and slightly dissatisfied in involvement of the industry in teaching at THEIs (IaT). Generally, the performance of THEIs in collaborating with industry, professionals and other stakeholders in transforming their education as from 2015-2020 is satisfactory except in involvement of the industry in teaching at THEIs (IaT).

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Table 2: THEIs' Performance in Collaborating with Industry in Transforming Education

The THEIs' Performance in Collaborating with Industry in Transforming Education

ODeL Variables	Extremely Satisfied		Satisfied		Slightly Satisfied		Neutral		Slightly Dissatisfied		Dissatisfied		Extremely Dissatisfied	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%
S./R. G.Cs	67	13	103	21	258	52	09	01	33	07	19	04	11	02
IoCs	79	16	97	19	271	54	07	01	21	04	17	03	08	02
IPTs	278	56	99	20	93	19	00	00	17	03	09	01	04	01
A.Ss.	119	24	300	60	53	11	00	00	19	04	07	01	02	0.4
IaT	07	01	12	02	34	07	06	01	291	58	93	19	57	12
CoCn.	111	22	277	55	85	17	00	00	17	04	07	01	03	01
CiRP.	67	13	137	27	281	56	06	02	04	01	04	01	01	0.2
IoMM.	99	14	299	60	77	15	00	00	12	02	08	02	05	01
Total	500	100	500	100	500	100	500	100	500	100	500	100	500	100

Source: Field Data, 2021

Conclusion and Recommendation

The THEIs used ODeL to their respective students to the small extent from 2015-2020. On the other hand, the performance of THEIs in collaboration with industry, professionals and other stakeholders in transforming their education from 2015-2020 is satisfactory. Therefore, the performance of BMI in THEIs was satisfactory in terms of collaboration but not in using ODeL. The THEIs are therefore recommended to improve their BMI in terms of ODeL for successful transformation of their respective education.

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Institutional Innovation and Certified Compliance of Tea Sustainability Standards in Southern Highlands of Tanzania

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Abstract

The Tanzania Agricultural Policy of 2013 intended to boost institutional innovation of crop commodities for meeting sustainability standards. However, details on the implementation of institutional innovation by farmers specifically tea growers in achieving certified compliance of tea sustainability standards is not yet addressed. Therefore, this study examined the implementation performance of institutional innovation in achieving certified compliance of tea sustainability standards among the tea growers in Southern Highlands of Tanzania. The study specifically determined the difference between certified compliance of tea sustainability standards before and after the introduction of institutional innovation; and determining the relationship between institutional innovation and certified compliance of tea sustainability standards in Southern Highlands of Tanzania. This study was approached quantitatively and qualitatively with descriptive and explanatory survey designs. The data collection was done using interview and questionnaire. The data were obtained from 300 tea growers who were selected using simple random, stratified, and purposive sampling techniques. The gathered data were analyzed using Descriptive Statistics, Paired t-tests and Multiple Linear Regressions. The findings of the study display Institutional Innovation in terms of process innovation, technological innovation and organizational innovation. Being that the case, it was found that there was large effect in the improvement of certified compliance of tea sustainability standards after introducing institutional innovation in Southern Highlands of Tanzania. Additionally, the institutional innovation is noted to bear significant relationship with certified compliance of tea sustainability standards in Southern Highlands of Tanzania. The tea growers are therefore urged to continue implementing institutional innovation in maintaining certified compliance of tea sustainability standards in national and international markets. The implementation of organizational innovation should be improved in order to work hand in hand with process and technological innovation.

Key Words: Institutional Innovation, Certified Compliance, Tea Sustainability Standards

Introduction

The Tanzania Agricultural Policy of 2013 intended to boost institutional innovation of crop commodities for meeting sustainability standards nationally and internationally (Economic Survey of the United Republic of Tanzania, 2012). The policy planned to improve poor processing, technology, marketing and other sustainability standards of agriculture experienced before the policy (URT, 2012). The institutional innovation including voluntary standards for certification of agricultural products and organic agriculture were devised as one of the solutions for sustaining agriculture in Tanzania (Raphael, 2020). The given institutional innovation of sustaining agricultural standards was inevitable in tea production as one of the cash crops in Tanzania. In adopting private sustainability standards in the tea industry, the institutional innovation was facilitated by the cooperation between private and public stakeholders (in Kavia, Loconto & Simbua, 2016; Raphael, 2020). The tea production through the given cooperation differentiated between smallholder farms and large estates (Kavia, Loconto & Simbua, 2016). The cooperation is particularly experienced in tea production at Mufindi, Njombe and Rungwe districts (Southern Highlands of Tanzania). The cooperation is expedited by different stakeholders with different respective functions. For instance, the Tanzania Smallholder Tea Development

Agency (TSHTDA) organized tea smallholders in associations; the Tea Research Institute of Tanzania (TRIT) provided new technologies and extension frameworks for the system; and Rainforest Alliance (RA) and Standards Agriculture Network (SAN) certified tea processing factories in which smallholders were

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delivering their tea leaves. The tea companies such as Mufindi Tea Company (MTC), Unilever and Wakulima Tea Company (WATCO) owned the nine tea processing factories; ensured competent production, processing, and marketing of high-quality teas among smallholder groups through the RA and SAN standards (Kavia, Loconto & Simbua, 2016). The Tanzania Daily News (9th February, 2021) indicates that, tea production is planned to rise by over 40% to 40,000,000kg in 2020/2021 season due to good weather patterns. Additionally, the TBT plans to harvest 60,000,000kg in 2024/25 i.e. increase of tea production from 35,000,000kg to 60,000,000kg in 2024/2025. Previously, the TBT managed to collect 28,000,000kg in the season of 2019/2020 which was 20% short of projection due to poor weather (Tanzania Daily News, 9th February, 2021). Moreover, The TBT for 2018/2019 produced about 37,000,000kg, where the target was to produce 35,000,000kg in 2019/20.

The tea contributed US\$ 47,993,000 equivalent to 7% of the total cash crop export earnings in 2012 from exports of 26,133 tonnes (Kavia, Loconto & Simbua, 2016). The country earned about US\$ 56,031,000 in 2013 after exporting 27,776 tonnes of made tea (TBT, 2013). Also the tea industry contributed significantly to employment opportunities by employing about 50,000 families and about 2,000,000 people directly and indirectly (TSHTDA, 2013). The tea produced area is 23,805.55 hectares where smallholder farmers produce 40% from about 11,500 hectares and large-scale farmers have 12,300 hectares with high output. Tea is mainly produced in Iringa, Mbeya and Njombe harvesting approximately 70% of the total output in the country. Others are Tanga, Kagera and Mara regions. The tea ranks fifth after cashew nuts, coffee, cotton, and tobacco as the chief foreign exchange earning export crops in Tanzania (TSHTDA, 2013).

Some of the challenges affecting the implementation of tea production in Tanzania include climate change, poor infrastructure especially roads, access to the local market, existence of some poor quality tea and local tea consumers not using locally produced tea (Tanzania Daily News, 9th February, 2021). The tea industry is addressed above as very important to the economy country. However, it is associated with provided challenges. In the need of sustaining the economic importance and minimizing the challenges; the tea industry demanded the institutional innovation in relation to the voluntary standards for certification of tea products in Tanzania (Raphael, 2020). The given institutional innovation adopted private sustainability standards in the tea industry being facilitated by the cooperation between private and public stakeholders (Raphael, 2020 in Kavia, Loconto & Simbua, 2016). This innovation was one of the ways of adhering to the Tanzania Agricultural Policy of 2013 which intended to boost institutional innovation of crop commodities for meeting sustainability standards.

It is now the high time to study the implementation performance of institutional innovation by tea growers in achieving certified compliance of tea sustainability standards in Tanzania. Previously, Kavia, Loconto and Simbua (2016) studied institutional collaboration for sustainable agriculture: learning from the tea sector in the Southern Highlands of the United Republic of Tanzania, however, they could not address the implementation performance of the institutional innovation in relation to certified compliance of tea sustainability standards. Additionally, Raphael (2020) recently studied on innovative activities and sustainability standards for acquisition and retention of tea markets in Southern Highlands of Tanzania, however, he did not specifically address the implementation performance of the institutional innovation in relation to certified compliance of tea sustainability standards. In fact, both studies could not specifically study on the difference between certified compliance of tea sustainability standards before and after the introduction of institutional innovation; and determining the relationship between institutional innovation and certified compliance of tea sustainability standards in Southern Highlands of Tanzania. Therefore, this study examined the implementation performance of institutional innovation in achieving certified compliance of tea sustainability standards in Southern Highlands of Tanzania. It addressed the following questions:

- i. What is the difference between certified compliance of tea sustainability standards before and after the introduction of institutional innovation in Southern Highlands of Tanzania?
- ii. What is the influence of institutional innovation on certified compliance of tea sustainability standards in Southern Highlands of Tanzania?

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Methodology

The quantitative and qualitative approaches were applied in this study because of the nature of the chief objectives with causal-effect but needed qualitative information for supplementary explanations. The approaches simplified the understanding of the problem more categorically by showing relationship between variables and their explanations for certified compliance of tea sustainability standards in Southern Highlands of Tanzania.

This study used descriptive and explanatory cross-sectional survey designs. The designs facilitated studying every tea grower in Mufindi, Njombe, and Rungwe in Tanzanian Southern Highlands. The designs correspondingly provided a speedy, efficient, and accurate intended information and explanations achievement of certified compliance of tea sustainability standards. The “how” and “what” questions of the study supported the application of the given designs. This study was conducted in Southern Highlands of Tanzania principally in Mufindi, Njombe, and Rungwe districts. The districts initiated the institutional innovation; they have concentration of major national and multinational tea firms in the country; tea production in the districts is divided between smallholder farms and large estates; the districts have private and public institutions; and 70% of the total tea output in the country is produced in the given districts. This study sampled 350 tea growers in smallholder farms and large estates using a stratified simple random sampling technique. The technique helped to classify the tea growers into strata of their characteristics (size). The technique also provided an equal chance of selecting each tea grower from the strata specified.

The data were collected from tea growers using the questionnaires designed in Kiswahili. The 300 questionnaires were received and found complete and useful for the data analysis. The response rate was 86%. Some supplementary qualitative information were collected from some key tea growers through interview. The information triangulated the quantitative information obtained through the questionnaire. The criteria for obtaining sample size include formula, small population as whole, saturation point, and nature of data analysis. The study at hand obtained its sample size based on the nature of data analysis *i.e.* Multiple Linear Regression (MLR). The sample size requirements for MLR was calculated using the formula “ $N > 50 + 8m$ (where m = number of independent variables” by Tabachnick and Fidell (2001, p. 117). After calculation, it was noted that this study did not violate the MLR sample size assumption, *i.e.*, $N > 50 + 8(3) = 74$. This study had three predictors and 300 cases which are more than 74 obtained from the given formula.

The collected data were analyzed using Descriptive Statistics (DS), Paired t-tests (PTT) and Multiple Linear Regression (MLR). The DS was used to obtain demographic information of the surveyed tea growers and meet the required PTT and MLR assumptions. The PTT was used to analyze specific objective one which intended to establish the difference between certified compliance of tea sustainability standards before and after the introduction of institutional innovation *i.e.*

$$\text{Eta squared} = t^2 \div t^2 + N - 1.$$

On the other hand, the MLR was used to analyze the collected quantitative data for objective two of the study. The MLR was used to test the relationship between institutional innovation and certified compliance of tea sustainability standards. The MLR was the best technique for analysis because of having more than one predictors and one continuous dependent variable. The predictors was institutional innovation while the continuous dependent variable was certified compliance of tea sustainability standards *i.e.*

$$Y_1 = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + \epsilon$$

Where: Y_1 -Criterion (*i.e.* certified compliance of tea sustainability standards)

α : constant (intercept)

b_{1-3} : Regression Coefficients

x_{1-3} : Predictors (*Process Innovation, Organizational Innovation and Technological Innovation*)

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The institutional innovation (process, technology and organization) is the predictor variable while the criterion variable is certified compliance. The process innovation is measured using three items (Ongong'a & Ochieng, 2013); Kavia, Loconto, & Simbua, 2016; Raphael, 2020). The items include new technology in harvesting tea leaves versus manual harvesting; new technology in processing capabilities, and improved production techniques. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of process innovation. The technological innovation is measured using three items (Ongong'a & Ochieng, 2013); Kavia, Loconto, & Simbua, 2016; Raphael, 2020). The items include generation of new technology for tea production, use of generated technology in tea production, and diffusive process of generated technology. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of process innovation. The organizational innovation is measured using four items (Ongong'a & Ochieng, 2013); Kavia, Loconto, & Simbua, 2016; Raphael, 2020). The items include trained and efficient labor force, well remunerated labour force, a new organizational configuration, and reselection and optimization of strategic goals. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of process innovation.

Findings

Personal Information of the Surveyed Respondents

The results in **Table 1** indicate that, 70.0% of the surveyed respondents were male, while 30.0% of them were female. The majority of the surveyed respondents were therefore the male. The male tea growers were dominating in tea production in comparison to the female tea growers.

Furthermore, the results show that, 9% of the surveyed respondents had the age between 25-29 years, 10% between 30-34 years, 20% between 35-39 years, 28% between 40-44 years, and 33% of the them were 45 years and above (**Table 1**). The majority of the surveyed respondents had the age of 45 years and above years old. In fact, the age of the surveyed respondents ranged from 25 to 45 and above years. The tea growers had middle age hence still energetic and determined in tea production.

Moreover, the results on marital status portray that, 9% of the surveyed respondents were single, 53% married, 16% divorced, and 22% widow (**Table 1**). These results conclude that the majority of the tea growers were married in the surveyed districts. The majority of surveyed tea growers had family responsibilities and were likely to settle in tea production areas rather than being mobile. The study was conducted in three districts of Tanzania Southern Highlands. It was therefore important to indicate the district of the surveyed respondents. The results in **Table 1** displays that, 30% of the surveyed respondents resided in Mufindi, 34% in Njombe, and 36% of them resided in Rungwe. It is therefore noted that, the majority of the surveyed tea growers resided (lived and worked) in Rungwe though the insignificant difference is observed from other districts. Regarding education level of the surveyed respondents, the results in **Table 1** indicate that 10% of the surveyed respondents had no formal education, 37% primary education, 26% secondary education, 20% undergraduate education, and 7% of them had postgraduate education. The majority of the tea growers had therefore primary education in the surveyed districts. The majority of the tea growers could not learn innovation as it is usually taught as from the college level in Tanzania.

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Table 1: Personal Information of the Surveyed Respondents

Personal Information	Scale	Frequency	Percent
Sex	3. Male	211	70.0
	4. Female	89	30.0
	Total	300	100.0
Age	6. 25-29 years	26	09.0
	7. 30-34 years	30	10.0
	8. 35-39 years	60	20.0
	9. 40 -44 years	85	28.0
	10. 45 and above years	99	33.0
	Total	300	100.0
Marital Status	5. Single	26	09.0
	6. Married	159	53.0
	7. Divorced	48	16.0
	8. Widow	67	22.0
	Total	300	100.0
Residential and Working Area	5. Mufindi	91	30.0
	6. Njombe	101	34.0
	7. Rungwe	108	36.0
	Total	300	100.0
Education Level	4. No Formal Education	31	10.0
	5. Primary Education	112	37.0
	6. Secondary Education	77	26.0
	7. Undergraduate Education	60	20.0
	8. Postgraduate Education	20	07.0
	Total	300	100.0

Difference between Certified Compliance before and After Institutional Innovation

The surveyed tea growers were asked to complete the questionnaire of both before (Time 1) and after (Time 2) the introduction of institutional innovation *i.e.* is there a significant difference in certified compliance of tea sustainability standards following the introduction of institutional innovation? Does the intervention (*i.e.* institutional innovation) have an improvement of certified compliance of tea sustainability standards in the surveyed districts? In determining the overall significance, the results in **Table 3** indicate that the probability value was 0.000 with reference to column, labelled Sig. (2-tailed). This implies that there is a significant difference between the two scores of time 1 (before) and 2 (after) introduction of institutional innovation. There is significant difference between before and after following the introduction of institutional innovation where the t-value is 7.22 and the degrees of freedom (df.) was 81.

After establishing the overall significance, it was vital to compare mean values *i.e.* finding out which set of scores is higher (Time 1 or Time 2). The results in **Table 2** display that the mean score of certified compliance before (Time 1) was 400.50 and the mean score of certified compliance after was 500.17. These results can therefore imply that there was a significant improvement in certified compliance of Statistics Test scores from Time 1 (before the institutional innovation) to Time 2 (after institutional innovation). The effect size for paired-samples t-test was likewise calculated because the results presented above just tell that the difference obtained in the two sets of scores was unlikely to occur by chance; but does not tell us much about the magnitude of the intervention's effect *i.e.* proposed paradigm. It was obtained by calculating an effect size statistic in this study *i.e.* the procedure for calculating and interpreting eta squared (one of the most commonly used effect size statistics) as presented below:

Eta squared can be obtained using the following formula:

$$\text{Eta squared} = t^2 / t^2 + N - 1$$

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$$\begin{aligned} \text{Eta squared} &= (7.22)^2 / (7.22)^2 + 300 - 1 \\ &= 52.13 / 52.13 + 299 \\ &= 52.13 / 351.13 \\ &= .15 \end{aligned}$$

To interpret the eta squared values the following guidelines can be used (from Cohen, 1988): .01=small effect, .06=moderate effect, .14=large effect. Given the eta squared value of .15, it can be concluded that there was a large effect, with a substantial difference in the certified compliance scores obtained before and after following the institutional innovation. In other words, there is the large effect of the introduced institutional innovation in the improvement of certified compliance of tea sustainability standards of surveyed districts in Southern Highlands of Tanzania.

This study noted that, the introduced institutional innovation had the large effect of improving certified compliance of tea sustainability standards of surveyed districts in Southern Highlands of Tanzania. The large effect of introduced institutional innovation on increasing certified compliance of tea sustainability standards is likewise supported previously. For instance, Ongong'a and Ochieng (2013); Kavia, Loconto, and Simbua (2016); Raphael (2020) all supported on the large increase of tea revenues, high productivity levels, reduced costs and acceptability of tea products in the national and international markets following the introduced institutional innovation for certified compliance of tea sustainability standards in the Southern Highlands of Tanzania.

Table 2: Paired Samples Statistics

	Mean	N	Std. Mean Deviation	Std. Error Mean
Pair 1 Cert. Comp. Time 1	500.17	300	5.16	.94
Cert. Comp. Time 2	400.50	300	5.15	.94

Table 3: Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Mean Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Cert. Comp. Time 1 - Cert. Comp. Time 2	2.67	2.71	.49	1.66	.68	7.221	81	.000

Influence of Institutional Innovation on Certified Compliance

Having used Multiple Linear Regression, the results signpost that certified compliance of tea sustainability standards (outcome variable) was predicted by the model with the institutional innovation (predictor

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variable) by 51%. The value obtained was .510. In other words, the model explained 51% of the variance in certified compliance of tea sustainability standards (see **Table 4**). In testing how well the regression model fitted the data, it was found that the computed F statistics was 48.035 with an observed significance level of 0.000. The models reached the statistical significance which was $p < 0.001$ (see **Table 4**). It was hypothesized that, the institutional innovation introduced to the tea growers had positive influence on certified compliance of tea sustainability standards in the surveyed Southern Highlands of Tanzania.

Table 4: Influence of Institutional Innovation on Certified Compliance

	B	t	Sig.
(Constant)	5.313	17.437	<.001
Process Institutional Innovation	.219	6.621	<.001
Organizational Institutional Innovation	.198	5.311	<.001
Technological Institutional Innovation	.196	5.297	<.001
Multiple R	.778 ^a		
R Square	.531		
Adjusted R	.510		
ANOVA (F, SIG.)	48.035 (< .001)		

It is further noted that, process innovation had a statistically significant and positive relationship with certified compliance of tea sustainability standards (Beta=.219, $t=6.621$, $p < 0.001$). These results imply that the more the tea growers practice process innovation, the more they achieved the certified compliance of tea sustainability standards. Furthermore, organizational innovation had a statistically significant and positive relationship with certified compliance of tea sustainability standards (Beta=.198, $t=5.311$, $p < 0.001$). These results may advocate that the more the surveyed tea growers practiced organizational innovation, the more they achieved the certified compliance of tea sustainability standards in the surveyed Southern Highlands of Tanzania. Likewise, technological innovative activities had a significant influence on sustainability standards (Beta=.196, $t=5.297$, $p > 0.001$). These results entail that the more the surveyed tea growers practiced technological innovation, the more they achieved certified compliance of tea sustainability standards in surveyed Southern Highlands of Tanzania.

Generally, the study at hand found on the positive and significant relationship between institutional innovation and certified compliance of tea sustainability standards in the Southern Highlands of Tanzania. This is proved previously in Kenya when Ongong'a and Ochieng (2013) revealed the institutional innovation adopted caused the increase of revenues, productivity, and reduced costs in the tea industry in Kericho. Additionally, Kavia, Loconto, and Simbua (2016) and Raphael (2020) found that, the production and marketing of tea products increased following the introduced institutional innovation in the Southern Highlands in Tanzania.

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Fishery Supply Chain Process in Tanzania, A case of Ferry Market in Dar es Salaam

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Abstract

This paper provides an analysis of fishery supply chain at Ferry Market in Dar es Salaam Tanzania. It specifically reveals actors involve in the fishery supply chain at the Ferry Market; the major activities undertaken by each fishery supply chain actor; disclosing the challenges overwhelming actors in the very fishery supply chain; and eventually indicates ways in which actors in the same supply chain employ to cope with the challenges. This study was an exploratory in its design and collected and analyzing both quantitative and qualitative data. The study used a critical purposive sampling technique to get respondents whose size was 90. Data were collected using interviews, observation, and focus group discussions. Data were analyzed using descriptive and inferential statistics using both SPSS v. 20 and Microsoft Excel data analysis packages. Fishermen, agents, wholesalers, retailers, and the customers were the actors revealed to exist in the ferry market fishery supply chain. The activities of each actor in the very fishery supply chain have also been identified, as well as the challenges overwhelming them which included power outages at the ferry market; influx of government taxes and levies; and poor management of the market. Eventually, the study has recommended a number of concerns to enhance fishery supply chain at the area such as, the development of capacity building programs by to empower fishery supply chain actors; and reconsideration of modalities used by the government to charge different taxes to the actors.

Key words: Fishery Supply Chain; Fishermen; Agents; Wholesalers; Retailers; Consumers; Ferry Market.

Introduction

It is estimated that, around 25% of the fishery products consumed originate from aqua-cultural or aqua-farming (fish farming) activity, which has tripled in volume during the past decade (FAO, 2017). It is estimated that, around 25% of the fishery products consumed originate from aqua-cultural or aqua-farming (fish farming) activity, which has tripled in volume during the past decade (FAO, 2017). Moreover, fishmongers in many countries in Europe including Germany had lost their fishery market shares and total fish consumption from 10 % in 2007 to 5 % in 2017, whereas, in the category of fresh fishery products alone. According to (FAO, 2019), fishery production has been growing through rapidly in the last 10 years with an estimation of 178.8 million tons total global fish production annually. Moreover, one third of the world's fish production comes from China, nonetheless in terms of consumption the republic of Korea leads globally followed by China, Norway, Portugal, and Japan. Sama (2017) pinpoints that more than 4,000,000 people in Tanzania have been either directly or indirectly working in fishery industry, they include boat builders, fish processors, net and engine repairers, and fish suppliers. Fishery industry provides income for local people, a source of foreign earning, and food for most local communities in Tanzania but the increase in human population in Tanzania does not match the rate of exploitation for the fishery resources, thus exerting a high pressure on both natural fishery resources and its supply chain concurrently (Sama, 2017; URT, 2010).

It should however be realized that, fishing industry has been facing variations in its supply chain operations, not only its demand distorted upstream the logistical fishery supply chain but also nature may likewise take care that the catch amounts and distribution timings are highly variable at the very beginning and completion of the chain. However, there has been little public awareness about fishery supply chain in various parts of Tanzania despite the fact that fishery products have been used as food to many. Little awareness of the public lies on their trivial understanding to all actors involved in fishery supply chain, the roles of every single actor within the supply chain are also hitherto poorly understood, as well as the challenges overwhelming them.

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The concept of supply chain in fishery

A supply chain consists of multiple parties in a production chain from manufacture/production, distribution, and the final consumer, it is also the alignment of firms that bring products or services to market, supply chain includes manufacturer, suppliers, transporters, warehouses, wholesalers, retailers, other intermediaries and even customers themselves (Zygiaris, 2010; Fox, et al, 2018). In fishery industry, the supply chain encompasses a common path of fishery products from the primary suppliers to the final consumers through intermediaries such as agents, wholesalers and retailers. Rungtusanatham, et al, (2009) maintain that, fishery products may enter the secondary or tertiary markets where it passes through more than one commission agents. Therefore both commission agents and wholesalers play significant role in fish distribution and marketing. Wholesalers may buy fish in bulky from fishermen and sell to retailers through whom the fish finally reach the consumers.

Actors in Fishery

Fisherman

According to DoF (2010), a fisherman is one of the actors in fishery industry with significant role in its supply chain as the primary fish supplier, the one who captures fish from a body of water. points out that, fishers play an important role as focal points in fishery supply chain as the rest actors rely up on to obtain fishery products and sell to the next actor or consumption.

Agent

An agent is interchangeably also called intermediary is an individual linking primary supplier with the next or final consumer, in fishery supply chain they have an important role in the fish market as they take the responsibility and control of each sale (Nowsad, 2010).

Wholesaler

In fishery supply chain, the wholesalers are business persons who collect fish from fishermen and suppliers and sell them in wholesale market through commission agents. However, very often these wholesalers purchase fish from local agents and transport or sell to retailers and agents.

Retailers

These are the last link of intermediaries in the channel of domestic fish marketing before the consumers. They buy fish from wholesale markets and sell these to the consumers in open market. Sometimes retailers sell fish from door to door as fish vendors (Bennett and Gabrielm, 2007).

Consumers

According to Nowsad (2010), consumers are also final actors in fishery supply chain, these are the final buyers of fishery products who purchase fish mostly from the retailers and sometimes from agents and wholesalers.

Ferry market

This is the study area located within Kigamboni Ward which, one of the (36) Wards of the Ilala Municipality in Dar es Salaam region Tanzania. This area lies between longitude 39° and 40° east and between latitude 6° and 7° south of the Equator. It is located in the extreme eastern corner of the region, bordering Indian Ocean. This is a popular area in Dar es Salaam where selling and buying fish business takes place, large and small-scale retailers of fish products also make the area a place to buy the product at low cost and sale in other areas within and outside the region. Following the fishery activities in this area, it is important to understand fishery supply chain structures alongside the insufficiencies existing in the area. The findings presented in this paper may therefore enable the availability of relevant information related to fishery supply chain not exclusive to ferry market but elsewhere where fishery activities underway. The findings can also be an alert to authorities to formulate and enforce relevant policies that encompass, and protect every actor in supply chain.

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Methodology

Study Area

The study was carried out at the ferry market situated at Ilala district in Dar es Salaam region, the study area was selected because of nature of its activities which matched the study problem. It is an area known to fishery business operation, therefore this attracted the study with its intention to analyse fishery supply chain process. The area also fitted to the objectives of the study considering the dominant fishery business in the area, the study therefore expected to find out relevant information pertaining to fishery supply chain process. Likewise, the target population, their functional roles, and the prevailing challenges were also expected to be found.

Research design and sampling procedures

The study was exploratory in design, it used purposive sampling technique where a critical purposive sampling was specifically engaged to get respondents whose size was 90. With critical purposive sampling, only the recruitment of participants who were capable of providing detailed information about fishery business operation at the ferry market was adhered. Data were collected using interviews where both close and open-ended questions were future; observation as the researcher took a physical visit to a study area to observed and recorded interested features as per study requirements, and focus group discussions where 3 groups of 6 purposively selected participants were moderated.

Data collection

The study collected data using interview, observation, and focus group discussion. In this study, face to face interviews with pre-determined sets of guiding research questions were administered. Both closed and open-ended questions were featured in interviews. With focus group discussions, 3 groups of 6 participants per group were purposively selected were moderated. Exploratory observation was made by physical visiting to the Ferry market, footages and snapshots records of observable interesting attributes were collected from the study ferry market. It included scenes of agents conducting fish auctions, influx and outflow of fish customers, and fishermen who were recoded off-loading fish and leaving the shores of Indian Ocean next to the ferry market.

Data analysis

Data collected from the study area were coded into different themes, it was later followed by editing to detect errors and omissions to ensure conformity, clarity, accuracy, completeness and meaningfulness prior to computations and interpretations. The SPSS V 20.0 software package was employed in data analysis, the cross-tabulation was similarly featured in analyzing quantitative data that eased drawing inferences between different data sets.

Results and Discussion

In this study, all 90 respondents were reached, that is pertinent information was collected from targeted units namely fishermen who made 27.8% of all respondents; the agents (22.2%); wholesalers (5.6%); retailers (20%); Ilala Municipality staff (2.2%) and fish customers who made 22.2%.

Demographic characteristics of respondents

The demographic characteristics of the participants were collected, the features covered were sex, age, marital status, and educational levels. From the demographic data collected, males were 72% of all respondents while females made 18%. The classification of age was into ≤ 20 to 30; 31 – 40; 41 – 50; and 51 and above years. The results of analysis show that the respondents aged ≤ 20 to 30 were 8% of the respondents; 31 - 40 years made 41.1% of all respondents; 41 – 50 years respondents made 43.3%; and the respondents with 51+ years made 6.7%. For marital status, married respondents formed the higher percentage by making 75.6% and single respondents were 24.4%. Respondents per their education level were as follows, respondents with primary education were 80%; with secondary school education were 17.8%; and the respondents with university degree were 2.2%. The above demographic findings also indicated that in fishery activities age and educated matter significantly, this was because most of those who were involved themselves in fishery activities were young and middle-aged people not exceeding the age of

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50. Similarly, the findings also show that most actors were those who did not have had high levels of education, the majority of actors were those with low education levels.

The actors involved in Ferry Market fishery supply chain

There were different Actors involved in the fishery supply chain at the Ferry Market, actors revealed were fishermen; agents; retailers; wholesalers; and fish customers. All of these actors basically resulted into the development of fishery supply chain at the Ferry market in Dar es Salaam. The findings indicate that fishermen were simply the primary suppliers of fishery products in the ferry market, they were also very initial actors from which the referred fishery chain originated. These actors were important stakeholders in the fishery supply chain because in their absence it was impossible for a fishery supply chain to exist. Operational wise, there were two major fishermen categories, those who were individual owners of fishing gears, the self-sufficient in the context of capital sizes and the others who did not own the gears and depended on fishing vessels from other people mostly by hiring. Findings further indicate that 85% of the fishermen reached by this study specified that they have no other income-earning activity than fishing and the rest admitted that they were engaging in other economic activities to supplement fishing job.

The other actors were the agents, they could also be figuratively called “intermediaries” who ensured other actors’ access to fishery products, they were similarly known to facilitate products flow from primary suppliers to end-users. They were also found to possess no formal business education, but gained experience after their existence to the same job for a long time. The other actors were wholesalers, these were individuals who owned large capitals, they bought fish in bulky and sold it at wholesale prices to retailers, agents and sometimes to potential customers. They also owned formal sites at the market as their fish selling points to enable any potential fish buyer access and buy from them. The retailers were small-scale business individuals who “existed” between large-scale fish sellers and the final consumers, they were also a link between the agents or the wholesalers and the final customers. Retailers were small-scale fish vendors who bought fish in small quantities and sold to the final customers. The final actors were the customers, these were the ultimate consumers of fishery products and the central targets of the supply chain. These were the very last people that the product (fish) was targeted for despite the existence of other actors in the middle before it reaches these last consumers.

The activities of actors at the ferry market

Activities for each actor in the fishery supply chain at the Ferry Market were also revealed. Fishermen were individuals who engaged in fishing as their major activity, they depended on the Indian Ocean as their major fishing ground. Indian Ocean is the closest large water body to the Ferry Market, thus made it easy for fishermen to use it as their fishing ground. Findings indicate that, different fish species were fished and supplied by the fishermen to the Ferry Market, the most commonly fished species were Kingfish, Kibua, Change, Pono, Gourd, and Tasi. Fish brought to ferry market were sold to the wholesalers or retailers sometimes, but also sold it or provided it with binding agreements to the agents whose responsibility (agents) is to find and sell to the customers.

The findings also indicated that, agents were similarly integral part of the fishery supply chain in the area, their main function was to a link between fishermen and other actors at the Ferry market. This implies that, the key function of these actors was to ensure that fish coming from the primary suppliers (fishermen) reached out to other actors in need. They therefore sold fish to wholesalers, retailers, or sometimes directly to customers mostly by auctions. They were occasionally responsible for finding fish storage areas and vessels where fish could be kept fresh and protected them from spoilage. The wholesalers on the other hand engaged in the fishery supply chain by buying fish in bulk and sold to other actors including retailers and final customers. Wholesalers in this fishery supply chain concentrated in buying fish in large quantity from agents or fishermen and later selling them to retailers in small-scale and occasionally to the potential end customers.

The retailers as also one of the actors in Ferry market fishery supply chain, were functioned as “intermediaries” as they existed between wholesalers, agents, or even fishermen and the final customers.

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They bought fish in small quantity and sold to the final customers. The findings indicate that, retailers had to arrive much earlier in at the Ferry Market for catching early fish auctions. They also arrived earlier in order to buy fish from wholesalers at relatively cheaper prices and later went to sell them to final customers at a low profit margin prices. The final actors are the final customers, these are the final target of the fish business in the Ferry market. Their main responsibility found was to buy fish mostly for food, the findings show that, many customers used to arrive early at the Ferry market for fish buying. The findings also reveal that many customers bought fish in small quantities ranging from 1 to 20 kilograms or the quantity that did not exceed a 20 litre bucket. They usually presumed that fish prices at the Ferry Market were quite lower in comparison to other places in Dar es Salaam.

Challenges overwhelming fishery supply chain actors at ferry market

The challenges facing actors in the fishery supply chain at the Ferry market in Dar es Salaam were revealed, the findings show about 91.1% of the actors agreed that they were stunned by different challenges; 5% indicated there were no challenges; and 3% were hesitant to whether there were challenges or not. Below are the challenges for each actor. The findings indicate that, fishermen were challenged by frequent weather change which in turn disrupted their fishing activities. Fishermen showed that, the Indian Ocean was sometimes subjected to the storms accompanied with heavy rainfall over the normal range which resulted into risky development to the fishermen especially when they had to go into deep sea. The findings accord to Msumi & Mgaya (2009), who show that, fish traders perceive that fish trade would be improved if there was increased capital invested, and if the fishery had more modern gear and deep water boats.

There was also a question of huge taxes charged by the revenue authority, findings show that, frequent tax rates changes against fishermen and the fish business at large contributed significantly to the decline in fishing efficiency and therefore to the fish supply at the Ferry market. The fishermen were charged 3% of gross sales for each fish trip, however, that amount of charge was said to changing unpredictably depending on the charge estimation of the month and the sizes of fish. Fishermen were also had to pay service levy to the City Council amounting to 0.03% of their daily sales. For the agents, major challenges were, poor control of their activities in the ferry market premises, the findings indicate there was poor management of agents' operations the market as 90% of the respondents affirmed. Poor supervision to agents' operations included administration over the way the agents were allowed to enter and worked in the ferry market premises. Findings show that, there were people who entered the premises and engaged as agents without abiding by proper entry procedures set by the ferry market management which included registration of every new agent and possession of certification that enabled one to work as agents.

Presence of theft and loss of agents' properties and the power outages were also named as challenged to agents' activities. Findings show that fish and money where were always stolen from the market premises. Likewise, cases of frequent power outages in the market that led to agents' failure to store fish for a relatively long time. Fish storage was somewhat difficult as many storage equipment such as freezers and refrigerators required electricity to operate. To the wholesalers, major challenge revealed was lack of business insurance, 80% of respondents named it as a challenge as many wholesalers at the Ferry market had not insure for their businesses, they were therefore running businesses without proper securities. However, most of the wholesalers were aware of the importance of insurance and what was meant significantly in business operations. They findings also indicate frequent drop of fish sales as the challenge to wholesalers. Unpredictability of fish sales included when wholesalers enjoyed big selling but also sales always went down unpredictably.

For the retailers, lack of enough capital and tendency of fish customers setting their own fish prices were the major challenges. Findings show that, retailers were the actors in Ferry market fishery supply chain who operated under small capital sizes, This was shown by 100% of the retailers when they were highlighting challenges. This limited their opportunity to enlarge their businesses rapidly but difficulties in securing capitals from other funding sources including banks. They also complained of some customers' tendency to set their own prices and demand to buy fish at the very low prices different from what the retailers has set already, 94.4% of the respondents indicated the same this challenge. Findings also show that, random rise in

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the fish price was a chronic challenge encountered customers at the Ferry market as revealed by 90% of respondents, fish sellers seemed to value fish beyond the profit margins. For instance, respondents indicated that, a small bucket of fish which was normally sold between tsh. 25,000 - 30,000 would rise up to tsh.60,000 depending on the availability of fish for a particular day. Transporting fish back home after purchase was the other challenge, about 80% of the responses showed the same concern. The findings indicate that, most fish customers used public transport to and from the Ferry market. However, taking fish home using public transport was said to cause inconvenience to other public transport users as the fish being transported in this way were always prone to giving off a stench and thus disturbing other users.

Ways actors cope with encountered challenges

The section presents the ways through which actors in the fishery supply chain at ferry market used to handle.

The findings show that, fishermen had to hire or buy location identification equipment including GPS as a way of dealing with maritime safety challenges. According to fishermen, presence of such devices increased their safety especially when they traveled at the deep sea. Fishermen also needed such equipment to help them travel to correct direction and known fish catching zones. Fishermen also revealed that, fishing activities were therefore carried out in accordance to the existing weather conditions and fishermen had to adjust themselves accordingly.

For the agents, long experience in the business was a major strategy towards overcoming different challenging situations including theft and customers scarcity. The findings show that, presence of agents in the supply chain for relatively long time provided them with ability to cope with changing work environment. Their experiences in the business was named to enable them realise the best fish auction location which were accessible to many customers. Regular and direct communication among themselves when seeking for solutions was also the other way used. Findings indicate that, agents used to share the experiences and approaches to resolve the challenge as they faced, for instance, by existence of cooperation among them it was possible identify thieves entering the market premises and took immediate measures against them including reporting them to the ferry market management for further legal courses. The wholesalers also had some ways employed to cope with their challenges, in cases of insecurities for instance, the findings show that, they always involved the ferry market management but also when challenged with more serious insecurity incidents they incorporated the police force especially when a case natured criminality. They involved government security bodies for immediate help. In responding to frequent power outages at the Ferry market, the wholesalers were obliged to buy generators as power backups because to the wholesalers, presence of power backups implied assurance in fish storage.

The findings show that, retailers had nothing they could do to secure challenges settlement, findings also show that, retailers found themselves as being neglected and less cared by the ferry market management, government, and even the private sectors to which they belong. Retailers showed that, they had no power by themselves to ensure that the challenges overwhelming them got immediate and long term solutions, therefore, they termed themselves as side-lined actors with inability to seek for solutions to their challenges.

Challenges and Ferry Market management responses correlation

To support the retailers' assertion to lack of responses to actors challenges, Pearson correlation coefficient was tested, the results are as shown by the table below.

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Table 2; sampled correlation between retailers challenges and Ferry Market management responses.

		Existence of challenges	Management response
Existence of challenges	Pearson Correlation	1	.532*
	Sig. (2-tailed)		0.016
	N	20	20
Management response	Pearson Correlation	.532*	1
	Sig. (2-tailed)	0.016	
	N	20	20

*. Correlation is significant at the 0.05 level (2-tailed).

The data above indicate that NO perfect correlation between the challenges and the management responses, this is because the Significance level (.016) is smaller than .05 (normal alpha) and therefore denied its statistical significance. Moreover, in the quadrant of matrix in the off-diagonals above, the correlation coefficient between challenges and management response looks somewhat strong (.532), but NOT significant. If the refereed correlation was strong enough, then the analysis tool was likely find some asterisks next to the coefficient. The analysis therefore testifies that there was poor correlation between retailers' challenges and the response of Ferry market management. For the customers, findings show that, they were obligatory to accept and survive constant changes in fish prices in the ferry market for the regular fish price changes challenge. Similarly, fish transportation challenge was responded by continuing boarding the same public transport regardless of the fact that they caused inconvenience to other passengers. Moreover, customers indicated that they had to board public transport much earlier so that they arrived and left the ferry market premises early too. They believed that, it could have given them opportunity to transport the fish much easy and less crowded than when they arrived and left the market late.

Conclusion and Recommendations

This study has presented the findings pertaining to an analysis of fishery supply chain at ferry market in Dar es Salaam, Tanzania. The paper has presented the actors involved in fishery supply chain at Ferry Market; actors activities involved at each stage in fishery supply chain; the challenges encountered by actors and lastly ways in which actors coped with the challenges encountered. From the findings, it is important to realise that ferry market contributes somewhat to the country's economy through taxes and levies paid from business operations in the area. It is thus important to continue recognizing and support the actors of fishery supply chain, their activities, as well as addressing their challenges. Similarly, the major and minor operational weaknesses revealed in the ferry market ranging from the will of market management to act upon for immediate solution and individual actors in resolving the own challenges.

Basing on the findings, the study recommends that various government and private sector authorities make arrangements to develop various programs aimed at empowering fishery supply chain actors at the ferry market. The ministries and government departments to which the fishery supply chain belongs such as Ministry of Livestock and Fishery, TANTRADE, TPSF, and Ministry of State - Investment should be able to develop regular program including entrepreneurship trainings aiming at building the capacity of these actors in the area. Moreover, relevant levying authorities to must reconsider the process used to estimate and charge the taxes. This does not mean that fish business dealers at ferry market should be exempted from taxes and levies, but since the taxes and levies were all-over complained by actors, there is a need for the authorities to re-evaluate the procedures and modalities of charging them.

There is a need for policy makers ensure that the formulated policies become participatory to affect the interests of industry stakeholders including those actors. This means policy makers in the relevant ministries such as industry and trade and that of livestock and fisheries in which the fishery sector falls, must engage

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their stakeholders in one or the other way throughout the policy formulation and review to reflect their needs. Lastly, improvement in ferry market supervision is vital, a close supervision and solid management at the market will certainly increase the efficiency of the market. In contrary, the absence or partial government engorgement in overseeing the ferry market will imply neglecting actors call to address their challenges as well as ignoring the ferry market productivity.

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**Lockdown Effect of COVID-19 Pandemic on Firms Economic Performance:
Implications for Dar es Salaam Stock Market**

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Abstract

This paper investigated the lockdown effect of COVID-19 pandemic on listed firms in Tanzanian stock market, DSE. The study was motivated by the nonsymmetrical adverse economic effect experienced by listed firms on DSE due to the pandemic shock. Although the pandemic has been a full swing crisis to the entire economy, the effect has been varying across individual firms listed on DSE. Some of the listed firms on DSE opted for a lockdown strategy as opposed to others. The choice differences on decision whether to lock down or not, drew an interest of the study to enquire and infer the findings on the differences on severity of COVID-19 effect for the two groups. The study hypothesized based on a probable reason for the variation in adversity of the effect based on the decision opted by listed firms on whether to lock down or not. Based on the DID econometric technique, using an average share price as a proxy for firm performance, the study revealed the key finding that, for firms which locked down, the economic performance decreases by 12 percentage point compared to those which did not lock down. The finding was consistent even after the dependent variable was switched to opening and closing share prices. An empirical comparative analysis by sector confirmed the existence of varying adverse effect across sectors. The service sector has been revealed to have experienced the most severe effect ($\beta_3 = -0.29$, $p < 0.001$) followed by manufacturing ($\beta_3 = -0.14$, $p < 0.001$) and banking and finance sector ($\beta_3 = -0.03$, $p < 0.001$). The revealed negative effect for firms which locked down provides a benchmark for policy makers to institute the anti-lockdown related policies for future incidences of similar pandemic. This would provide appropriate measures not only to cushioning firms' economy but also the entire economy from the adverse effect of similar nature.

Key words: Lock down, COVID-19, economic performance.

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Introduction

Currently the world is battling against COVID-19 Pandemic, which has posed an incredible economic downturn for thousands of economic agents around the globe. The downturn emanates from governments' directives of closing down business operations (Tashanova, Sekerbay, Chen, Luo, Zhao & Zhang, 2020). The lockdown includes restrictions on various sectors such as transport which significantly hurdles goods movement especially imports and exports. It harms private firms' performance due to loss of investors' confidence in the market (Jung, Park, Hong & Hyun, 2016). Nevertheless, contrary to many economies, Tanzanian regime adopted a unique approach that discourages business shut down in order to maintain its fastest economic growth pace among other African economies.

Despite the Tanzanian government initiative put forth to support business environment in the existing pandemic, yet private firms especially some of those listed in Dar es Salaam Stock Exchange (DSE) experience a sharp decline in their daily business performance (DSE, 2020). Notwithstanding, a no lockdown initiative of Tanzanian government following COVID-19 outbreak in March 2020, some private firms decided to indefinitely lock down their staff members from attending their duties at workplaces while others did not. It is evident that some listed firms, have recorded a significant drop in their sales volumes implying poor economic performance. The effect is translated to firms' downsizing due to the aftermath effects of poor financial position of such firms. Consequently, it may prompt a spillover effect on surge in unemployment rate of the entire economy. Why some listed firms in DSE as opposed to others listed in the same market, experience a sharp decline in business performance given the government support of no lockdown? This is a basic question that the paper seeks to address. In order to address the research question, a comparative study was undertaken by testing a null hypothesis that; there is no significant difference in economic performance effect between firms that locked down and those which did not during COVID-19 pandemic in Tanzanian stock exchange market.

The findings of the study would shade light on lockdown effect of the pandemic on firms' economic performance. Consequently, the findings would assist policy makers in developing appropriate policies which might plausibly underpin the future mitigation strategies of similar pandemic effects, while maintaining firm's and national economic stability. To the best of my knowledge, none of the studies has been carried out in this area. The paper contributes to the existing literature on lockdown effect by the application of the differences in differences econometric technique not previously used in existing literature. The idea is quite unique due to the fact that, most economies were directed by their governments to entirely lockdown all economic activities in order to mitigate the pandemic shock. In Tanzania, the government discouraged lockdown which, however some firms opted for lock down strategy which calls for the interest of this research that poses a unique contribution of the study. The remainder of this paper is structured as follows; section two lays down a literature review, section three provides methodology, section four is about discussion of the findings while the last section five, is about concluding remarks and policy outlook.

Thus, the main intent of this paper is to empirically examine the lockdown effect of COVID-19 pandemic on firm's economic performance in Tanzania. The study descriptively provides a comparative analysis between firms which opted to lockdown against those that adhered to the government support to normally continue operating their business activities in the same market. A sectoral analysis was also undertaken to reveal the magnitude of lockdown effect across various sectors of listed firms in DSE. Staff lock down through closure of firm's workplace would create a significant loss of confidence to investor's decision in purchasing shares from a locked down firm in the market (Tashanova, Sekerbay, Chen, Luo, Zhao & Zhang, 2020). When investors are knowledgeable on firm's lockdown status, they may lose confidence to patronize such firms to invest in shares. Subsequently, the demand for shares, share prices and sales volume may be negatively affected.

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Literature Review

COVID-19 Pandemic and Firm's Performance in Stock Market

The first case of COVID-19 pandemic outbreak was initially noted in Wuhan city, Hubei province of the People's Republic of China in December 2019 (Mc Kibbin & Fernando, 2020). The pandemic had spread to over 213 economies and territories around the world and 2 international conveyances (Worldometers, 2020). Subsequently five others epicenters featuring the Germany, France Italy Spain and United States of America picked up the pandemic outbreak recording over a hundred thousand cases (Worldometers, 2020). The rapid spread of the coronavirus and its severity prompted the World Health Organization (WHO) to declare the virus as a global pandemic on March 11, 2020 and called for serious intervention by governments through their health sectors (Mc Kibbin and Fernando, 2020). Despite containment measures taken by governments against transmission of the pandemic, the spread of the virus continued on rapid surge (Addi et al, 2020). The rapid spreading new pandemic posed ambiguities on its transition ways despite the tireless efforts put forth by medical practitioners and researchers who introduced a single transmission mode through infected person fluid (Kim, 2020, Addi et al, 2020, Bai, Yao, Wei, Tian, Jin, Chen & Wang, 2020, ACDC, 2020). The symptoms of the fatal pandemic features dry cough, shortness of breath, sore throat, fever, and ultimately death. ACDC (2020) revealed that, the incubation period for coronavirus is between 2 to 14 days. The pandemic has posed economic recession to most businesses in private sector and entire economies across the globe. In Tanzania, a total of 509 cases and 21 deaths were reported (Worldometers, 2020). The similar pattern of experience befalls the private sector where most companies locked down through closure of their workplaces which harmed their performance.

Hope, Saidu and Success (2020) asserts that, firm's performance depends on the profit maximization of a firm and satisfaction of their consumers who are directly affected by the activities of the firm. Economic performance is a relative measure of how a firm optimally utilizes its resources to generate profit (Nnamani, Onyekwelu & Ugwu, 2017). The performance assessment of a firm highly depends on profitability factors including economic value added (EVA), return on investment (ROI), return on assets (ROA), return on equity (ROE), depreciation and amortization margin (EBTIDA), market value performance and change in stock price (Santos & Brito, 2012). The effect of COVID-19 pandemic in Tanzania prompted some business owners and managers to quickly embark on containment measures against the coronavirus spread amongst their staff members. A panic decision includes lockdown, firms operational shut down or reducing production level of output. The, decision to lockdown might have a negative effect on firm's economic performance. Information on firm's lockdown of staff members through closure of workplaces may pose negative sentiments to potential and current investors against such firms. Investors in stock market for instance, may develop pessimistic perception that the economic performance of these firms may be negatively affected through risks associated with closure of the workplaces. Associated risks include uncertainty on future firm's existence in the market, high loss caused by underperformance, ineffectiveness due to staff members retrenchment caused by downsizing, loss of customers; all of these result into decrease in demand for firm's products that would negatively effects firm's economic performance in stock market which may be signaled by the drop in share price.

Pandemic Effect to Dar es Salaam Stock Market

The Dar es Salaam Stock Exchange (DSE) is a market place where buyers and sellers of financial instruments meet. The exchange is the secondary leg of Capital Markets that help avail long term and affordable capital to companies from investors with investment motives. The stock exchange is therefore part of the process through which companies looking for capital; issue financial instruments to investors from the general public so as to raise capital and finance their businesses. The two main financial instruments issued by companies to raise capital are shares and corporate bonds (DSE, 2020).

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Tanzania is not exceptional to the COVID-19 pandemic shock on stock market, a number of private firms featuring those listed in DSE closed down their workplaces. The firms' management ordered a lockdown of staff members early in March 2020 after emergence of the first case of COVID-19 patient in the economy. As reported by DSE (2020), there has been a significant negative effect to listed firms in DSE market in terms of share price performance causing exit of investors, and decline in liquidity from dry in foreign capital inflows by 80 to 90 percent of the total market. The report added that subsequently, all share index in the market dropped by 16 percent in March 2020. The DSE dropped from 2,122.77 points in January to under 1,747.70 points in March, 2020. Although the pandemic shock has been a full swing adverse effect to the entire market, it is worth mentioning that the severity of the shock varies across firms. It is expected that the degree of severity on firms which closed their workplaces and locked down their staff members to experience higher negative economic shock, compared to those that normally continued operating their businesses. This calls for analytical comparative study on the effect to firms' economic performance emanating from the lockdown strategy adopted by some firms, as opposed to the ones which did not listed on DSE. The study is imperative to establish insights that would underpin the institution of appropriate mitigation policies against similar pandemics in the future.

Relevant Empirical Review

Few studies have recognized the shock effect of epidemics and pandemics similar to COVID 19 on firm's economic performance. Siu and Wong (2004) studied in Hong Kong on Severe Acute Respiratory Syndrome (SARS) epidemic effect to Hong Kong's economy, and found a negative. consumer effects on locally consumed goods and tourism sector. Kim, Kim, Lee and Tang (2020) examined the influence of infectious various epidemic disease outbreaks on the firm's economic performance of the catering industry from 2004 to 2016 and revealed a negative effect of epidemic shocks on firm's economic performance. Ichev and Marinc (2016) examined the effect of Ebola shock on information flow within asset pricing and realized a negative effect on stock prices. Jung, Park, Hong and Hyun (2016) examined the effect of epidemic shock on consumer consumption expenditures and discovered distortive effect in consumer consumption expenditures. Nippani and Washer (2004) examined the effect of SARS on stock markets in a number of economies and found negative effect just for two countries. Del and Paltrinieri (2017) analyzed the effect of Ebola on funds inflow to some African countries from 2006 to 2015 and found negative affect on funds flows. Macciocchi et al., (2016) examined economic effect of the Zika virus outbreak in Latin America and found insignificant negative effect. Ming-Hsiang, Shawn, and Gon (2007) examined SARS outbreak effect on Taiwanese hotel stocks and found a negative effect on return and stock price. Mei-ping Chen et al., (2018) analyzed the effect of the SARS epidemic on Asian stock markets and found a negative effect on the four markets. Wang, Yang, and Chen (2013) studied on the effect of infectious disease shock on biotechnology stock in Taiwan and confirmed a suggestive negative effect. Hai, et al, (2020) examined the effect of CODID 19 outbreak on countries and their responses and found a negative effect on major effected countries. Hope, Saidu and Success (2020) examined the effect of COVID 19 on firm's performance in Nigeria and confirmed a negative economic performance of private firms.

None of the above studies has established a lockdown effect of pandemic or epidemic on firms economic performance. The study attempts to address the research question on lock down effect of COVID 19 pandemic on firms economic performance based on the Differences and Differences (DID) econometric method. The approach is appropriate to the study due to its ability to provide a distinctive effect between two extremes, the treatment and control groups which in this case are the locked down firms and those that did not lockdown. This is imperative because the severity in pandemic effect in DSE varies across firms where lock down might be the key determining factor for the variation.

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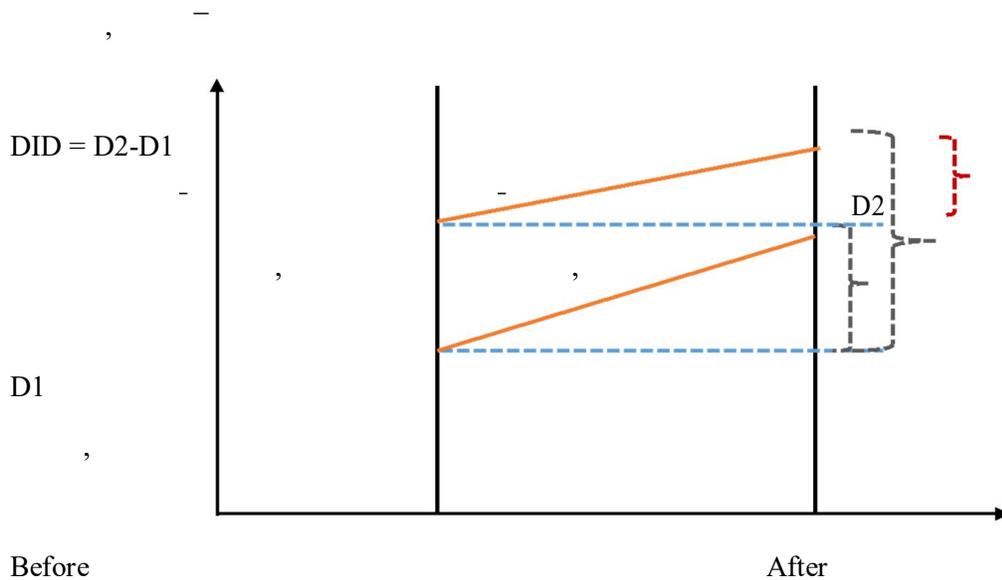
Methodology

Data and Source

The study employed data from DSE which provides stock markets in Tanzania. Listed firms in DSE were included in the sample. The share prices which are published on daily market reports per firm were used as a proxy for firm's economic performance which in this case is a dependent variable. According to Zarah (2017) the stock market price is the stock price determined by the interaction of market participants on the demand and supply of a share. The price reflects the stock price that occurs in the stock market at a given moment. Stock prices should reflect a company's financial performance. When a company's financial performance increases, the market will appreciate with rising stock prices, and vice versa. In other words, the firm's financial performance should be reflected in the stock price. If the financial performance increases, then the tendency of shares of the company will be favorable to investors, thus encouraging the increase in stock prices. There are 27 listed firms in DSE and the study period is 177 days. The days are divided into before and after COVID-19 pandemic making a sample consisting of 4,762 observations within 27 unbalanced panels of dataset due to missing values on public holidays and weekends of which DSE does not operate.

Theoretical Framework and Model Specification

The study employed the DID econometric technique that provides a comparative analysis between a treatment and control groups based on before and after time aspects. Consider an experiment set to evaluate the impact of exogenous interventional shock such as policy that requires outcomes comparison between the affected/treatment group to an unaffected /control group, supported by time bound before and after the shock. In the same manner let's assume that there are two regions A and B subject to before and after shock context. Both regions are equally exposed to the same environment before a new intervention. The intervention time provides a cut off line into before and after periods. Assuming that region B is suddenly subject to shock intervention and exposed to after effects that result into a notable difference of group B relative to group A. The difference may be due to the shock intervention, but also might be due to other key characteristics that varies between the two groups which also determines the outcome differences, e.g. region A might be subject to different weather condition relative to region B which might be a contributing factor to the outcome difference in the level of business performance. If the outcome is sales volume which also depends on waether that varies in the two regions, a favorable weather in region B relative to region A might also contribute to a better performance of group B apart from a shock intervention exposed to group B that needs to be evaluated. A better remedy for this overlapping is to evaluate the impact of the intervention by controlling for other characteristic difference between the two regions. It's difficult to control for unobservable characteristics, even if we have enough data to control observable ones. However, apart from the difference in characteristics that might contribute positive changes experienced by region B, it might also be contributed by other changes in a course of intervention apart from the shock that cannot be captured. Now consider a double approach that comprises of after and before associated with the treatment and control group comparative approach. If the after and before difference in the control group emanates from the same difference in the treatment group, then if other changes that occur over time are also present in the control group, then these factors are controlled for when the control group after and before difference is netted out from the impact estimate. Also if there are important characteristics that are determinants of outcomes and that differ between the treatment and control groups, then, as long as these treatment and control group differences are constant over time, their influence is eliminated by studying changes over time so is for any time invariant unobservable characteristics which are also netted out.



Difference in Differences Illustration

Source: Researcher’s Own Construction

Alternatively, the following mathematical equations elucidate the above pictorial presentation. Let us consider a two group scenario $\{G= 1, 2\}$ in two different periods $\{T=1, 2\}$. Initially at T1, both groups are exposed to control status. At T2 is when only G2 is exposed to treatment status, let $=1$ represents a dummy variable capturing group 2 observations at T2 while $= 1$ represents a dummy variable capturing treatment period 2 observations. In the two periods two groups DID, the treatment variable is simply the product of these two dummy variables: $=$. This is because $= 0$ is when both groups are exposed to the first period because $= 0$ and $=0$; and $= 1$ only happens when the second group is exposed to the treatment because this is when both dummies are equal to 1. Let’s further assume that untreated expected outcome is given by $(0) = \alpha_0 + \alpha_1 + \alpha_2 + \dots$ (1).

Before and shock intervention, the expected outcome in the first group is α_0 in the first period

while in the second period is $\alpha_0 + \alpha_1$. The expected untreated outcome in the second group is

equal to $\alpha_0 + \alpha_1$ while in the second period is $\alpha_0 + \alpha_1 + \alpha_2$. We assume a common trend applies where the coefficient on α_2 provides a time-invariant difference in expected outcomes between the two groups. The group coefficient includes the combined effects of all the constant differences between the two groups and during the study period. Likewise, the coefficient captures the changing combined effects between the two periods which also affect outcomes similarly in both cases. Practically, α_1 is termed as the group effect and α_2 the time trend. Basically, the model for the expected treatment outcome is the sum of untreated outcome and treatment effect, which is usually constant across observations:

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$$(1) = (0) + \dots \dots \dots (2)$$

Thus generally the overall outcome is expressed as;

$$= (0) + \{ (1) - (0) \} \dots \dots \dots (3)$$

Replacing the outcomes notations with the model specification it gives;

$$= \alpha_0 + \alpha_1 + \alpha_2 + \{ (\alpha_0 + \alpha_3 - \alpha_0) \} \dots \dots \dots (4)$$

In the two-group two-period model, $\alpha_3 = \alpha_3$, which implies that after canceling the α_0

3.1.3 Identification Strategy

The DID econometric estimation technique was directly adopted from the aforesaid theoretical model as follows;

$$= \alpha_0 + \alpha_1 + \alpha_2 + \alpha_3(D) + \dots \dots \dots (5)$$

where; y_{it} is treatment outcome in this case firm performance indicated as daily share price which is a proxy for firm performance, $\alpha_0, \alpha_1, \alpha_2$ are constant term, group and period coefficients respectively, α_3 is DID coefficient. D_{it} is a group dummy, 1 if a firm is within a treatment group (for locked down firms) and 0 otherwise, T_{it} is period dummy, 1 if a period is after treatment (COVID-19 shock) period and 0 otherwise (α_3) is a composite interaction term of the treatment effect while ϵ_{it} is a composite error term. The model was executed under the key assumptions of DID model. These include; the common trend parallel assumption, time invariant group characters and period time-variant attributes while the lockdown intervention is a strictly exogenous emanating from pandemic shock.

Findings and Discussion

The regression results are based on dependent variable which is average daily share price on DSE. The DID treatment variable together with associated controls on sector, firm, firm treatment and time treatment dummies was run against average share price to establish a baseline model. Table 4.1 indicates a negative and statistically significant coefficient on DID variable at one percent significance level. It dictates a negative firms' economic performance for those which adopted the lockdown strategy. The adverse performance could be due to loss of confidence by investors who hesitated to invest in firms which locked down their work places compared to those which did not. The locked down firms implies inefficiency in performance due to loss of expected immediate returns that would have been realized without locking down.

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Table 4.1: Baseline Model on Lockdown Effect of COVID-19 Pandemic on Firm Performance

Variables	(1)	(2)	(3)
DID	-0.1196*** (0.032)	-0.1210*** (0.034)	-0.1138*** (0.035)
Sector	0.1756*** (0.012)		0.0696*** (0.007)
Firm	-0.0327*** (0.003)	-0.0210*** (0.002)	
Firm-treatment	0.1579*** (0.019)	-0.0546** (0.022)	0.1070*** (0.020)
Time-treatment	0.0999*** (0.028)	0.0999*** (0.030)	0.0999*** (0.031)
Constant	0.1548*** (0.024)	0.5564*** (0.037)	0.0379 (0.024)
Observations	4,762	4,762	4,762

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Although some firms allowed staff to work from their homes, inefficient performance is evident to such firms due to cultural difference particularly in developing countries which encountered disrupting environment compared to developed countries who may be used to the practice. In developing countries including Tanzania, the working environment is designed for staff to directly operate in designated physical work places on physical contact basis. Most homes lack adequate office facilities to perform better compared to designated work places implying under performance. Interference by home chores, emergencies, less supervision and lack of team synergy for those who individually worked from their homes, reduced their performance level and ultimately the entire firm performance. Although the pandemic posed the holistic shock to the entire economy, the empirical evidence unveil worse performance to firms which locked down compared to those which continued to operate their business at their work places. Based on the first estimation column in Table 4.1, for firms which locked down, the firm economic performance decreases by 12 percentage point compared to those which did not lock down.

The dataset provides daily opening and closing prices for each listed firm which were separately use in robustness checks of the findings. The results are provided in Table 4.2 which indicates negative and statistically significant DID coefficient at one percent significance level. Consistent results are evident both on opening and closing price as proxies for firm economic performance.

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Table 4.2: Robustness Checks on Lockdown Effect of COVID-19 Pandemic on Firm Economic Performance

Variables	Dependent Variable – Opening Share Price				Dependent Variable – Closing Share Price	
	(1)	(2)	(3)	(4)	(5)	(6)
DID	-0.1199*** (0.032)	-0.1213*** (0.034)	-0.1141*** (0.035)	-0.1202*** (0.032)	-0.1215*** (0.034)	-0.1143*** (0.035)
Sector	0.1757*** (0.012)		0.0696*** (0.007)	0.1759*** (0.012)		0.0698*** (0.007)
Firm	-0.0328*** (0.003)	-0.0211*** (0.002)		-0.0328*** (0.003)	-0.0211*** (0.002)	
Firm-treatment	0.1580*** (0.020)	-0.0547** (0.022)	0.1070*** (0.020)	0.1581*** (0.020)	-0.0549** (0.022)	0.1070*** (0.020)
Time-treatment	0.1003*** (0.028)	0.1003*** (0.030)	0.1003*** (0.031)	0.1003*** (0.028)	0.1003*** (0.030)	0.1003*** (0.031)
Constant	0.1547*** (0.024)	0.5567*** (0.037)	0.0377 (0.024)	0.1546*** (0.024)	0.5571*** (0.037)	0.0375 (0.024)
Observations	4,762	4,762	4,762	4,762	4,762	4,762

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Sectoral lockdown effect is expected to be nonsymmetrical depending on the nature of a business run by a particular sector in which firms operates. Different sectors execute activities differently based on orientation of their businesses. Service delivery firms for instance, require physical contacts in to directly attend customers. Similarly, the manufacturing sector does the same in operating machines and equipment, the two sectors are opposed by the banking sector which needs less office (due to extended mobile banking) hours to perform duties at their physical work places. The data set provides various firm categories by sector, these include; banking and finance, manufacturing and service sectors. The results presented in Table 4.3 are based on a sectoral comparative analysis among the aforesaid sectors. The most effected sector by lockdown effect is the service sector. For firms which locked down in the sector, the firm economic performance decreases by 29 percentage point compared to those which did not lock down. The finding is evident by a negative and statistically significant coefficient of DID variable at one percent significant level. The reason for severity effect on service sector compared to other sectors could be due to the nature of the sector which requires much time to physically attend customers at work places as compared to manufacturing and banking and finance sectors. A partial or full lockdown of the firms in the sector results to a severe negative effect to their economic performance.

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Table 4.3: Lockdown Effect of COVID-19 on Firms Performance by Sector

Variables	Manufacturing Sector		Banking & Finance Sector		Service Sector	
	(1)	(2)	(3)	(4)	(5)	(6)
DID	-0.1360*** (0.024)	-0.1450*** (0.026)	-0.0334*** (0.009)	-0.0335** (0.013)	-0.2911*** (0.052)	-0.2911*** (0.081)
Firm	0.0050*** (0.000)		-0.0466*** (0.001)		-0.2125*** (0.006)	
Firm-treatment	0.2957*** (0.024)	0.2987*** (0.026)			0.8650*** (0.054)	-0.5873*** (0.048)
Time-treatment		0.0025 (0.004)				0.2946*** (0.080)
Constant	-0.0373*** (0.006)	0.0479*** (0.003)	0.6386*** (0.017)	0.2830*** (0.011)	3.1814*** (0.077)	0.7019*** (0.048)
Observations	1,260	1,260	1,648	1,648	1,030	1,030

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

This is because, the sector is customer sensitive which calls for direct survive delivery to customers with good customer care and survive. The sector's products are demand elastic, once a firm in the sector, fails to provide adequate service to customers due to lock down, it ought to lose massive customers. This imply adverse economic performance as opposed to those which continued to deliver their services without locking down. The second severely affected sector by lock down effect is the manufacturing sector indicated by a negative and statistically significant coefficient at one percent significance level. On average, for firms which locked down in the sector, the firm's economic performance decreases by 14 percentage point compared to those which did not lock down. The reason for this sector being moderately affected relative to others could be due to the positive working capital that would have been caused by a good amount of product storage prior to lock down. The stock would be have been indirectly supplied to customers through wholesalers and other storage agencies even if such firms locked down. The positive working capital caused by product storage is normally used by manufacturing firms as a mitigation strategy to their income management when they are informed on future crisis which may cease their production operations.

The least affected sector is the banking and finance sector which is evident by a negative and statistically significant coefficient of DID variable at one percent significant level. On average, for firms which locked down in the sector, the firm's economic performance decreases by three percentage point compared to those which did not lock down. The reason for firms under this sector being less affected could be due to a supportive environment created by the Central Bank, the Bank of Tanzania (BoT) by increasing daily transaction limit to mobile money operators from TZS. 3,000,000 to TZS. 5,000,000, and the increase in

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daily balance to mobile operators from TZS. 5,000,000 to TZS. 10,000,000. This encouraged customers to make use of digital payment platforms for transactions, hence reducing the customers need to patronize physical bank premises. Customers were encourage to shift from visiting physical bank premises to mobile banking which implies less effect to firms which locked down in this sector (URT, 2020). Similarly, bank agencies which operate closer to the communities have been effectively utilized as the right arm of banks which locked down, to serve their customers in order to complement the inefficiency which would have been caused by locking down their work places.

Concluding Remarks and Policy Outlook

This paper investigated the lockdown effect of COVID-19 pandemic on listed firms in Tanzanian stock market, DSE. The study was motivated by the nonsymmetrical adverse economic effect experienced by listed firms on DSE due to the pandemic effect. Although the pandemic has been a full swing crisis to the entire economy, the effect has been varying across individual firms listed on DSE. This is due to the unique approach adopted by the Tanzanian government which directed a no lock down strategy to all economic activities as opposed to the common practice adopted by most regimes around the globe. The panic caused by COVI-19 shock prompted regimes of many countries to lockdown their citizens from undertaking various economic activities. However, some of the listed firms on DSE opted for a lockdown strategy as opposed to others. The choice differences on decision whether to lock down or not drew an interest of the study to enquire and infer the findings on the differences on severity of COVID-19 effect for the two groups; those which locked down against those which did not among the listed firms on DSE. The study hypothesized based on a probable reason for the variation in adversity of the effect from the decision opted by listed firms on whether to lock down or not.

Based on the DID econometric technique using average share price as a proxy for firm performance, the study revealed the key finding that, for firms which locked down, on average the firm economic performance decreases by 12 percentage point compared to those which did not lock down. The finding was consistent even when the dependent variable was switched to opening and closing share prices reported by the daily market reports of DSE. In an empirical comparative analysis by sector, the study confirmed existence of adverse effect across the sectors of participating firms on DSE. The service sector has been revealed to have experienced the most severe effect followed by manufacturing and banking and finance sector. Service sector is customer sensitive which calls for direct survive delivery to customers with good customer care and service. The nature of the sector's products are demand elastic, once a firm in the sector, fails to provide adequate service to customers due to lock down, it ought to lose massive customers which implies poor performance. The moderate effect to manufacturing sector could be due to the positive working capital that would have been caused by a good amount of product stored prior to lock down as a proactive strategy. The stock would have been indirectly supplied to customers through wholesalers and other storage agencies even if such firms locked down. The reason for firms under the banking and finance sector being less affected could be due to the supportive environment created by the Central Bank; BoT by increasing daily transaction limit and daily balance to mobile money operators. Also, effective use of bank agencies which are closer to the community would be a cushioning reason to the adverse effect encountered by the sector without directly operating through a conventional approach in their work places.

The revealed negative effect to firms which locked down provides a benchmark to policy makers to institute the anti-lock down related policies for future incidences of similar pandemic to COVID-19. This would provide appropriate measures not only to cushioning firms' economy but also the entire economy from the adverse effect of similar nature. Even if the instituted policies would allow for freedom of choice on whether to lock down or not, the policies should clearly assert on appropriate regulatory authorities to provide sector specific cushioning policy measure. This could be done by emulating the BoT's intervention to ensure crisis relief to the banking and finance sector which eventually experienced the least effect relative to other sectors.

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Investigating Examination Anxiety in the Context of Assessment Tools Used in Colleges: Experience from Certificate Students at the College of Business Education, Tanzania

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Abstract

Students' examination anxiety (SEA) has been reported as one of the serious challenges affecting the academic performance of students in tertiary education. However, despite the fact that several studies have been done in an attempt to investigate the causes of SEA, yet there is no clear documentation of the extent to which the types of tools used in assessing students can be part of students' examination anxiety in higher learning institutions. This study employed the Psychodynamic Theory to examine the extent to which tools of assessing students in colleges contribute to students' examination anxiety in Tanzania. It is a descriptive research design conducted at the College of Business Education (CBE) whereby questionnaires and document review were used in data collection. Purposive and convenience sampling techniques were used to select 302 certificate students in the academic year 2020/2021. The selection of the sample size was determined by the formula developed by Yamane (1967). The formula for sample determination was $n = \frac{N}{1 + N(e)^2}$, whereby: n =sample size, N =Targeted population, e =Level of precision. Simple descriptive statistics including the mean, variance, and standard deviations were used in data analysis with the aid of the SPSS software version 26. The findings indicated that some assessment tools used in colleges such as presentations, quizzes, written and oral tests have a higher rate of examination anxiety than other assessment tools. On the other side, the study found that the questions characterized by supplying responses test items such as filling in the blanks, short answers, and essay questions have a higher rate of examination anxiety than other questions characterized by selecting responses test items such as matching items, true and false and multiple choices. In addition, the study found that the majority of students experience examination anxiety while waiting for results, few minutes before starting the examination and at the end of semester. Based on the findings, the study has the following recommendations: Firstly, instructors in colleges should be careful while applying various assessment tools especially those with higher examination anxiety. Secondly, guidance and counseling services should be provided periodically in colleges before and after exams in order to assist students to cope with examination anxiety.

Keywords: Students' examination anxiety, assessment tools, higher learning institutions

Introduction

Examination anxiety is one of the serious challenges affecting students' learning at different levels of education including those studying in tertiary education (Javed & Khan, 2011; Okogu, Osah, & Umudjere, 2016; Trifoni & Shahini, 2017). The term anxiety is defined as the feeling that a person may have when he or she predicts something bad that might happen in the future (Asadullapoor, Fati, & Gharaee, 2010). In some perspectives, anxiety is considered as an irrational fear that leads to avoidance of the feared situation or object which in turn increases the severity of the phobia (Agrawal & Goel, 2016). Psychologically, every individual person has anxiety, but when anxiety reaches the extreme level, it leads to negative effects on human life including the poor academic performance of students (Javed & Khan, 2011; Dawood et al., 2016). It is a matter of fact that anxiety affects students of different levels regardless of their differences in sex, cognitive abilities, family status, and other personal backgrounds (Agrawal & Goel, 2016; Trifoni & Shahini, 2017).

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In the context of educational measurement and assessment practices, examination anxiety is referred to as excessive worry about upcoming exams (Agrawal & Goel, 2016). According to Dawood et al (2016), examination anxiety is a kind of self-preoccupation that is manifested as self-minimization and results in negative cognitive evaluation, lack of concentration, unfavorable physiological reactions, and academic failure. In most cases, examination anxiety is caused by many factors including but not limited to student's self-criticism, studying styles, lifestyle, negative thinking, psychological factors, fear of being evaluated, and apprehension about the consequences (Agrawal & Goel, 2016).

In recent years, researchers across the globe have developed an interest in studying the topic of examination in relation to student's academic performance. Indeed, there is the truth of having a positive significant relationship between examination anxiety and poor academic performance of students particularly in tertiary education particularly in higher learning institutions (HLIs). In Spain for instance, (Núñez-Peña, Suárez-Pellicioni, & Bono, 2013) reported that low performance in Mathematics in the academic year 2010/2011 at the University of Barcelona to large extent was connected to examination anxiety among students. Likewise, in Albania, Trifoni & Shahini (2017) found that there was a substantial number of students affected by examination anxiety in 2017 hence leading to poor academic performance at the Aleksandër Moisiu University. The same challenge was reported in Saudi Arabia by Dawood et al. (2016) who found that the test anxiety score demonstrated severe test anxiety of 50.9% after examining 277 students at the College of Nursing, King Saud bin Abdul-Aziz University for Health Sciences - Riyadh (KSAU). Other examples of examination anxiety can be seen in Nigeria by studies done by Okogu et al., (2016), India by Aman (2018), and Pakistani by Najmi, Raza, & Qazi (2018). All studies collectively indicate a serious challenge of examination anxiety in relation to student's academic performance in their learning institutions.

In Tanzania, there are several cases related to students' academic failure in colleges and universities (see Bura, Mbunda, & Mwakaluka, 2019; Kapinga & Amani, 2016). However, despite the fact that several studies have been conducted about academic challenges facing students in HLIs, yet the challenge of examination anxiety is not well documented. So far, there is no current known study addressing specifically the challenge of examination anxiety in the context of Tanzania focusing on students in HLIs. Among few available studies which have been done about the area of students' academic failure in HLIs concentrate much on investigating other factors with little attention to examination anxiety. For example, Kapinga & Amani (2016) examined determinants of students' academic performance in higher learning institutions in Tanzania; Bura, Mbunda, & Mwakaluka (2019) investigated factors contributing to students' academic mass failure at the College of Business Education; and Mwachande, Mwide, & Rogath (2014) studied about effects of cost-sharing on university students' academic performance at Teofilo Kisanji University in Mbeya City. Indeed, the paucity of information regarding the existence of examination anxiety in Tanzanian HLIs needs an immediate study to cover the existing gap in the literature. Thus, against this background, the current study was intended to examine the extent to which tools of assessing students in colleges contribute to students' examination anxiety in Tanzania. The study specifically was embarked to answer three research questions including the following;

- i. Which assessment tools used in colleges have a higher rate of students' examination anxiety?
- ii. Which types of questions used in colleges have a higher rate of students' examination anxiety?
- iii. At what period most students are faced with examination anxiety compared to other periods in the semester?

This paper contributes knowledge to educational practitioners especially those working in HLIs as course instructors. The paper examines various tools of assessment used in colleges and suggests the best ways of dealing with them to avoid students' examination anxiety. The paper also fills the existing gap in the

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literature regarding the extent to which tools of assessing students in colleges contribute to students' examination anxiety in Tanzania.

Review of Related Literature

Theoretical Framework of the Study

This study employed the Psychodynamic Theory (PT) in an attempt to examine the extent to which tools of assessing students in colleges contribute to students' examination anxiety. PT is most closely associated with the work of Sigmund Freud which began from 1885 to 1939 (Bornstein, 2021). PT is among the popular theories used by researchers in studying topics related to human behaviour. Though the theory is criticized by some of the researchers for being more subjective in its analysis of human behavior, on the other side, there is plenty of evidence that the theory is appropriate in studying human behaviour, and it is empirically testable (Fisher & Greenberg, 1996). For instance, (Hoffmann, 2015) argues PT is without any doubt a scientific research theory because many of its claims can be empirically tested. In due regard, the current study has opted to employ PT because of its connection to various issues related to human behavior as far as the topic of anxiety is concerned.

PT has several assumptions but is not limited to the following assumptions. The majority of psychological processes take place outside awareness. There is a connection between unconscious processes and everyday psychological functioning (Asadullapoor et al, 2010; Pitman & Knaus, 2020). The theory further maintains that nothing in the human mind happens by chance. However, thoughts, motives, emotional responses, and expressed behaviors always stem from some combination of identifiable biological and psychological processes (Bornstein, 2021; Pitman & Knaus, 2020). According to PT, anxiety is a conflict between id and ego which leads to repression, and the repressed drives may break through repression, producing automatic anxiety (Clemens, 2003). Anxiety develops in stages from normal to extreme anxiety, and when a person experiences it, several symptoms emanate such as physiological concomitants of fear, tachycardia, palpitations, shortness of breath, diaphoresis, gastrointestinal hypermotility, muscle tension, and so forth. Clemens (2003) argues that if those symptoms connected to anxiety are well not understood, and measures are not taken to fix them, the situation will allow anxiety to grow into an overt panic-fear of death or catastrophic loss of control and other effects.

Regarding the current study, the use of various tools of assessment can be the main source of students' examination anxiety because nothing in the human mind can happen by chance. This is based on the fact according to PT, examination anxiety is caused by repressed drives which may break through repression producing automatic anxiety. Most students always fear their upcoming assessments which leads to examination anxiety. This means that having a clear knowledge of the contribution of the assessment tools in creating students' examination anxiety is very important because it will enable instructors in colleges to effectively manage students' examination anxiety. Instructors should be well informed about the consequences of each assessment tool and the types of questions asked to assess students in order to handle the challenge of examination anxiety. In due regard, PT is very important in this study as it will be applied in the discussion of findings in comparison to other similar studies.

Forms of Assessment and Tools Used in Assessment Process

Assessment is considered to be an integral part of the teaching and learning process. It is defined as all activities carried out by teachers and learners to obtain information that can be used purposely to improve the teaching and learning process (Amua-Sekyi, 2016). It is through assessment activities whereby messages in relation to student's learning can be communicated to different education stakeholders, thus providing opportunities for learners themselves to review, practice, and apply what they have learned in the class (Sanga, 2016). Traditionally, assessment can be divided into three main types or forms namely as diagnostic assessment, formative assessment, and summative assessment (Omari, 2011). Diagnostic assessment is the assessment carried out at the beginning of the topic or programme of study for the purpose

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of assessing the extent to which a student is capable of mastering the content to be studied (Omari, 2011). This kind of assessment assesses students' weaknesses, strengths, interests, and experiences in the subject matter. Some of the tools used in the diagnostic assessment are aptitude tests, interviews, self-assessment, fitness examinations, questioning, observation, and discussing board responses (Sanga, 2016).

Formative Assessment is another form of assessment referred to as continuous assessment. The assessment is done on the basis of day-to-day activities in the learning institution. According to (Amua-Sekyi, 2016), formative assessment and feedback involve a much more dialogic form of language. The assessment provides feedback that helps in improving learning and modifying teaching strategies and materials. It involves multiple tools of assessment but is not limited to written tests, portfolio assessments, projects, exhibitions, interviews and rating scales, reflection journals and student-teacher conferences. Summative Assessment is the third form of assessment which is done at the end of the course or unit of study for the purpose of assisting in making judgments in relation to student achievement. According to Awoniyi & Fletcher (2014), this form of assessment helps in providing evidence of the learner's competence. Summative assessment takes place after the learning and teaching process has been completed. Examples of tools that can be used for summative assessment are tests, examinations, term papers, projects, portfolios, and performances. Therefore, the decision on appropriate forms of assessment (time and purpose of assessment) and tools of assessment (means of assessment) are all important to students' learning in schools, colleges, or universities.

Empirical Literature

Research has plenty of evidence that shows how examination anxiety has been affecting students' academic performance in tertiary education, particularly in colleges and universities. In Spain for instance, Núñez-Peña et al (2013) studied 193 students from the University of Barcelona who pursued a degree in psychology in the academic year 2010/2011. The study examined whether math anxiety and negative attitudes toward mathematics have an effect on students' academic achievement. With the guide of the math test anxiety, the findings indicated that low performance of mathematics was connected to math anxiety and negative attitude on the subject. Though the study by Núñez-Peña et al (2013) examined the relationship between examination anxiety and math performance, the study did not focus much on examining the influence of each individual assessment tool and the types of questions asked in assessing students.

Another similar study was done by Trifoni & Shahini (2017) in Albania at The Aleksandër Moisiu University. The study employed a test anxiety scale followed by a set of questions that were filled in by sampled undergraduate students to investigate the impact of test anxiety on students' learning. The results indicated that a substantial number of students were affected by examination anxiety. As the result, the study recommended further studies on the causes of test anxiety and what to be done to alleviate it. Despite the fact that the study by Trifoni & Shahini (2017) employed a test anxiety scale consists of symptoms of examination anxiety, the main objective of the study was to identify students with examination anxiety but not the contribution of assessment tools in the creation of students' examination.

Similarly, Aman (2018) studied the relationship between examination anxiety and students' academic achievement with respect to gender and religion in India. The finding revealed that there were no significant differences between academic anxiety and academic achievement with respect to gender and religion. This means that all students regardless of their differences in gender and religion had experienced the same examination anxiety. Though the study by Aman (2018) focused on examining the relationship between examination anxiety and students' academic achievement with respect to gender and religion, other important variables that may affect learning include forms of assessment were not addressed.

In Saud Arabia, Dawood et al (2016) explored the relationship between test anxiety and academic achievement among undergraduate nursing students at the College of Nursing, King Saud bin Abdul-Aziz

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University for Health Sciences - Riyadh (KSAU). The study employed a cross-sectional research design with descriptive correlation to study 277 undergraduate students. The findings indicated that among the studied respondents, 14.4% of demonstrated severe test anxiety, 50.9% moderate, and more than one quarter had mild test anxiety. Again, there was a negative relationship between examination anxiety and students' academic level, Grade Point Average (GPA) and age. As it is for other previously discussed studies, though the study by Dawood et al (2016) examined some important variables such as students' academic level, GPA, and students' age in relation to examination anxiety, yet the study did not clarify how various tools of assessment may lead to students' examination anxiety.

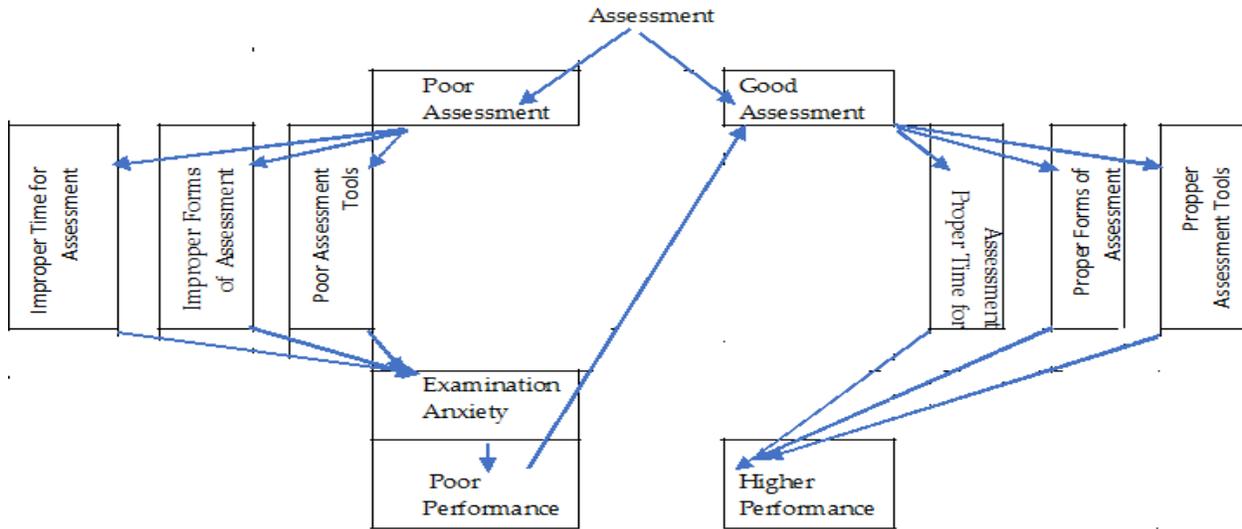
In Nigeria, Okogu, et al (2016) conducted a study aimed to examine how social studies education can be a means of curbing examination anxiety among students of higher institutions in Nigeria. The findings revealed that examination anxiety contributes to the negative academic performance of students. In due regard, the authors recommended an urgent need to explore salvaging means of solving the problem through social studies. However, the study did not trace out how different types of assessment tools and the types of questions asked to assess students may lead to examination anxiety.

In Tanzania, though there are studies conducted to examine challenges of student's academic performance in higher learning institutions, most of them concentrated on other factors affecting students' learning rather than examination anxiety. For example, Kapinga & Amani (2016) investigated the determinants of academic performance among undergraduate students at Mkwawa University College of Education; Bura et al (2019) investigate factors contributing to students' mass failure in the College of Business Education (CBE), and Mwachande et al (2014) examined the effects of cost-sharing on university students' academic performance at Teofilo Kisanji University. Therefore, based on the above-reviewed literature inside and outside Tanzania, indeed, there was an urgent need for a study that would fill the existing gap in the literature about the extent to which tools of assessing students in colleges contribute to students' examination anxiety. In addition, most of the studies done about the topic of examination anxiety including those from outside Tanzania do not give detailed information about the extent to which tools of assessing students including questions constructed by instructors in colleges can contribute to students' examination anxiety. Therefore, the current study was conducted to examine the extent to which tools of assessing students in colleges contribute to students' examination anxiety in Tanzania.

Conceptual Framework of the Study

A conceptual framework is a structure that the researcher believes can best explain the natural progression of the phenomenon to be studied (Camp, 2001). In the current study, the conceptual framework as indicated in Figure 1 shows the organization of assessment practices for effective learning in colleges. When the assessment is well-organized leads to the higher academic performance of students because good assessment eradicates students' examination anxiety. Good assessment involves the proper time for assessment, proper forms of assessment, and proper tools for assessment. On the other side, poor organization of assessment practices leads to students' examination anxiety which in turn leads to poor students' academic performance. This is caused by improper time for assessment, improper forms of assessment, and improper tools of assessment.

Figure 1: Conceptual framework of the Study



The framework of the contribution of assessment tools in the creation of students' examination anxiety

Source: Authors' construction based on the reviewed literature.

Methodology

This is a descriptive research design aimed to examine the extent to which tools of assessing students in colleges contribute to students' examination anxiety. Descriptive design was appropriate in this study as it helped the researcher to investigate the existing research phenomenon by addressing more questions related to who, what and when (Grimes & Schulz, 2002).

The study was done at the College of Business Education (CBE) in the campus of Dar es Salaam focusing on the population of 1,200 semester two students registered for certificate programmes in Business Administration, Accountancy, Marketing, Legal and Industrial Metrology, and Procurement in the academic year 2020/2021. The selection of certificate students was based on the researcher's pre-assumption that those students could have experienced higher level examination anxiety because of having little experience of college assessment than diploma and bachelor students. The study was done in the second semester keeping in view that students had already sat for semester one exams, and they were preparing for semester two exams. Therefore, the disparity in experiencing college assessment among students in the college was considered as a key criterion of identifying an appropriate population for the study.

Purposive and convenience sampling techniques were used in the study to obtain a total sample size of 302 respondents from the population of 1,200 certificate students. The sample size was determined by using the formula developed by Yamane (1967) which is $n = N / (1 + N(e)^2)$, whereby: n =sample size, N =Targeted population, e =Level of precision. The use of purposive sampling helped the researcher to focus on students pursuing certificate programmes in the academic year 2020/2021 in the second semester. On the other side, since students were very busy preparing for end-of-semester two exams, convenience sampling techniques helped the researcher select respondents from their respective programmes. The technique was appropriate in the study because it is a type of nonprobability sampling in which people are sampled simply because they are convenient sources of data (Lavrakas, 2021).

The primary data in the study were collected by using questionnaires. However, the document review techniques were used in the collection of the secondary data. All questionnaires had statements formulated based on the Likert Scale with five alternatives ranging between strongly agree and strongly disagree. Three factors were considered in an attempt to examine the extent to which tools of assessing students in colleges

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contribute to students' examination anxiety. The factors were: (i) Students' examination anxiety as per tools of assessment used in colleges, (ii) students' anxiety as per types of questions asked in colleges, and (iii) students' examination anxiety as per specific period in the semester. In data analysis, the study employed a descriptive analysis technique using the SPSS software packages version 26. Simple descriptive statistics showing the mean, standard deviations, and variance were used in analysing data to examine the extent to which tools of assessing students in colleges contribute to students' examination anxiety based on three investigated factors.

Regarding the research ethics, the research clearance was done by issuing the request letter to the heads of departments. Consent for respondents was done prior to commencing data collection. Participants were informed about the purpose and nature of the research. Voluntary participation and complete anonymity were guaranteed to all participants. In addition, all respondents were assured about the privacy of all information provided during the study.

Findings

Demographic characteristics of respondents

In order to understand the demographic characteristics of the respondents who participated in the study, part one of the questionnaires asked about sex, age, programme of study, study semester and respondents' experience in assessment failure and examination anxiety. Table 1 summarises the demographic characteristics of the respondents.

Table 1: The Demographic Characteristics of the Respondents

SN	Category	Characteristics	Frequency	Percent
1.	SEX	i.Male	158	52.3
		i.Female	144	47.7
1.	AGE	i.Below 25 (yrs)	295	97.7
		i.Above 25 (yrs)	7	2.3
1.	PROGRAMME	i.Certificate	302	100
7.	STUDY SEMESTER	i.Semester one	0	0
		i.Semester two	302	100
7.	EXPERIENCE ASSESSMENT FAILURE	IN i.Yes	161	53.3
		i.No	141	46.7
1.	EXPERIENCE EXAMINATION ANXIETY	IN i.Yes	302	100
		i.No	0	0
1.	EXAMINATION ANXIETY BASED ON CA & SE	i.CA	15	4.9
		i.SE	287	95

Source: Field Data, 2020

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Table 1 presents the demographic characteristics of 302 respondents who participated in the study. Understanding the demographic characteristics of the respondents was very important in this study as it helped the researcher to know the general information of the respondents with whom the researcher was studying. In the study, all respondents 302 (100%) were certificate students who were in semester two of the academic year 2020/2021. Among the respondents, 158 (52.3%) were male and 144 (47.7%) were female. The majority of the respondents 295 (97.3%) aged below 25 years while the minority 7 (2.3%) aged above 25 years. A large portion of the respondents 161 (53.3%) had experienced failure in any of the assessment tools used in the college. On the other side, some of them 141 (46.7%) had not experienced failure. However, despite the differences in experiencing assessment failure, all respondents 302 (100%) had experienced examination anxiety during their college life. In addition, by comparing between the continuous assessment (CA) and the end of semester examination (SE), the majority of the respondents 278 (95%) experienced examination anxiety while doing SE than 15 (4.9%) CA.

Students' Examination Anxiety as Per Tools of Assessment Used in Colleges

Objective one of the study aimed to identify tools of assessment used in colleges with a higher contribution to student's examination anxiety than other tools of assessment. In order to study the objective, data were collected by using the Likert Scale questionnaires with five alternatives ranging between strongly agree and strongly disagree. Nine common assessment tools used in the Colleges of Business Education were included in the questionnaires. Descriptive statistics were used in analysing data as presented in Table 3 below.

Table 2: Descriptive Statistics of SEA as Per Tools of Assessment

Assessment Tools	N	Maximum Statistic	Minimum Statistic	Sum Statistic	Mean		Std. deviation	Variance
					Statistic	Std. error		
i. Presentations	302	1	5	743	2.46	0.074	1.293	1.67
i. Quizzes	302	1	5	761	2.52	0.075	1.309	1.71
i. Written Tests	302	1	5	771	2.55	0.079	1.37	1.87
v. Oral Tests	302	1	5	790	2.62	0.069	1.192	1.42
v. Field	302	1	5	797	2.64	0.079	1.368	1.87
i. Timed Test	302	1	5	802	2.66	0.090	1.562	1.43
i. Research	302	1	5	819	2.71	0.071	1.225	1.2
i. Individual Assignment	302	1	5	821	2.72	0.09	1.556	2.42
v. Group Assignment	302	1	5	849	2.81	0.089	1.547	2.39
Valid N (listwise)	302							

Source: Field Data, 2021

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The findings in Table 2 indicate commonly used assessment tools in the College of Business Education. With the guide of descriptive statistics sorted in ascending order consists of the mean, standard deviation and variance, the researcher was able to identify the contribution of each assessment tool in relation to the degree of examination anxiety caused by each tool of assessment. The study found that presentation, quizzes and written tests had higher level of students' examination anxiety than other assessment tools, and they were ranked in the first three highest positions with the mean of 2.46, 2.52 and 2.55 respectively. On the other side, research, individual and group assignment were ranked in the last three positions with the mean of 2.71, 2.72 and 2.81 respectively. Other assessment tools such as oral test or interview, field and timed test were at the middle positions with the mean of 2.62, 2.64 and 2.66 respectively.

Table 3: Examination Anxiety as Per Types of Questions Asked in Colleges

It was the intention of objective two of this study to identify types of questions used in colleges with higher contribution to student's examination anxiety. Data were collected by using the Likert Scale questionnaires with five alternatives ranging between strongly agree and strongly disagree. Six commonly used types of questions in the College of Business Education were included in the questionnaires. Descriptive statistics were used in analysing data as presented in Table 3 below.

Table 3: Descriptive statistics of SEA as Per Types of Questions

Assessment Tools	N	Maximum statistic	Maximum statistic	Sum Statistic	Mean		Std. deviation	Variance
					Statistic	Std. error		
i. Filling in the blanks	302	1	5	759	2.51	.075	1.309	1.712
i. Short answers	302	1	5	778	2.58	.079	1.299	1.687
i. Essay questions	302	1	5	780	2.58	.081	1.368	1.872
i. Matching items	302	1	5	822	2.72	.081	1.411	1.989
i. True and false	302	1	5	843	2.79	.089	1.546	2.393
i. Multiple choices	302	1	5	853	2.82	.094	1.634	1.671
Valid N (listwise)	302							

Source: Field Data, 2021

Table 3 indicates the findings of the study related to examination anxiety as per types of questions asked in colleges during the assessment process. By using the mean of each assessment method as a criterion of identifying the types of questions with higher contribution to students' examination anxiety, the findings were sorted and arranged in ascending order. It was observed that filling in the blanks, short answers and essay questions were in the three highest-ranked positions with the mean of 2.51, 2.58 and 2.58 respectively. In general observation, the top three types of questions with higher examination anxiety follow under the category of supplying responses test items whereby an examinee is required to supply answers on his or her own ability rather than selecting from the list of given alternatives. On the other side,

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matching items, true and false and multiple choices were ranked in the last three positions with the mean of 2.72, 2.79 and 2.82 respectively. This means that all questions that follow under the selected responses test items have lower examination anxiety to students than those in the supplying category.

Examination Anxiety as Per Specific Period in the Semester

Objective three of the study aimed to identify the specific period in the semester in which students experience higher examination anxiety than other periods. To accomplish the study objective, data were collected by using the Likert Scale questionnaires with five alternatives ranging between strongly agree and strongly disagree. Six periods were included in the questionnaires as the findings summarized in Table 4 below.

Table 4: Descriptive Statistics of SEA as Per Specific Period in The Semester

Period in the Semester	N	Maximum statistic	maximum statistic	Sum	Mean		Std. deviation	Variance
					Statistic	Std. error		
i.While waiting for the semester results	302	1	5	613	2.03	.071	1.240	1.53
i.Few minutes before the examination	302	1	5	703	2.33	.069	1.207	1.45
i.At the end of the semester	302	1	5	707	2.34	.069	1.203	1.44
v.During the examination	302	1	5	816	2.70	.074	1.283	1.64
v.At the middle of the semester	302	1	5	881	2.92	.072	1.259	2.58
i.At the beginning of the semester	302	1	5	937	3.10	.083	1.449	1.09
Valid N (listwise)	302							

Source: Field Data, 2021

Table 4 presents the findings that attempt to answer all questions asked in objective three which aimed to identify the specific period in the semester in which students experience higher examination anxiety than other periods. The findings were sorted in ascending order by using the mean of each period as a criterion of identifying a specific period in the semester in which students experience higher examination anxiety than other periods. The findings indicated that the top three periods in which students experience higher examination anxiety are while waiting for the results, few minutes before starting the examination and at the end of semester with the mean of 2.03, 2.33 and 2.34 respectively. In the ranking series, other periods are during the examination and at the middle of the semester with the mean of 2.7, 2.92 respectively. Interestingly, the rate of examination anxiety is lower at the end of the semester than any period in the semester with the mean of 3.1.

Discussion

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Based on the demographic characteristics of the respondents, one would come to realize that examination anxiety is a common phenomenon affecting all students in learning institutions. It is the challenge of all students regardless of the differences that they might have concerning sex, cognitive ability, age and other factors. These findings are in line with other studies such as (Agrawal & Goel, 2016; Bornstein, 2021; Hoffmann, 2015; Javed & Khan, 2011). Indeed, there is a common agreement among researchers that examination anxiety is an event happening naturally to every person when predicts something wrong might happen in the future. Based on the findings, the majority of students registered in colleges for certificate programmes are still young to control themselves emotionally especially when they face challenges in their learning environment. This means that students need more emotional support from their instructors. In an attempt to explain the importance of the teacher-student relationship in solving the problem of examination anxiety, Pitman & Knaus (2020) insist on various interventions to assist students to cope with examination anxiety while at learning institutions.

Concerning the tools used in assessment, it is obvious to argue that most students fear presentation. Research indicates that though the use of presentation is highly recommended for active learning in colleges, yet some students experience shyness during the presentation. Likewise, Tesfaye & Berhanu (2015) also reported a similar challenge connected to student's shyness during the learning process. In addition, presentation becomes difficult to the majority of students in higher learning education because the English language is not their first language. As the result, students lack confidence due to poor knowledge of the English language. These findings also concur with other previous studies done by (Murray, 2012; Nguyen, Warren, & Fehring, 2014). One of the techniques to assist students to master the English language in speaking is through initiating various programmes that would encourage students to practice English daily in their learning institutions (Syakur, Margana, Junining, & Sabat, 2020).

Based on the findings, it is more obvious to argue that most students do not prefer some questions due to the nature of responding to them. The questions characterized by measuring the lowest level of cognitive ability such as multiple choices, trues and force and matching items are highly preferred by students because fewer efforts are used in answering them. Such kinds of questions are also very easy to cheat and guess while the examination is in progress. However, supplying responses test items especially those constructed to measure the highest level of learning including the essay questions are not preferred by the majority of students because they need more effort to answer them and eliminate guessing. The preference of selected responses test items such as multiple-choice questions over essay questions was also reported by (Gupta, Jain, & D'Souza, 2016; Shaban, 2014). For the case of treating examination anxiety, instructors in colleges are required to use both selected responses test items and supplying responses test items but with special treatment because each category has advantages and disadvantages. Research in education has indicated that when the degree of examination anxiety becomes higher than the ability of the student to control it, eventually the situation creates a stressful condition that affects the student's academic performance. One of the best-recommended ways of reducing a stressful condition to students caused by examination anxiety is through motivation to students before sitting for the test. Struthers, Perry, & Menec (2000) argue that when a student is in a stressful condition is more likely to be motivated and perform better in the examination. However, the main challenge that affects most college instructors is the lack of skills for test construction and administration (Ughamadu, Ifeyinwa, Adinna, & Choice, 2021).

Conclusion and Recommendations

Based on the findings, it is more obvious to conclude that some assessment tools used in colleges such as presentations, quizzes, written and oral tests have a higher rate of examination anxiety than other assessment tools. This is based on the reality that most students in colleges experience shyness and poor mastering of the English language for both oral and written presentations. Likewise, some types of questions characterized by supplying responses test items such as filling in the blanks, short answers, and essay questions have a higher rate of examination anxiety than other questions characterized by selecting

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responses test items such as matching items, true and false and multiple choices. This means that students prefer most questions constructed to measure the lowest level of cognitive ability than the highest level of cognitive ability. In addition, it was vividly found that the majority of students experience examination anxiety while waiting for results, few minutes before starting the examination and at the end of the semester. In due regard, the study has the following recommendations: Recommendations to module instructors, they should be careful while applying various assessment tools especially those with higher examination anxiety. Recommendations to the management of learning institutions, they should periodically provide guidance and counseling services in colleges before and after exams in order to assist students to cope with examination anxiety.

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**The Role of Procurement Auditing in Promoting Compliance and Ethics in Public Organizations
Procurements Practices: A Case of Tanzania Food and Nutrition Centre**

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Abstract

This study assessed the role of procurement audits in promoting compliance and ethics in public organizations' procurement practices in Tanzania with a critical focus on Tanzania Food and Nutrition Center. The study had three objectives which include: assess the impact of the procurement audit in facilitating TFNC to conform to the best public procurement practices; to assess the impact of the procurement audit in enhancing TFNC to conform to the public procurement legislation and to assess the impact of the procurement audit in aiding TFNC to obtain VFM utility. This study adopted a cross-sectional research design. The study used a total of 29 employees at TFNC to collect primary data. The primary data were collected through questionnaire and interviews whereas secondary data were collected through documentary analysis. Qualitative data were analyzed through content analysis basing on research themes, while quantitative data were analyzed in a descriptive form using statistical package for social science (SPSS) and a simple percentages were used to establish statistical associations between variables. The study findings show that the procurement audit at TFNC has successfully promoted compliance and ethics through increase in transparency, accountability and the display of unquestionable integrity and equity. The study findings revealed also that, TFNC has conformed to the required legislation by establishing and forming of tender board, announcement of procurement opportunities, complying with timely preparation of bids and contract implementation. From this, it was found that, among several indicators of conformity, the preparation of procurement plan, approvals and maintenance of procurement records scored highest of all. The conformity with procurement legislations, policies and procedures helps in attaining the value for money; assure the purchase of quality goods and services along with raising customer satisfaction and organization performance. However, the study found that quality of the public services, adequacy of the system for measuring, monitoring and reporting procurement effectiveness and economical use of public funds in obtaining the inputs/procurements provides limitations to the attainment of Value for Money at TFNC. Based on the study findings, it is concluded that procurement audit is critical in enhancing proper use of public funds. This recommended procurement audit should be done effectively and efficiently to raise compliance and ethics level procurement practices in Tanzania's public Organizations.

Key terms: Procurement Audit, procurement legislation, value for money Accountability, Auditing, Conformity, Procurement ethics, Transparency

Introduction

Public procurement is an essential component for governance in most countries due to its role in meeting needs and expectations of the community through provision of goods and services in fulfilment of social contract obligations of Governments (Agbodzakey & Upshaw, 2018). According to Snider and Rene (2012), almost all governments spend most of their Gross Domestic Product (GDP) on public procurement for various sectors and categories of services. It is, therefore, the obligation of public institutions who deal with procurement practices to adopt ethical practices which include the need for showing transparency, integrity, fairness, accountability, anti-corruption, and confidentiality in procurement process as required by law.

According to Panya and Were (2018), Public Procurement is the process by which public entities contract for the acquisition or supply of goods, services or works. Odhiambo & Kamau (2003) asserts that, public

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procurement is an essential part of the developing countries' economy which accounting for an estimated 9-13% of their G.D.P. This has made most of countries, if not all, to enact numerous reforms in procurement institutions and frameworks in order to strengthen ethical practices in public procurement (Mathew & Patrick, 2013). In the words of Mustapha (2010), ethical procurement practices aim at improving availability and quality of procured services, goods or work at a reasonable cost and time due to increased accountability, competition and prevention of corruption among public servants. According to Nsiah-Asare & Kwadwo (2016), ethical practices is of much importance in public procurement as, basically, protect public resources while at the same time raise organization's performance and enhancing the value for money through taking into account all relevant costs and quality benefits over the whole process of procurement cycle. It is worth noting that if the ethical practices are not well emphasized there will be corruption, conflict of interest and manipulations leading to the ultimate loss of public resources which eventually will lead into untimely delivery of procured goods and works and services (Hussein & Shale, 2014).

The report by Transparency International (2017) has shown that there are unethical procurement practices in Africa which affect public procurement organizations' performance. The report, further, show that on average, almost USD 100 Billion are lost in the implementation of donor funded projects through reckless procurement proceedings due to presence of corruption, fraudulent and obstructive practices. In Tanzania, the Controller and Auditor General (CAG) Report (2016) indicates that the government incurred a loss amounting to TZS 1.9 trillion as the result of unethical practices in public procurement which was an increase by 18% compared to TZS 1.6 trillion in the previous Financial Year.

In Tanzania, like many developing countries, have established legal and regulatory framework to strengthen ethical practices in public procurement. It is unfortunate enough that unethical practices such as lack of transparency, conflict of interest, corruption and unfairness still exist in public procurement entities leading to significant loss of public resources, deteriorations of quality and lack essential public services. The only means for which unethical procurement practices can be addressed is by conducting regular procurement audits which will identify the possible irregularities and come up with suggestions on how they can be mitigated. This study, therefore, aims at assessing the role of Procurement auditing in promoting compliance and ethics in public organizations procurements in an effort to improve performance of the procuring entities by enhancing transparency, accountability, fairness and professional practices.

Statement of the Problem

Public procurement is the acquisition of goods, services and works by a procuring entity using public funds (World Bank, 1995). It accounts for up to 13 per cent of the Gross Domestic Products (GDP) and takes a big part of the developing countries economy. It requires that those in public organizations who are dealing with procurement to observe total compliance and be ethical in procurement practices (Mwendwa, 2013). According to Thumbi & Mutiso (2018), public procurement serves as one of the indicators of good governance when it is done well as per laid down procedures in total compliance with laws and regulations. The level of compliance to procurement regulations can, therefore, determine whether a government meets its goals and objectives or not. This can, either positively or negatively, affect many internal and external stakeholders. Various reports and studies have noted that a substantial amount of public funds get wasted due to inefficient and ineffective procurement structures, policies and procedures as well as failure to impose sanctions for violation of procurement rules thus resulting in poor service delivery (Ntayi, 2009). This might be, partly due to inefficiency procurement audit processes which are responsible for monitoring the compliance and ethics in procurement practices in public organizations. This study, therefore, aims at assessing the role of procurement audit in promoting compliance and ethics in public organizations procurement practices. The study is done as a result of inadequate empirical studies which address the issues of compliance and ethics in public organizations' procurement practices in Tanzania.

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Research Objectives

- i) To assess the impact of the procurement audit in facilitating TFNC to conform to the best public procurement practices.
- ii) To assess the impact of the procurement audit in enhancing TFNC to conform to the public procurement legislation.
- iii) To assess the impact of the procurement audit in aiding TFNC to obtain VFM utility.

Literature Review

Procurement audit in Tanzania is an emerging practice overseen by the Public Regulatory Authority (PPRA) in a bid to promote ethical conduct and overcome unethical practices in the public procurement processes. Categorically, public procurement audit is compulsory for PPRA to conduct public procurement audits to all public entities (Section 7(1) (j) of Act No. 21, 2004). Public procurement audit is therefore a statutory obligation for all public procurement entities. The public procurement audit is approved examination and or investigation of public procurement processes and practices over a specified period of time authorized by PPRA (PPA No. 21, 2004) and to be conducted by dully appointed and qualified procurement auditors.

According to Walker & Brammer (2009), public procurement uses Tax Payers' money to procure works, goods and services. It is the acquisition of goods, works and services at the best possible total cost of ownership, in the right quantity and quality, at the right time, in the right place for the direct benefit or use of governments, corporations, or individuals, generally via a contract (PPA No. 21, 2004). Leenders *et al.* (2006) noted that public procurement covers the supply in public institutions and agencies as well as publicly owned entities. It is characterized by taxes which represent a major source of funds. The vibrant sound supply management in the public sector is basically effective contribution to organizational goals and assurance of value for money spent.

Public procurement involves the purchase of commodities and contracting of construction works and services if such acquisition is affected with resources from state budgets, local authority budgets, state foundation funds, domestic loans or foreign loans guaranteed by the state, foreign aid and revenue received from the economic activity of state. It is the government activity of purchasing the goods and services needed to perform its functions (Arrowsmith, 2010). It involves purchasing, hiring or obtaining by any contractual means, goods, construction works and services by the public sector (Odhiambo & Kamau, 2003).

Public procurement is a fundamental governments spending activity commanding a significant percentage of the gross domestic product (GDP) leading into massive financial flows, estimated on average at 10 to 15% of GDP across the world. Failure to procure efficiently and effectively can put the achievement of key government objectives and services at risk. Due to the size of funds involved and to the competing interests in procurement processes, public procurement is one of the public activities which more vulnerable to waste, fraud and corruption. It is by this the procurement audit come into play to ensure effective and efficient procurement process. Therefore auditors can play an important role in improving procurement (AFROSAI-E: Public Procurement Performance Audit Guideline 2011).

Procurement Audit is a systematic, comprehensive and independent investigation or evaluation of the procurement activities (Jembe & Wandera, 2019). It is responsible for auditing the purchases or acquisitions for the Organization. The audit ensures that the procurement practices are conducted efficiently. By efficiency it refers to the performance of the procurement process cost effectively as possible and in a timely manner (Thai, 2016). It evaluates the performance of the procurement organization by looking into quality delivery, savings made from the procurement processes, cost reduction, lead time management and the general impact of the department in relation to the organizations performance. This helps the

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procurement organization to identify the gaps, developments and opportunities available. Also, the procurement audit promotes consistency so that the procurement process should be the same throughout the organization.

Methodology

This study employed cross - sectional research design to the role of procurement audit in promoting compliance and ethics in Public Organizations' procurement practices Tanzania with a focus on TFNC. This research design gives a room for a researcher to carry out observation of all population or a representative sample at a specific point in time (Saunders et al., 2007). Also, the study employed quantitative and qualitative research approaches in data collection and analysis to explore the variables involved in the study. According to Kothari (2014), the combination of both qualitative and quantitative approaches allows for flexibility while examining multiple factors in attempting obtaining pertinent information about the research problem at hand. The study used questionnaire to collect quantitative data from 29 TFNC employees. The data were categorized, coded and analysed according to the research specific objectives so that the frequencies and per percentages of respondents could be tabulated and calculated using IBM SPSS version 16 software for easy interpretation. Qualitative data were collected from structured interview guide as well as being transcribed and summarized according to themes and contents. These themes and contents were used to confirm or refute quantitative responses drawn from closed ended questions in the questionnaire. The secondary data were obtained through documentary analysis where various documents about procurement audit and process were reviewed.

Results and Discussion

The first research objective was to assess the impact of the procurement audit in facilitating TFNC to conform to the best public procurement practices. The research findings show that procurement audit has contributed immensely in promoting procurement best practices at TFNC whilst performing the procurement activities. The results show that all the basic principles of procurement's best practices which include transparency, accountability, fairness, integrity and probity scored above 50%. When responding to the question on the extent to which they agree that procurement processes at TFNC are transparent and available to all suppliers, contractors and/or consultants and that all stakeholders are furnished with required information, 6 (20.7%) of respondents were undecided whereas 12 (41.4%) agreed and 11 (37.9%) strongly agreed. This implies that, at TFNC there is honesty and open communication and are willing to share information regarding procurement processes. According to Gebler (2011), the organization in which there is alignment between procurement standards and their values there is high transparency.

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Table 1: Procurement Processes at TFNC are Transparent

	Frequency	Percentage
Strongly Agree	11	37.9
Agree	12	41.4
Undecided	6	20.7
Disagree	0	0.0
Strongly Disagree	0	0.0
Total	29	100.0

In case of accountability, it was found that 15 (51.8%) respondents strongly agreed that TFNC officials dealing with public procurement express accountability when dealing with suppliers, consultants and/or contractors. On the same, 3 (10.3%) respondents just agreed whereas 6 (20.7%) of them remained undecided while 5 (17.2%) respondents disagreed. The procurement audit report of 2012/2013 indicated that the members of tender board and PMU committee were accountable on TFNC procurement practices. This was as a result of previous procurement audits which raised awareness on total compliance and ethical practices during procurement activities. Procurement audits raises cautions on faulty procedures, decisions and behaviours by making follow up on the processes in the procurement entities (Harland & Telgen, 2016).

Table 2: Procurement Officials Observes Accountability in Procurement Practices

	Frequency	Percentage
Strongly Agree	15	51.8
Agree	3	10.3
Undecided	6	20.7
Disagree	5	17.2
Total	29	100.0

Furthermore, the findings have indicated a general agreement that the officers dealing with public procurement practices at TFNC display unquestionable integrity conduct when interacting with suppliers, contractors and /or consultants. The results show that 14 (48.3%) respondents strongly agreed on integrity and honest at TFNC, while the same number just agreed and only 1 (3.4%) disagreed on display of integrity at TFNC. This implies that procurement officials act consistently with the ethical principles and the values,

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expectations as well as policies and outcomes of TFNC. The global Institute of Internal Auditors (2012) states that; the consequences of violating the expectation of highest integrity can be swift and shattering when people’s trust in the public sector, its institutions and leadership is undermined. It is the role of procurement audit to determine whether the procurement contracts conform to the terms and conditions stated in order to safeguard the interest of both parties, which are suppliers and the organization.

Table 3: The Procurement Officers at TFNC Display Unquestionable Integrity

	Frequency	Percentage
Strongly Agree	14	48.3
Agree	14	48.3
Undecided	0	0.0
Disagree	1	3.4
Total	29	100.0

Accordingly, the study findings show that at TFNC, procurement officers demonstrate the highest degree of equity and equality when interacting with suppliers, contractors and/or consultants. The findings reveal that, 10 (34.5%) respondents strongly agreed on equity and equality at TFNC whereas 8 (27.6%) respondents just agreed and 3 (10.3%) remained undecided. However, 7 (24.2%) disagreed and only 1 (3.4%) strongly disagree on the equality and equity at TFNC. It can be observed that it is about 62.1% of all respondents who agree that there is equity and equality in the organization. This show that the procurement process at TFNC is fairly made and the power entrusted to the procurement officers is reasonably exercised. The misused public sector power results into wastage of public resources and may fall into corruption and poor management practices which affect organizations performance (Israel *et al.*, 2020).

Table 4: TFNC Procurement Officers Demonstrate Highest Degree of Equity and Equality

	Frequency	Percentage
Strongly Agree	10	34.5
Agree	8	27.6
Undecided	3	10.3
Disagree	7	24.2
Strongly Disagree	1	3.4
Total	29	100.0

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The second objective was to assess the impact of the procurement audit in enhancing TFNC to conform to the public procurement procedures. The assessment examined the impact of compliance with the 12 considerations as used in the public procurement audit. The study reviewed procurement audit reports performed in 2008, 2010 and 2012 to ascertain on the functioning of each indicator since its inception. It was revealed that the average score of the previous procurement audit done in 2008 was rated at 49% compared to the latest audit of 2012 in which the Centre had an average score of 72%. During the former procurement audit the Centre straggled below 50% in all indicators despite establishment and formation of tender board, announcement of procurement opportunities, complying with timely preparation of bids and contract implementation. The conformity with procurement legislations, policies and procedures helps in attaining the value for money; assure the purchase of quality goods and services along with raising customer satisfaction and organization performance (Sacher, 2013). The role of procurement audit in assessing the conformity is to probe out the possible gaps that exists between the desirable outcomes and the actual performance so that they are mitigated (Jembe & Wandera, 2019). Table 5 shows levels and performance indicators and their rates as were obtained from TFNC. The results show that maintenance of records, approvals and the preparations of annual procurement plans scored highest of all. However, the methods used in procurement scored least of all. This is the area where the procurement audit needs to go for to raise conformity standards.

Table 5: The Levels and Indicators of TFNC Compliance to Procurement Legislation

Indicators	N	Minimum	Maximum	Mean	Percentage (%)
A Institution and Constitution of Tender Board	29	3	4	3.5	70
B Organization and Makeup of PMU members	29	2	5	3.5	70
C Functions of Accounting Officer, Tender Board and PMU	29	3	4	3.5	70
d Preparation of Annual Procurement Plan	29	3	5	4.0	80
E Approvals	29	4	5	4.5	90
F Announcement of Bid Opportunities	29	3	4	3.5	70
G Publication of Awards	29	2	3	2.5	50
H Time frame for Preparation of Bids	29	3	4	3.5	70
I Methods of Procurement	29	1	3	2.0	40
J Usage of Standard Tender Documents	29	3	4	3.5	70
K Maintenance of procurement records	29	4	5	4.5	90
L Contract management	29	3	4	3.5	70

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The third objective was to assess the impact of the procurement audit in aiding TFNC to obtain Value for Money (VFM) utility. It focuses on the primary objective of effective, efficient and cost effective procurement as cherished in the best practices. Nsiah – Asare *et al.* (2016) states that VFM is the primary driver for procurement. This is due to the fact that, given the limited resources available to government, ensuring VFM in procurement is crucial to ensuring the optimum utilisation of scarce budgetary resources. The procurement audit, therefore, should focus on establishing whether procurement process at the firm has taken into consideration the three elements of VFM which are efficiency, effectiveness and cost effective procurement. It can be worth noting that procurement audit should assess the extent with which procurement process followed the required procedures such as announcement of procurement openings, employment of appropriate methods of procurement, quality guarantee and contract management.

The study findings have shown that procurement activities at TFNC are done without interference. It was observed that procurement process starting from Accounting officer, Tender Board, PMU, User Departments and Evaluation Committees to establish that procurement duties are performed as per requirement of the Act were done as required. When ranking the extent to which procurement programs and activities are efficiently managed, evaluated, regulated, organized as well as executed and monitored, 15 (51.7%) respondents stated that they were done very good, 9 (31.0%) responded that they good whereas 5 (17.2%) respondents stated that they are fairly done. It was, however, revealed that the quality of the public services do not meet the people’s anticipations and the set goals. This was evidenced when respondents ranked the public services in which only 1 (3.4%) responded ranked as excellent, 9 (31.0%) respondents ranked to very good whereas 7 (24.1%) respondents ranked as fair and 11 (37.9%) ranked as poor. The results show that there is limited VFM. Although, the public services seem to not meet people’s anticipations and goals, the system for measuring, monitoring and reporting procurement effectiveness is generally adequate. When raking the adequacy of that system, only 1 (3.4%) respondent stated excellent, 10 (34.5%) respondents ranked at very good while the same number raked as fair and 4 (13.8%) ranked as poor (Table 6).

Furthermore, it was also found that, economical use of public funds in obtaining the inputs/procurements is not efficient. This was revealed by respondents when ranking this item in which 2 (6.9%) respondents ranked at excellent, 9 (31.0%) respondents ranked as very good and 2 (6.9%) respondents ranked at good. However, 9 (31.0%) respondents ranked as fair whereas 7 (24.1%) ranked as poor. In this aspect there is inadequate VFM. It was, also, noted that, procurement management activities are performed in accordance with sound administrative principles and guidelines. In their ranking, 11 (37.9%) respondents raked as very good, 9 (31.0%) respondents ranked as good while 4 (13.8%) respondents raked as fair and 5 (17.2%) respondents ranked as poor.

Table 6: Ranking of Value for Money at TFNC

S/N	VFM Indicators	Poor	Fair	Good	V. Good	Excellent
1.	Government entities and programs activities efficiently managed, evaluated regulated, organized, executed, and monitored.	-	5 (17.2%)	9 (31.0%)	15 (51.7%)	-
2.	Quality of the public	11 (37.9%)	7 (24.1%)	-	9 (31.0%)	1 (3.4%)

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	services meets the					
	people's anticipations or the set goals					
3.	Adequacy of the system for measuring, monitoring and reporting a procurement effectiveness	4 (13.8%)	10 (34.5%)	4 (13.8%)	10 (34.5%)	1 (3.4%)
4.	Economical use of public funds in Obtaining the inputs/procurements	7 (24.1%)	9 (31.0%)	2 (6.9%)	9 (31.0%)	2 (6.9%)
5.	Procurement management activities are performed in accordance with sound administrative principles and good	5 (17.2%)	4 (13.8%)	9 (31.0%)	11 (37.9%)	-

Conclusion

Based on the study findings, it has been observed that a procurement audit is one of the core functions of the PPRA undertaken for the purpose of governmental use. It determines whether procedures, process, documentation for procedures and activities are applied according to the laws and regulations. It is recommended, that procurement audit should be done effectively and efficiently in enhancing ethical and compliance of procurement practices in Tanzania's public organisations, hence attain the intended value for money.

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Evaluating the Distribution and Predictive Ownership of Primary Schools in Tanzania Mainland Using Logistic Regression

Privatus Ntare

Abstract

This study attempts to explore the distribution of primary schools and primary school teachers in Tanzania Mainland. To attain the objectives of this study the descriptive statistical analysis and logistic regression model were adopted. A total of 17,094 schools from all 26 regions of Tanzania mainland were considered. The findings revealed that there was an unequal distribution of primary schools as well as primary school teachers in Tanzania Mainland. Many permanent and temporary teachers were in the regions which have cities and towns than the regions with many rural areas. There were many permanent female teachers than permanent male teachers while in case of the temporary teachers' male were more than female. Also, the data indicated that 94.1% of all schools were the government schools. Furthermore, the logistic regression results indicated that Permanent female teacher was negatively connected with non-government school while the permanent and temporary male teachers were likely to be in non-government school. Therefore, this study recommends the government and private institutions to ensure equal distribution of primary schools as well as primary school teachers in all regions depending on the education demand of each region in order to have the equal provision of sufficient education to all people.

Keywords: Primary Education, Teachers Distribution, School ownership, Logistic regression, Tanzania Mainland.

Introduction

The primary education in Tanzania mainland laid on the philosophy of Julius Kambarage Nyerere who was the founder of the education for self-reliance (Nyerere, 1967). The major aim of giving the primary education to Tanzanians was to provide them with the knowledge for a self-reliance life. This made a primary education to be the ultimate education for the majority (Chacha & Zhong, 2013). The rapid expansion of primary education came after the 1974 Universal Primary Education (UPE) Programme where many schools were built and many teachers were recruited. According to Mbelle (2008) the efforts of achieving universal primary education leads to the implementation of initiatives such as increasing the funding levels, provision of textbooks, mobilization of external support from different stakeholders, improving of learning and teaching environment by providing the teaching and learning materials and increasing the number of teachers in order to attain the reasonable teacher-pupil ratio.

Since the 1990s to present, the government of the United Republic of Tanzania decided to offer the primary education free to every child. This motivated many parents to take their children to the school and the number of students has been increasing each year. One of the initiatives was the Primary Education Development Programme (PEDP) which was introduced by the government in 2001 with the support from the international donors (Dennis & Stahley, 2012). To implement the PEDP, many reforms were introduced and one of them was the double shift system in public schools. Dar es Salaam region was selected as the pilot region and the findings revealed that there was no strong impact of multiple shift system (Mbelle, 2008). As an effort to improve education in Tanzania, the education sector was divided into four sub-sectors which include basic education, folk education, higher education and technical and vocational training education (Lusingu, 2013). Also, the government introduced the 2025 vision which aims to total elimination of poverty by providing a better education with a high quality of life for all Tanzanians (URT, 1999). In order to attain the 2025 vision, the government of Tanzania in 2014 changed the education and training policy of 1995 which stipulated the structure of the formal education and training as 2-7-4-2-3+, means that 2 years of pre-primary education, 7 years of primary education, 4 years of secondary ordinary

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level education, 2 years of the secondary advanced level education and 3 or more years in higher education to 1-10-2-3+, means that 1 year of compulsory pre-primary education, 10 years of compulsory basic education which include 6 years of primary education (Standard I-VI) and 4 years of ordinary secondary, 2 years of secondary advanced level education (Form 5 and 6) and 3 or more years of higher education (URT-PORALG, 2016).

Due to changes in Education and Training Policy, there is the need to have an equal distribution of primary school teachers in order to achieve the 2025 vision as well as implementing the new policy effectively and efficiently. Hence this motivates this study to evaluate the distribution of primary school teachers in Tanzania and evaluate the relationship between the school ownership and primary school teachers in Tanzania mainland.

Data and Methods

Study Area

This study was conducted in Tanzania mainland which formerly was known as Tanganyika which became a sovereign state on 9 December 1961. It is located in Eastern Africa between the longitude 29^o east and 40^o east and latitude 1^o to 12^o in the Southern hemisphere. Currently, Tanzania mainland has 26 regions which include Arusha, Dar es Salaam, Dodoma, Geita, Iringa, Kagera, Katavi, Kigoma, Kilimanjaro, Lindi, Manyara, Mara, Mbeya, Morogoro, Mtwara, Mwanza, Njombe, Pwani, Rukwa, Ruvuma, Shinyanga, Simiyu, Singida, Songwe, Tabora and Tanga. Tanzania mainland is bordered by the countries of Uganda, Kenya, Rwanda, Burundi, Democratic Republic of Congo, Zambia, Malawi, Mozambique and the Indian Ocean. Tanzania mainland covers about 942,800 km² and its population in 2012 was 43,625,354 (Agwanda & Amani, 2014).

Data Collection and Preparation

The dataset of a number of teachers in primary school at school level used in this study was collected in 2016 by National Bureau of Statistics (NBS) (PORALG, 2017). The data comprises of 9 variables which include the regional, council, ward, school name, and school ownership, permanent male, permanent female, temporary male and temporary female teachers in each school. The data are collected annually from all 26 regions during basic education census. Each year President's Office Regional and Local Government (PO-RALG) sends data collection forms to be filled by Primary School Head Teachers in each region. All Head Teachers fill in the forms and send them to the Ward Education Coordinator's office (WEC) for verification and certification of the information filled in the forms. After verification, the WECs send the forms to District Executive Director (DED) office where the data is entered into the Basic Education Information System. The system used is web-based with a direct link to PO-RALG database. The PO-RALG processes and analyses the data and presents them in various ways to suit users' demands .

Methodology

Logistic Regression for Machine Learning

Logistic regression is one of the techniques borrowed by machine learning from the field of statistics. It is used in modeling the data when the response variable is in categorical form. Binary logistic regression is the special type of regression where the response variable is related to the set of explanatory variables which can be discrete or/and continuous (Agresti, & Kateri, 2011). According to Tibshirani *et al* (2015), if the binary response coded in form of $Y \in \{0,1\}$ the linear logistic model is often used and it models the log-likelihood ratio as the linear combination

$$\log\left(\frac{P(y=1|X=x)}{P(Y=0|X=x)}\right) = \beta_0 + \beta_1 X_1 + \dots + \beta_p X_p \quad (1)$$

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Where $X = (X_1, X_2, \dots, X_p)$ are p explanatory variables, β_0 is an intercept term and β_1, \dots, β_p are the vector regression coefficients. Inverting this transformation yields an expression for conditional probability

$$P(Y=1|X=x) = \frac{\exp(\beta_0 + \beta_1 X_1 + \dots + \beta_p X_p)}{1 + \exp(\beta_0 + \beta_1 X_1 + \dots + \beta_p X_p)} \quad (2)$$

By inspection without any restriction on the parameter $(\beta_0, \dots, \beta_p)$, the model specify probability lying in $[0,1]$. Typically, logistic models are fitted by maximizing the binomial log-likelihood of the data.

Prepare data for Logistic Regression

In this study, the aim was to create the predictive machine learning model which can accurately predict than interpreting the results. Since the model was built to predict the probability of a teacher to belong in the default class which can be either government or non-government. The outlier from the training data was checked in order to avoid the model overfitting, then the pairwise correlation between all explanatory variables was calculated and highly correlated variables were removed.

Learning the Logistic Regression Model

The coefficient (β) of the logistic regression algorithm was estimated from the training data by using the maximum likelihood estimation. The best coefficient resulted in the model that predict the value greater or equal to 0.5 as 1 (government) for defaults class and value less than 0.5 close to 0. The intuition of maximum likelihood for logistic regression was to look coefficients that minimize the error in the predicted probability model to those in the data.

Training the Logistic Model and Making a Prediction

The model was trained on two completely separate datasets. 80% of the observations on the data were randomly selected as the training dataset and testing were performed using the rest 20% of the observations. Making the prediction we plugged in the number into the logistic regression equation and calculating the result. Finally, we computed the prediction of 20% observations and compare the results with the actual observations.

Confusion Matrix

A confusion matrix shows the number of collect and incorrect predictions made by the classification model compared to the actual outcomes in the data (Tibshirani *et al*, 2015). The output of the confusion matrix tells us how the model is performing. It is summarized in Table 1

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Table 1: *The confusion matrix describing the agreement between the actual and predicted values.*

CONFUSION MATRIX			Actual			
			Positive	Negative		
Predicted	Model	Positive	a	b	Positive predicted value	a/(a+b)
		Negative	c	d	Negative predicted value	d/(c+d)
			Sensitivity	Specificity	Accuracy = (a+d)/(a+b+c+d)	
			a/(a +c)	d/(b + d)		

Results and Discussion

In this study, the total of 26 regions, 180 councils, 3549 wards and 17094 schools were recorded. The results of this section were obtained using the statistical software environment R.

The Distribution of Primary Schools Teachers in Tanzania

From the dataset, the distribution of primary school teachers based on the categories is shown in Table 2.

Table 2: *The Distribution of Primary Schools Teachers Based on Their Categories and Sex*

		Ownership			
Sex	Teachers	Government	Non-Government	Total	
		Permanent Male	91630	6398	98028
	Temporary Male	466	2194	2660	
	Permanent Female	99140	4916	104056	106026
	Temporary Female	510	1460	1970	
Total		191746	14968	206714	

From **Table 2**, we observe that the Tanzania mainland had a total of 206714 primary school teachers whereby 191746 were in government schools and 14968 were in non-government schools. Permanent male teachers were 98028, permanent female were 104056, temporary male were 2660 and temporary female are 1970. This shows that generally permanent teachers are more than temporary teachers and female teachers are more than male teachers. Also, we observe that many permanent teachers are female and many temporary teachers were male. From these results, one can conclude that there is no gender balance in the distribution of primary school teachers in Tanzania mainland.

The Regional Distribution of Primary Schools in Tanzania

The percentage distribution of primary schools in 26 regions of Tanzania Mainland was summarized by a pie chart in **Figure 1**.

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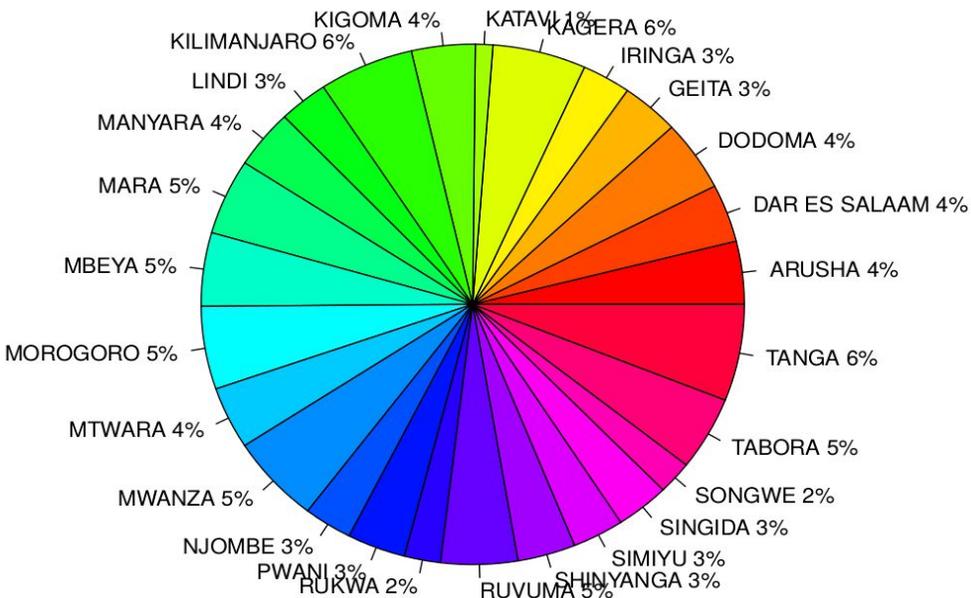


Figure 1: Pie Chart to Show the Percentage Number of Primary School Teachers per Region

Figure 1 shows that there is an unequal distribution of primary school teachers in Tanzania mainland. Tanga, Kagera, and Kilimanjaro regions had the high number primary school teachers (6%) while Rukwa (2%), Songwe (2%) and Katavi (1%) had the lowest number of teachers. The low number of teachers in the regions which have many rural areas such as Rukwa, Simiyu, Katavi, and Songwe may be the pushing factors that make teachers get out of their working school due to the unreliable working environment and lead to inequitable distribution of teachers (Lusingu, 2013).

The Regional Distribution of the Primary Schools Teachers by Sex

The regional distribution of primary school teachers by sex in Tanzania Mainland was summarized by using

Figure 2.

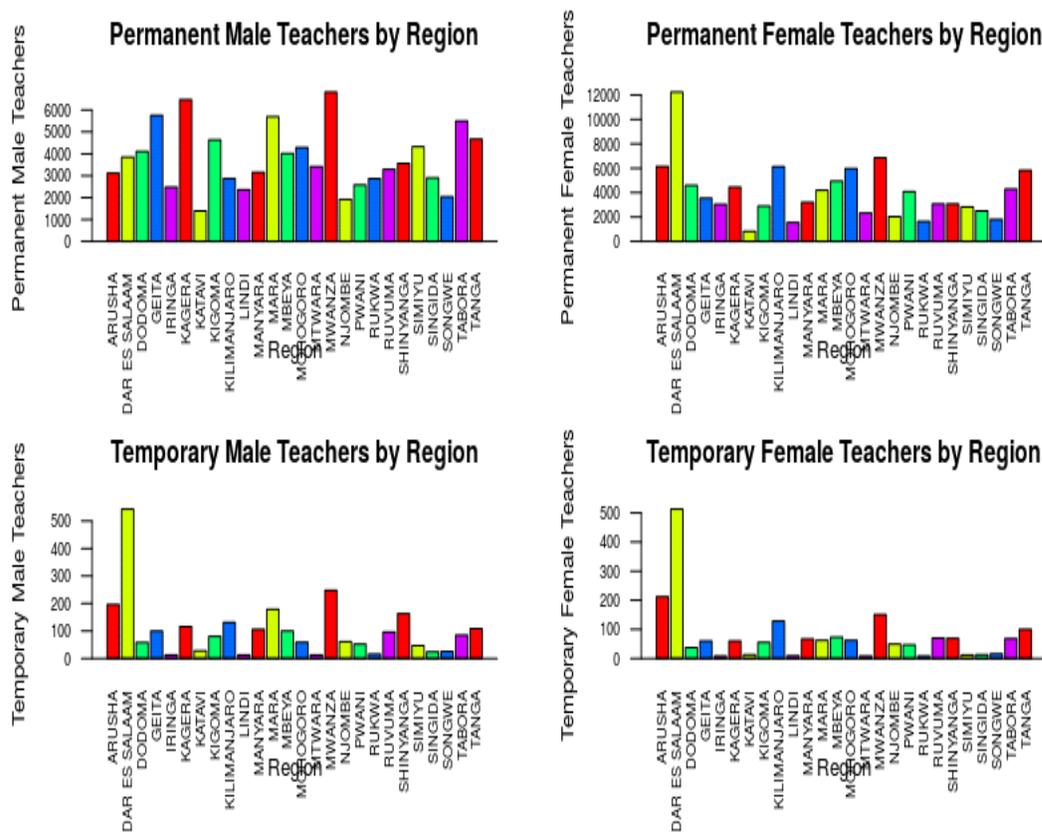


Figure 2: Regional Distribution of Primary School Teachers by Sex in Tanzania

From Figure 2 we observe that Mwanza, Kagera, Geita, Mara, and Tabora region have many permanent male teachers while Katavi, Njombe, and Songwe have a low number of permanent male teachers. Also in the case of permanent female teachers, Dar es Salaam is the leading region followed by Mwanza, Arusha, and Tanga while Lindi, Rukwa, and Njombe have a low number of permanent female teachers.

In case of temporary male teachers, Dar es Salaam is leading followed by Mwanza, Arusha, Shinyanga, and Tanga while Iringa, Lindi, Mtwara, Rukwa, Singida, and Songwe have few temporary male teachers. Also, we observe that Dar es Salaam has the highest number of temporary female teachers followed by Arusha, Mwanza, and Tanga. In another hand, Mtwara, Rukwa, Simiyu, Singida, and Songwe region have a lower number of temporary female teachers.

This indicates that in Tanzania mainland there are many permanent and temporary primary teachers of both sexes in the regions which have cities like Dar es Salaam, Mwanza, Arusha, and Tanga than the regions with no city or big towns like Simiyu, Songwe, and Katavi. This may be due to the presence of good infrastructures such as teachers' houses, water, electricity, roads, and other social services which motivate teachers to stay in their workstations than other regions where these facilities are limited.

The Regional Distribution of Primary Schools by Ownership

The regional distribution of primary school teachers by ownership (government or non-government) is summarized in Figure 3.

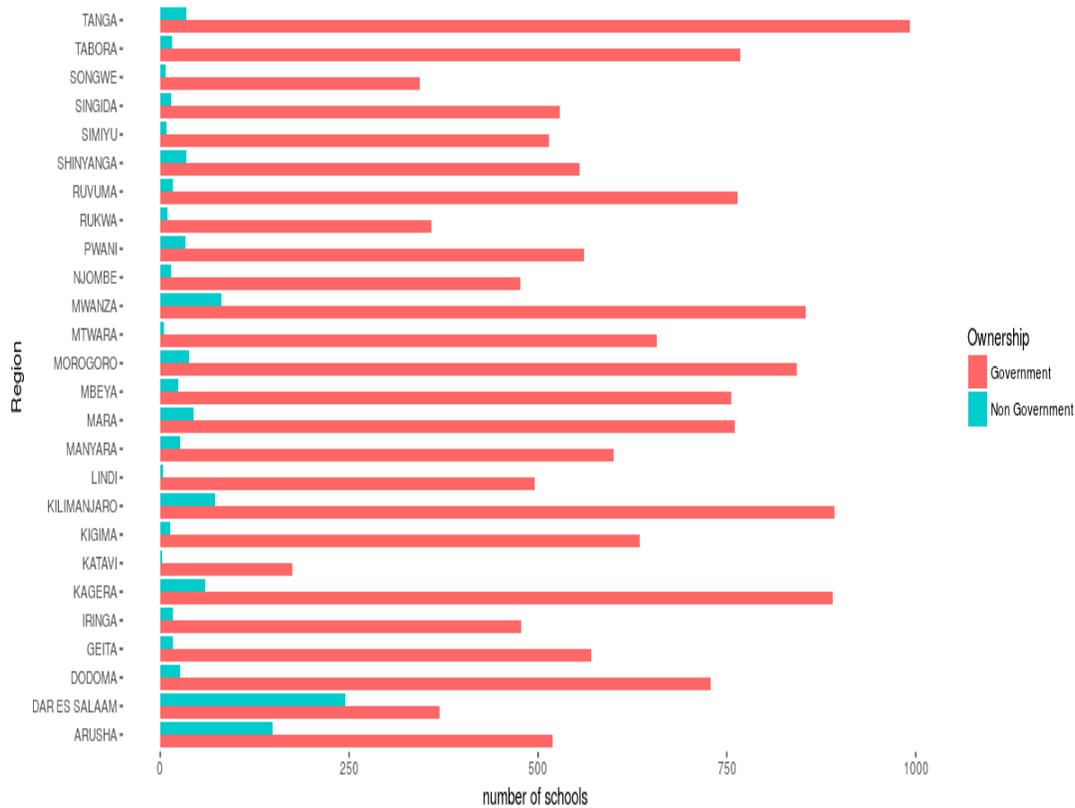


Figure 3: Regional Distribution of Primary School Teachers by Ownership

From **Figure 3**, we observe that the government schools were more than the non-government schools in all regions. Also one can observe that Tanga and Dar es Salaam were the regions with many government schools and non-government schools respectively. This may be due to the reason that both are city regions with high population, good social services as well as good infrastructures than other regions.

The Compositional Relation

To get more insight into the relationship between different variables, we used the correlation matrix and the results are indicated in Figure 4.

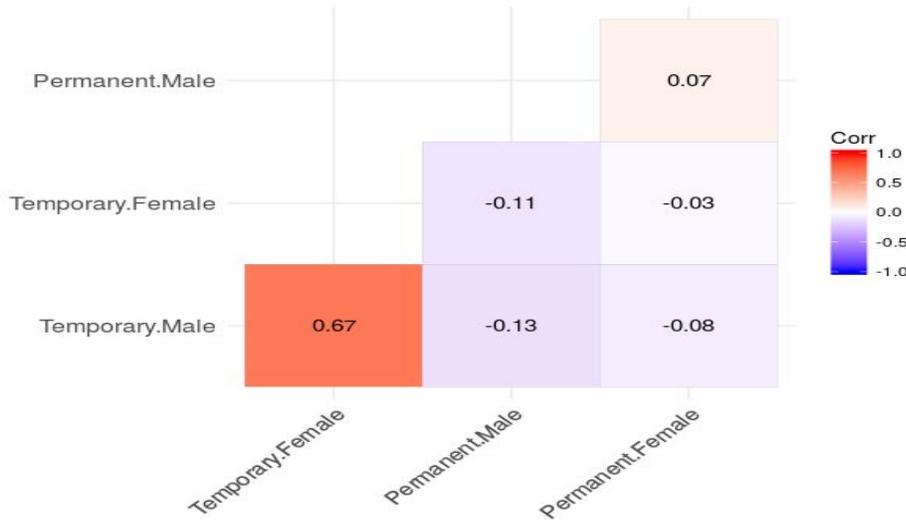


Figure 4: Variables Correlation Matrix.

The compositional relation in **Figure 1** shows that there is a high correlation (0.67) between temporary male and temporary female teachers indicate that these variables vary together. This implies that the school with a high number of temporary male teachers have a high number of temporary female teachers and vice versa is true. Also, we observe that there is a very weak relation among other variables which indicate that these variables do not depend on one another.

The Relationship between School Ownership and Teachers

From the Dataset School ownership is a dichotomous (binary) variable, we used the logistic regression to model the school ownership variable. In the logistic model, the log odds of the outcomes are modeled as the linear combination of the explanatory variables. Let the value of 1 if the school owner is not the government (non-government) and 0 if the owner is the government. The Permanent Male (PM), Permanent Female (PF), Temporary Male (TM) and Temporary Female (TF) are predictor variables that may have an influence on the school ownership probability. The initial model where $P = Pr(owner = 1 | PM, PF, TM, TF)$ were considered. For this model deviance $2(l_s - l_m) = 4794.6$ with 13659 degree of freedom and p value equal to 1, where by l_s denoting the logarithm of the likelihood function for the saturated model and l_m is the logarithm of the likelihood function for the proposed model.

$$\text{logit}(p) = \ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 PM + \beta_2 PF + \beta_3 TM + \beta_4 TF + \varepsilon. \quad (1)$$

The binomial distribution with the logit link function was used to run the analysis. After fitting the model using the train dataset, TF was eliminated since it has higher p-value and we obtain the fitted model results as summarized in Table 3.

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Table 3: *The Logistic Regression Results*

Coefficient	Estimate	95% Confidence Interval	Std. Error	z -value	p-value
Intercept	-3.8798	(-4.0453, -3.7177)	0.0835	-46.441	0.0000
Permanent Male (PM)	0.1316	(0.1126,0.1506)	0.0097	13.599	0.0000
Permanent Female(PF)	-0.0152	(-0.0276, -0.0036)	0.0061	-2.485	0.0129
Temporary Male(TM)	0.9946	(0.9106, 1.0843)	0.0443	22.469	0.0000

The fitted model has the deviance of 6133.2 with 17090 degrees of freedom and p-value equal to one. From Table 3 the fitted model will be

$$\text{logit}(p) = -3.8798 + 0.1316 PM - 0.015 PF + 0.994 TM \quad (2)$$

The logistic regression coefficients give the change in the log-odds ($\text{logit } p$) of the school ownership for a unit change in the predictor variable. Equation 2 indicates that if the other variables are kept constant then for each unit increase in PM, the log odds of non-government school increases by 0.131. For every unit change in TM, the log odds of non-government school increases by 0.99. And for every unit change in PF, the log odds of non-government school decreases by 0.015. The goodness of fit test using the chi-square test shows that the p-value was $9.487085 \times 10^{-279}$ which indicate that the model was statistically significant. Therefore, we can conclude that if all other variables are constant the permanent female teacher is negatively connected with non-government school while the permanent and temporary male teachers are likely to be connected with non-government schools.

In order to make the prediction using the logistic regression, we used the confusion matrix and the results are summarized in Table 4.

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Table 4: Confusion Matrix and statistics for the training dataset

Confusion Matrix and Statistics

Prediction	Reference	
	Government	Non-Government
Government	12820	606
Non-Government	45	192

```

Accuracy : 0.9524
95% CI : (0.9486, 0.9559)
No Information Rate : 0.9416
P-Value [Acc > NIR] : 1.84e-08

Kappa : 0.3537
McNemar's Test P-Value : < 2.2e-16

Sensitivity : 0.9965
Specificity : 0.2406
Pos Pred Value : 0.9549
Neg Pred Value : 0.8101
Prevalence : 0.9416
Detection Rate : 0.9383
Detection Prevalence : 0.9827
Balanced Accuracy : 0.6186

'Positive' Class : Government

```

From **Table 4**, the diagonal element of the confusion matrix represents correct prediction, while the off-diagonal represents the incorrect prediction. The model correctly predicted that 192 were non-government schools and 12820 were government schools. This gives a total of 13012 correct predictions with an accuracy of 0.9524. In this case, the logistic regression correctly predicted the ownership of school for an accuracy of 95.2%.

At this stage, it appears that the logistic regression model is working better than guessing but this result is misleading because we trained and tested the model on the same set of 13663 observations (training dataset). In other words, the misclassification error in the training dataset is 4.8%. For better assessment of the model accuracy we used the held out (test) data to examine how well the model predicts since the training error tends to underestimate the test error rate (James *et al*, 2015).

Results for the confusion matrix of the test data are summarized in Table 5.

Table 5: Confusion Matrix and Statistics for Test dataset

```

Confusion Matrix and Statistics

              Reference
Prediction   Government Non-Government
Government   3204      165
Non-Government 15      47

          Accuracy : 0.9475
          95% CI : (0.9395, 0.9548)
    No Information Rate : 0.9382
    P-Value [Acc > NIR] : 0.01136

          Kappa : 0.3242
  Mcnemar's Test P-Value : < 2e-16

          Sensitivity : 0.9953
          Specificity : 0.2217
    Pos Pred Value : 0.9510
    Neg Pred Value : 0.7581
          Prevalence : 0.9382
    Detection Rate : 0.9338
  Detection Prevalence : 0.9819
    Balanced Accuracy : 0.6085

    'Positive' Class : Government
    
```

From **Table 5** results, the accuracy of the model appears to be 0.9475. This indicates that 94.75% of the school ownership have been correctly predicted. In other words, the misclassification error in the test dataset is 5.25%. However, the confusion matrix shows that the negative and positive predicted value are 0.7581 and 0.9510 respectively. This shows that when the logistic regression predicts the non-government school has 75.8% accuracy rate and when it predicts the government school has a 95.1% accuracy rate. This shows that the model performed better when it predicts the government school ownership rather than non-government ownership. By comparing the accuracy of train and test dataset, one can observe the small decrease in model accuracy. In further study, one would need to investigate more carefully whether the small decrease in the accuracy of the model was real or just due to random chance.

Finally, we used the chi-square test to perform the goodness of fit test, the model p-value was $9.487085 \times 10^{-279}$ which is too small. Therefore, the confidence level is very high which indicates that the logistic model used was statistically significant.

Conclusion and Recommendation

To conclude, the major finding of this study revealed that there is an unequal distribution of both primary schools and primary school teachers in Tanzania mainland. The regions such as Tanga, Dar es Salaam, Mwanza, Arusha and Kilimanjaro have many permanent and temporary teachers of both sex compared to other regions such as Katavi, Songwe, and Simiyu which are found in the rural areas. The logistic

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regression results indicated that permanent female teacher was negatively connected with non-government school while the permanent and temporary male teachers were likely to be in non-government schools. This study recommends that the government should play a central role in ensuring the equal distribution of teachers in all regions since it owns many schools (94.1%) and has employed many teachers than the private sector. Despite the different efforts taken by the government to improve the primary education in Tanzania mainland, the unequal distribution of teachers looks to be a chronic problem that hinders the provision of quality education to primary school students. We confirm that there is the role that the government and the non-government education stakeholders need to play to solve the problem of unequal distribution of primary schools and teachers in order to catalyze the country development.

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The effects of Student Employment on Academic Performance in Tanzanian Higher Education

Institutions

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Abstract

The relevance of this study is based on the fact that many university and college students in Tanzania have a desire to seek employment. Based on that, it would be very useful to examine the effects of this step and share information with different stakeholders. This study intends to examine the effects of employment on a student's academic performance. Data used was collected using questionnaires from college students through purposive sampling and analyzed quantitatively through descriptive analysis and logistic regression models. The findings show that various factors such as student resident, marital status, age, gender, and the employer had no significant benefit to students' performance. Other factors such as student study level, professionalism, study, and working hours per day had a significant effect on students' academic performance. This study is important as the results offer a theoretical and practical direction that is useful to college students, college management, and policymakers.

Keywords: Student employment, academic performance, College student experiences, Tanzania

Introduction

As the cost of attending higher education increases, the number of students who seek and obtain employment while attending colleges is also increasing (Halper, Craft, & Shi, 2020). There are different reasons why college students choose to work while studying. These range from the need to integrate into the job market to the desire to fill spare time (Yanbarisova, 2015). From 1979 to the mid-2000s, the number of employed full-time students in Canada rose from 30% to 45% and the trend has been increasing each year (Neill, 2015). The study by Roshchin and Rudakov, (2017) showed that the number of employed students in Russia was 64.7% and most of the students start to engage in employment activities during the third year of study. Burnside et al. (2019) reported that approximately 80% of college students in the USA were combining study and work.

In Tanzania, even though some college students combine work and study, little is known about its effects on their academic performance. One of the primary reasons for the lack of knowledge on this matter is the limited standard data source about the number of employed students and the status of their academic performance. Existing studies have focused on a different angle. For example, the study by Christopher and Rujomba (2021) has focused on the factors that lead employed people to join college studies and how colleges may help them to succeed in their studies. The study by Ntare and Ojwang' (2021) focused on entrepreneurial intention among college students in Tanzania. In this study we took a different angle, using the unique data collected from employed students, we examined the effects of employment on grade performance of college students in Tanzania.

Literature Review

Increased student employment has coincided with the trend increase in educational costs (Bjerke & Higgins, 2008). In the current world student employment is no longer an isolated phenomenon it is an educational fact of life (Riggert et al., 2006). In many Organisation for Economic Co-operation and Development (OECD) countries student employment is the norm for the majority of youngsters in secondary and tertiary education (Baert et al., 2016). OECD figures from 2015 show that 30% of the 15 years-olds in the USA taking paid work, 23% in the United Kingdom, 18% in Germany, and 14% in France (Holford, 2020). Based on the existing studies, there are reasons to believe that working while studying could contribute

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positively or negatively to student performance. The study by Baert et al. (2018) found only the negative association between students working hours and the percentage of courses passed. The finding by Choi (2018) showed that employment has fewer negative effects on school completion for those students who are most likely to participate in intense work. Benner and Curl (2018) argued that employment can decrease student engagement which leads to academic incompetence.

The study by Richardson et al. (2013) on 1837 students of the University of Canterbury in New Zealand showed that there was no difference in grades between employed students and non-employed students, but the working hours had a linear effect on the grades of employed students. Riggert et al. (2006) warned that employment reduces the time for academic studies and limit student opportunities to interact and share ideas with other students. Some studies perceived students' employment as the potential for students' success. The study by Yanbarisova (2015) proposed that combining study with employment is the additional source of knowledge and skills for students and it motivates them to learn. Simón et al. (2017) suggested that student employment regularly does not appear to have a significant effect on their academic performance. Generally, debate on the effects of employment on students' academic performance is inconclusive as existing studies suggest both positive and negative effects (Simón et al., 2017).

To summarize, there are different views regarding the effects of employment on the academic performance of college students. Some studies perceived student employment as the potential and others perceived it as harmful to student academic success. Regardless of how an individual observes it, the outcomes of this empirical debate are of no small effect.

Methodology

Data collection

The study focuses on employed students from the College of Business Education, Dar es Salaam campus. The target population was the diploma and bachelor students Data were collected from students using the modified survey instrument called College Student Experience Survey (CSEQ). To obtain students who were aware of the matter under the study, the purposive sampling technique was used (Ames et al., 2019). The Questionnaires were distributed to students during the class session with the cooperation and consent of class representatives and instructors. Many studies have been using the CSEQ as the student survey instrument (Webber et al., 2013; Thien & Ong, 2016; Abera., 2020; Logan et al., 2016). This study used the CSEQ to examine the statistical relationship between student employment and the level of performance

Data Analysis

The data analysis employs descriptive statistics and logistic regression models using the free software environment R (R core Team, 2021). The log odds of academic performance among college students were modeled as the function of students' characteristics. Student academic performance was the dummy variable with two levels measured by student grade point average (GPA) at the end of the student last semester ("Poor" if the GPA was less than 3.0 and "Good" if the GPA was more than 3.0). The model for the relationship is presented in Equation 1.

$$\text{logit}(\text{Academic performance (AP)}) = f(D, C, E) \dots \dots \dots (1)$$

Where *D* denotes the student's demographic characteristics, *C* represents the campus characteristics, and *E* denotes the employment characteristics. The unfitted model will have the form of

$$\text{logit}(AP_i) = \beta_0 + \beta_1 D_i + \beta_2 C_i + \beta_3 E_i + \varepsilon \dots \dots \dots (2)$$

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The demographic characteristics include a student's age, college, gender, marital status (married or not married), and level of study (bachelor or diploma). Students' campus characteristics include residence (living campus or off campus), distance from workplace to campus (less than 5 km or more than 5 km), class (day class versus evening class), the average number of hours (shpd) students spend in the private study per day (less or equal to 4 hours or more than 4 hours), and the average number of hours (hsl) students spend in library per day (less than 4 hours or more than 4 hours). Employment characteristics included whether the student employer is public or private (self-employed were treated as private), professionalism (professional or non-professional), the average number of hours (whpd) students spend in the working station per day (less or equal to 4 hours or more than 4 hours), nature of the job (Academic or non-academic), job category (full or part-time) were all included in the model.

Results and Discussions

Profile of Respondents

Out of the 255 questionnaires distributed throughout various diploma and bachelor classes across the CBE Dar es salaam campus, 200 were fully completed and returned indicating a response of 78.4%. Participants' ages ranges from 18 to 40 years (mean=26.6, standard deviation=4.04) with 58% identified as male and 42% as female, 74% reported being bachelor students while 26% were diploma students. 46.5% were employed in the private sector and 53.5% were employed in the public sector. Over 87% of the participant were nonprofessional, and 52% and 48% were full and part-time employed respectively. 55.5% were studying less than 4 hours per day while 44.5 were studying more than 4 hours per day.

Model fitting, Selection, Visualization, Results, and Discussion

To test the effects of various predictors of employments on student academic performance, different logistic models were fitted to the data including some possible effects and interactions. To balance the trade-off between the competing goal of the goodness of fit and simplicity, we performed the model selection using the AIC criteria in the MASS package in R (Venables & Ripley, 2002). The MASS package implements a reasonable collection of methods for forward, backward, and stepwise model selection using the penalized AIC-criteria that balance the goodness of fit against parsimony and finally select the model with small AIC as the best model. More explanation on how to perform model selection can be found in Friendly and Meyer (2015). Finally, the effects package (John & Sanford, 2018) was used to calculate and plot the final proposed terms. The estimated model summary is provided in Table 1 and the effect plot for the proposed model is presented in figure 1. Statistical significance at 1%, 5% and 10% critical values are denoted by ***, **, and * respectively.

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Table 23: Logistic Regression Analysis for Proposed Model

Coefficients	Estimate .std	OddsRatio	95% confidence interval	std.Error	z value	P-value	
(Intercept)	-1.5451	0.2133	[0.0102, 3.9832]	1.5130	-1.0210	0.3072	
Age	0.0834	1.0870	[0.9819, 1.2101]	0.0530	1.5740	0.1154	
Study_levelDiploma	-1.9488	0.1424	[0.0623, 0.3106]	0.4079	-4.7770	0.0000	***
ProfessionalismProf essional	1.7690	5.8650	[1.5339, 30.549]	0.7471	2.3680	0.0179	*
Job_categoryPart time	0.6879	1.9895	[0.8513, 4.8444]	0.4413	1.5590	0.1190	
whpd>4	-1.9011	0.1494	[0.0402, 0.5290]	0.6493	-2.9280	0.0034	**
shpd>4	1.3337	3.7949	[1.8236, 8.3254]	0.3853	3.4620	0.0005	***

From Table 1, we can observe that The likelihood of performance was steadily increasing as the age of students increased. We can observe that employed diploma students are 0.1424 lower times likely to perform better relative to employed bachelor students. The odds of performance were 5.865 times greater for professionally employed students than non-professional employed students. This can be observed also in Figure 1 where Students were more likely to perform better if they were studying bachelor level and were professional in the work they do. This is consistent with other existing studies such as (Yanbarisova, 2015) who found that if all other factors are kept constant, the professionally employed students in Tatarstan higher education institution were likely to perform better than the non-professional students and went further and claim that sometimes they can perform even better than the non-working students. The finding that bachelor students were likely to perform better than diploma students was in line with the study by Logan et al. (2016) who found that upper-class students at a small college in Southern Arkansas were likely to perform better than lower-class students.

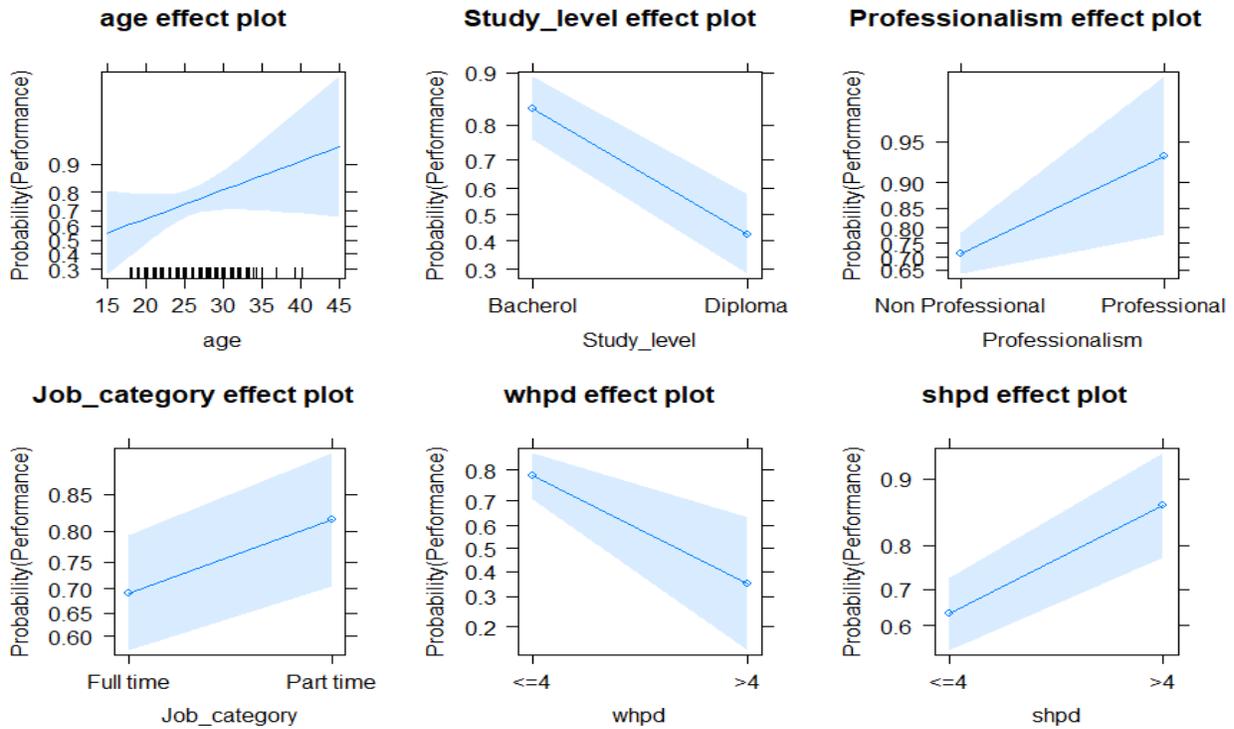
Furthermore, from table 1 we observed that the odds of performance were 1.9895 times greater for part-time employed students than full-time employed students. The employed students who works more than 4 hours per day were 0.1494 less times likely to perform better relative to their fellow employed students who work less than 4 hours per day. This can be observed also in the effects plot in figure 1 where students were more likely to perform poorly if they were full-time employed and working more than 4 hours per day. These results are not surprising because part-time employed students are working fewer hours than full-time students. This gives part-time employed students a lot of flexibility such as focusing more on their studies and other things than their fellow full-time students. This is consistent with prior studies (Pike et al., 2008; Choi, 2018; Zhang, 2020) that have indicated that spending abundant time in work reduces students time for school which can contribute to poor performance, higher school dropout, increase in absent, and lack of socialization in the college.

Additionally, the results in table 1 and figure 1 show that the odds of performance were 3.7949 times greater for employed students who study more than 4 hours per day than those who study less than 4 hours per day. This study has indicated that there is a significant relationship between study hours and student performance. This finding is like a manner augmented this debate by confirming the existing studies (Ali et

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al., 2013; Stinebrickner & Stinebrickner, 2008) which revealed that students performance of college students is significantly influenced by the number of hours they spent for study. Employed students spent more time at work and this affects their college attendance and reduces their study time. Zhang (2020) reported that employment contributed approximately 25% of the reasons for employed students being absent during the class session. Poor attendance during the lecture hours may result in a poor academic performance which may lead to an increase in school dropout for employed students before graduation.

Figure 2: Effect plot for predictor variables for the data with 95% confidence interval



Conclusions and Implications

This study identifies some factors that may influence the academic performance of employed students in Tanzanian colleges. Based on the findings, the study conclude that various factors such as student resident, marital status, distance from working station to college, age, gender, and the employer had no significant benefit to students' performance. Other factors such as student study level, professionalism, study, and working hours per day had a significant effect on students' academic performance. This study also revealed that the student's academic performance in the lower class may be affected by work. Based on these observations we advise students to reduce working hours and increase study hours and combine work with studies starting in their higher level (bachelor level) than the lower level. Students are also advised to combine study with professional work rather than nonprofessional work since by doing so the work becomes a source of additional knowledge and skill which enables them to transform theories they learn in the classroom into practices.

This study provides useful support for the college management, students, and policymakers. To college students, the study may assist to understand how to strike balance between working and studying for these types of students and other students who have not yet decided to enter this step. To college managements, the study provides knowledge on how to manage and help employed students to balance work and study successfully. In general, this study extends the growing body of literature and adds new knowledge in the field of education.

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Limitations and Area for Further Studies

There are some limitations to this study. All variables were taken from the distributed questionnaires. There are the possibilities that some answers were reported incorrectly due to human error. Another limitation is the sample and sampling used in this study. The sample was obtained by using the purposive sampling technique and the data was collected during the normal class session, and may not necessarily be representative of all employed students since some of them were absent during the data collection process. Also, the data was collected from one college; there is a need to take caution during the interpretation of results to avoid generalizing findings to all employed college students in Tanzania.

Future studies should expand this study to include other colleges in Tanzania. Further studies may examine the correlation between the type of employment and the level of success after graduation for employed students. Another study can focus on assessing the difference in academic performance between employed and non-employed students.

Declaration of Conflict of interest

The authors declared no potential conflicts of interest concerning the research authorship, and/or publication of the article

Funding

The authors received mini-grant support from the College of Business Education to support this research.

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The Contribution of IT Governance in the implementation of ERP Systems at TANESCO

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Abstract

This study investigated the Contribution of IT Governance in the implementation of ERP Systems at TANESCO Specifically, he study sought to propose best approach for establishing a practicable IT Governance structure and practices at TANESCO necessary to ensure successful implementation of ERP System. The data were obtained using structured interview from 109 interviewees consisting of Members of Board of Directors, Top Management , Senior and Junior officers from various Business Units (Generation, Distribution, Finance, Internal Audit, Procurement, ICT, Human Resources and Legal) , and consultant. All interviewees were involved in the implementation of ERP at TANESCO. The documentary review of Internal and External Audit Reports (Findings and recommendations) regarding ICT Governance through practices of corporate ICT Steering Committee were also used as a source of data for this study. Qualitative Content Analysis method was used to analyze/evaluate the patterns within the contents or sources of communication. The study found inefficiency for the Institution's IT Governing Body, ICT Steering committee. The study concluded that the existing IT Governance body should be transformed to make it practicable for effective implementation of ERP and other Strategic IT projects. The study recommends on how to ensure the organ performs its legal assignments as per eGA act no. 10 of 2019 and TANESCO ICT Policy so as to have a practicable IT Governance for successful implementation of an ERP system. The study provides bases for further research by recommending areas of research after a successful implementation/installation of an ERP system.

Key Words: Information Technology (IT), IT Governance, Enterprise Resource Planning (ERP), ICT Steering Committee

Introduction

Enterprise Resource Planning (ERP) systems is of particular importance to many companies in these years of technological advancement. The continuous national economic reform and current motive for industrialization to the increasingly Tanzania business market, has significantly changed Tanzania business status quo (Mtuveta, 2013). Faced with this competitive environment and economic pressure, some of the Tanzania companies have implemented or are implementing ERP systems in order to improve operational efficiency and enhance core competencies. Further, ERP Systems offers numerous advantages to organizations including but not limited to: Reduces the costs of implementing and maintaining your software, Enables the reviewing of business-critical information in real time, Adapts to the changing business requirements, Provides a modern and intuitive user experience, Simplifies every part of operation and helps reduce costs, Improved customer service satisfaction as the enterprise becomes more efficient, Helps management team focus on growing the business, hence a better tool for timely and informed decision making in meeting strategic objectives.

However, the adoption of ERP is not a straight forward task and always can result in significant impact to all business divisions in operational, managerial and strategic level of the company. Implementing ERP system project is a difficult and high cost proposition as it places tremendous demands on organization's time and resources. Many organizations do not achieve success in the implementation of ERP since companies are faced with a number of complexities when implementing these systems (Mtuveta, 2013). For a successful implementation of ERP system the critical success factors (CFS) such as project team, user

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involvement, technical capability, strategic decision making, clear goals and objectives, user training and education, organization change management and top management involvement can be considered. Currently, in lieu of usable legacy systems, most public and private organizations around the world are adopting ERP systems that are no longer well compatible with modern business environments. According to Kroenke (2008), it is difficult and challenging to switch from operational systems to an ERP framework. In addition, ERP has a very high investment cost as an implementation between hardware technology and software, the change to ERP system is expensive and requires the development of new processes, training and information transfer. A greater investment in ERP, however, does not always give the company a more desirable return value, unless a well-managed project.

ERP implementation being a strategic and ICT project, a success implementation of this project is based on effectiveness of IT Governance in the organization. IT Governance will manage all above CFS in order to ensure that ERP system implementation does not fail. This therefore can also be added as an important CFS for ERP system in IT Governance.

Statement of the Problem

TANESCO has a portfolio of ICT related projects which includes Implementation of Disaster Recovery Site at Kidatu, Implementation of Security Information & Event Management System (SIEM), Installation of Clean Power System for ICT Equipment in Region and District Offices, Installation and rehabilitation of LAN for Region and District Offices, Installation of WAN for Region and District Offices, Installation of Intrusion Detection System, Implementation and Upgrade of LUKU Vending system, Implementation of Integrated Security Management System (ISMS), Implementation of Automated Meters Infrastructure and Implementation of Enterprise Resource Planning system (ERP). A successful implementation of strategic ICT projects needs a proper IT Governance structure and practice in order to get a coordinated output.

Furthermore, there are challenges at TANESCO where by ICT systems or projects are executed by various Business Units including non ICT Business Units (BU). All these systems operates in silos and contributes to inefficiency, increasing cost due to duplication of efforts and employing many resources with similar skills to work in separated Business Units. This signifies that TANESCO lacks proper and workable IT Governance. ERP implementation then looks on the possibility of integration of systems belonging to ICT BU and those from across other BUs. Its achievement without proper IT Governance is questionable. To ensure that IT is aligned with the objectives of the enterprise and sustains and extends the enterprise's strategy, an effective ITG is needed (Rusu & Gianluigi, 2017). ITG ensures that IT goals are met and IT risks are mitigated. Therefore, IT delivers value to enterprise sustainability and growth. ITG drives strategic alignment between IT and the business needs and must judiciously measure performance. (Levstek et al., 2018).

Despite having budgets, some public companies in Tanzania have introduced the use of ERP in their daily operations in recent years, but the implementation of ERP in such companies in Tanzania is very slow. Most of ERP systems are implemented longer than the required time leading to exceeding budget. Yet there are many noted problems after implementation such like failure to meeting performance expectations, failure to align the system with business processes. This leads to over-reliance on consultants and system integrators. The researcher has thought that problems occurring during ERP system implementation is caused by insufficient level of IT Governance practices, which if there will be no intervention, the problems will continue affecting the organizations. This research, therefore, investigates the existence of ERP system IT Governance and its contribution toward successful implementation of ERP for organizational benefit.

Research Objective

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The main objective of this study was to establish the contribution of IT Governance in the implementation of ERP system at TANESCO. Specifically, the study assessed IT Governance readiness, examined whether IT Governance is a Critical Success Factor (CFS) in the implementation of ERP system and proposed best approach for establishing a practicable IT Governance structure and practices at TANESCO.

Literature Review

The paper, drawing on the literature, various case studies, and recent research evidence on ERP implementation around the region and global, only to find the following ERP researches:

The influence of organizational factors on successful ERP implementation, by Dezdar & Sulaiman, (2011). The purpose of the study was to examine organizational factors (i.e. top management support, training and education, enterprise-wide communication) that may influence the enterprise resource planning system implementation success in Iran. The results of the study indicated that the companies' top management must provide full support and commitment to the project if the system is to be successful. In addition, management must also ensure the plans are communicated and understood by the entire company.

“IT Governance Practices in a Public Organization in Ghana”, by Adaba & Rusu, (2014).

The study examined ITG practices in a public organization in Ghana (that has a responsibility to mobilize revenue for national development) in order to gain an insight into IT governance structures, processes and relational mechanisms and understand how this contributes to adding value through IT. The study was conducted at Ghana Revenue Authority (GRA). The findings revealed that this public organization had a centralized approach to IT governance, with inadequate board involvement concerning how IT investments can bring value and improve organizational performance. Furthermore, there are no IT steering and strategy committees to oversee IT governance as best practice requires.

Adoption of ERP among organizations in Tanzania, by Modern, S. (2016);

The specific objective was; to determine technological factors influencing adoptions of ERP among Tanzania's organizations. To determine the organizational factors influencing adoptions of ERP among Tanzania's organizations. The results indicate the user involvement in system development and implementation, user training and incorporation of other systems influences adoption of ERP in Tanzanian Organization.

The studies identified thereof e have been used to assess critical success factors in the implementation of ERP systems, from which, it has been noted existence of research gap concerning IT Governance in the implementation of ERP system. There researcher has then been asking himself this question *“Can we have a successful ERP system without a proper IT Governance?”* This gap is which has motivated the researcher to conduct further research to explore the contribution of IT Governance for successful implementation of strategic ICT projects such like ERP.

Methodology

This study used a qualitative research, because it produced more detailed information on the topic in comparison to the quantitative method. According to Bryman & Bell (2007, p.404) there are various ways to conduct qualitative research such as through participant observations, qualitative interviewing, the collection and qualitative analysis of text and documents and Focus groups. By Qualitative Method, gathering of an in-depth understanding of Governance environment, human behavior and the reasons that governs such behavior that contributes to improper IT Governance so to determine what should be done to improve IT Governance for TANESCO to enable optimal implementation of ERP System (CMS) and other IT related strategic projects at TANESCO. A sample of 109 was drawn from a population of 450 staff from different Business units using Stratified Random Sampling technique. Primary data were collected through

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interview of individual, focus group discussion and observation. Secondary data were collected through textual analysis of Audit findings and recommendations regarding practices and effectiveness of entity's IT Governance body (ICT Steering Committee).

The interview was conducted to the following groups: Two Board Members (Chairman of Investment, Planning & Operations Committee and Chairman of Audit & Risks Committee), Executive Management Team (including Managing Director, Deputy Managing Director Generation, Senior Manager Human Resources, Chief Financial Officer), IT and Project Management Team (including Two IT Managers and Four Principal Officers), User Groups from various business Units including Senior Manager Finance, Manager Revenue, Three Principal Accountants/Finance Officers and groups of accountants, Manager Budget & Treasury, Manager Operations, Manager Information Systems Audit, Manager Procurement – Contracts Management, Manager Plant Operations, Plant Manager - Kidatu Hydro Power Plant; and CMS Implementation Consultant. Qualitative Content Analysis method was used to analyze/evaluate the patterns within the contents or sources of communication. The pattern was grouped into categories of themes for the behaviors and practices that were identified. Respondents' opinions and views were presented against each category. A conclusion drawn from each category in fulfillment of research objectives.

Findings and Discussion

The study findings are presented according to the following themes:

Knowledge of IT and IT effectiveness in efficiency and productivity and compliance

The study findings showed that there was a very good understanding of the roles and importance of IT in the organization. There exists various ICT systems and infrastructures supporting TANESCO's operations. Despite the challenge that these systems were not integrated to bring efficient, users depend on such systems to perform their daily duties and provide services to customers. However, there was lack of awareness and compliance to governing standards that includes e-Government Act no. 10 of 2019 and its regulations of 2020, ICT Policy and other ICT Governance tools. This therefore promotes to improper practices as IT is concerned.

Existence and effectiveness of IT Steering Committee

The findings indicate that the commitment of Top Management in forming ICT Steering Committee is fairly good. It is however the following hampers having an effective committee to properly supervise the ERP project: Lack of awareness of governing Act and ICT governance tools among committee members, Lack of awareness of member obligations and duties as specified in the Act and ICT Policy, Inefficient ICT Steering committee meetings since the committee does not perform quarterly meeting as per the guidance, and ICT project portfolio is not overseen by the ICT Steering Committee hence there may be no proof of verification of return of IT investment

Staff/User participation in the ERP project and feedback to users

It has been found that user participation during system requirement analysis and specification was fairly noted. There were representations from all user departments, Zonal offices, Regional Offices, Districts, Plants and Substations. However, there is no feedback of the current status to majority of staff who have high expectation of the system. This poses a major risk to the project as the project may meet installation stage while users are not prepared to use the system.

User attitudes and expectations from the ERP system

It has been found that user attitudes varies. Some expect that CMS will be of benefit to all staff and customers by increasing efficiency and service provision. But there were majority of staff who had negative perceptions about the new system. Since CMS implementation is among strategic large system that brings Organizational transformation, the Company must institute in a serious change management program to all

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levels of system users to ensure right attitudes is created to all staff, get staff committed to the shift and work effectively during the change and the expected strategic advantages of CMS is well known to staff involved. The program must ensure successful implementation of the system while minimizing cost and ensure implementation within time boundaries. This task should not be left to the consultant as per plan but IT Governance body get thoroughly involved in its implementation

Conclusion and Recommendation

The results show that there was a very good understanding of IT and its advantages in the organization. Furthermore, employee understands the role of IT Governance. However, people are lacking necessary awareness and training. In addition employees are not well prepared to handle and operate the new ERP system. The expected IT Governance body was ready to perform its duties but did not know what and how to do in relation to the established Laws, policies and regulations, hence did not properly regulated IT projects as was required to do. It is therefore required to institute a clear Change Management program to all levels from IT Governance to system users for a successful implementation of the system during design and after go live of the system. Nevertheless, there were much enthusiasm among respondents which concluded that: IT Governance is a critical success factor for the implementation of ERP at TANESCO, TANESCO is ready for the establishment of practical IT Governance, and the existing IT Governance body should be transformed to make it practicable for effective implementation of ERP and other Strategic IT projects.

The study therefore recommended the following actions in order to ensure the IT Governance body (Institutional Steering Committee) performs its legal assignments as per eGA act no. 10 of 2019 and TANESCO ICT Policy for a successful implementation of organizational ERP system, named CMS. *Creating awareness across members of the group on existence of ICT Steering Committee (Executive Management Team) and their responsibilities.* This can be done in various ways including discussion sessions, documents, meetings and trainings. But also use of eGA document no. eGA/EXT/AVS/006, “Guidelines for Operational Institutional ICT Committee”. The guidelines document proposes formation of sub-committees for Data Management, Security Management and Service Management. This will increase accountability and better ICT Governance hence promoting effective ERP system project management and other Strategic ICT projects.

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Training on eGA Act and its Regulations. Creation of better understanding of ICT Business Units and its functions. This can be achieved by training ICT Steering Members on the main ICT Governance documents which are eGA Act and its Regulations, ICT Policy, ICT Security Policy, ICT Roadmap & Strategy, ICT Disaster Recovery Plans and ICT Business Continuity Plans. Ensure such training shall be instituted periodically.

Conduct ICT Committee periodic meetings. The entity shall make sure that quarterly meetings are conducted as directed in the respective Act. For the ERP system project, the Steering Committee shall ensure that every milestone is evaluated and appraised by the Committee. This will enable close follow-up to assess and propose immediate remedy for any noted deficiency/diversion from project plan, hence ensures effective implementation of the ERP system.

Make users know where to channel their issues/thinking/complains/technological needs. Despite existence of ICT department, by having staff for each Business Unit representation in the governance of IT, creates opportunity to ensure user needs are well addressed.

Allow evaluation of all IT projects by the steering committee. IT portfolio must be created and managed/evaluated case by case by the Steering Committee despite origin of the project (across all Business Units handling ICT project)

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The Influence of Electronic Tax Administration System on Taxpayers' Voluntary Compliance in Tanzania

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Abstract

The objective of this study was to examine the influence of electronic tax administration system on taxpayers' voluntary compliance in Tanzania. To attain this objective qualitative and quantitative research approaches were used whereby survey research design techniques of data compilation method were used. Both primary data and secondary data were involved in the form of interviews, document reviews and survey. Systematic and unsystematic random sampling and purposive sampling was used as sampling procedures in the study, this study involved with the sample size of 99 respondents from SMEs' taxpayer in Dodoma Regions. The findings of the study showed that there is influence of electronic tax administration system on taxpayers' voluntary compliance with P-value 0.002; Indicating the presence of the good electronic tax administration improve taxpayers' voluntary compliance while absence electronic tax administration system led to taxpayers' poor voluntary tax compliance. The study recommended that the cost of electronic devices to be barred by tax authorities and the outsourced companies undertaking the devices', repair and maintenance should offer affordable rates to SMEs taxpayers.

Keywords: electronic tax system, tax compliance, tax laws, taxpayers, Tanzania

Introduction

Non taxpayers' voluntary compliance is a big problem in strengthening income tax management and tax revenue accomplishment in Tanzania (TRA, 2016; Prichard *et al.*, 2019; Mandari and Koloseni, 2017; Kaisi, 2019). It decreased by 1.5% from 2014 fiscal year to 2015 fiscal year, and also the taxpayers' voluntary compliance level in Tanzania were decreased in 2015/2016, 2016/2017, 2017/2018 and 2018/2019 by 1.2%, 1.0%, 0.7% and 0.3% respectively (NBS, 2020; TRA, 2017). The main causes for decrease of the level of taxpayers' voluntary compliance in Tanzania is electronic tax system, whereby when tax administration system is good taxpayers' voluntary compliance increases and when electronic tax administration system is poor the level of taxpayers' compliance decreases (TRA, 2019; Fjeldstad, 2019; Eilu, 2018).

Yayuk *et al.*, (2017) shows that the changes of jurisdiction's tax laws and regulations such as electronic tax and tax rates positively influence the level of tax compliance. The taxpayers' voluntary tax compliance rates observed in Tanzania, Rwanda and Kenya were equivalent to around 12.0%, 13.5% and 14% respectively of the country's Gross Domestic Product (GDP); indicated that, the rates were insufficient rate to support the country's public expenditure due taxpayers' voluntary compliance rate to be low (World Bank Group-WBG, 2015; Deogratus *et al.*, 2019; Fjeldstad, 2019). Sweden observed to maintain a high taxpayers' voluntary compliance than anywhere else in the world; observed also across the Nordic countries (KPMG, 2019; Obert *et al.*, 2018; Kaisi, 2019). Getacher and Baisa (2014) found out that, the main reasons for the developed countries to have high tax compliance are the presence of a strong electronic tax administration system. Deyganto (2018) supported that the tax regulator should improve the electronic tax administration system in order to stimulate taxpayers' voluntary compliance. The adoption of the electronic tax system is a positive step towards the direction of taxpayers' voluntary compliance; electronic tax on its hold does not only influence to tax compliance, though it is a constructive stage in the direction of tax compliance and is

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simply one of the three instruments of compliance (Obert *et al.*, 2018; Kelvin, 2017; Majdanska and Lindenberg, 2018; Fjeldstad, 2019).

Presences of an electronic tax exaggerate the push and tax submission but it does not guarantee disbursement compliance. The electronic tax system actually influences tax compliance, because it minimizes the cost of grounding and submission of tax income in an environment which is paperless (Azmi and Kamarulzaman, 2010; Monyo, 2013; Casey and Castro, 2015). The review of Korea's knowledge gives credibility to the contention that well planned and well executed obligatory electronic tax invoices can materially advance tax compliance through significant institutional and perceptual changes in tax management (Lee, 2016; Brun and Diakite, 2016; Mlay, 2015; Soneka and Phiri, 2019). However, there is a fact indicating that the consumption of EFDs in some African nations has encountered substantial challenges. Using the systematic review method, the researcher investigated challenges encountered in adoption of EFDs in Tanzania and Kenya (Lubua, 2015; Kira, 2017; Mandari and Koloseni, 2017; Kaisi, 2019; Wasao, 2014).

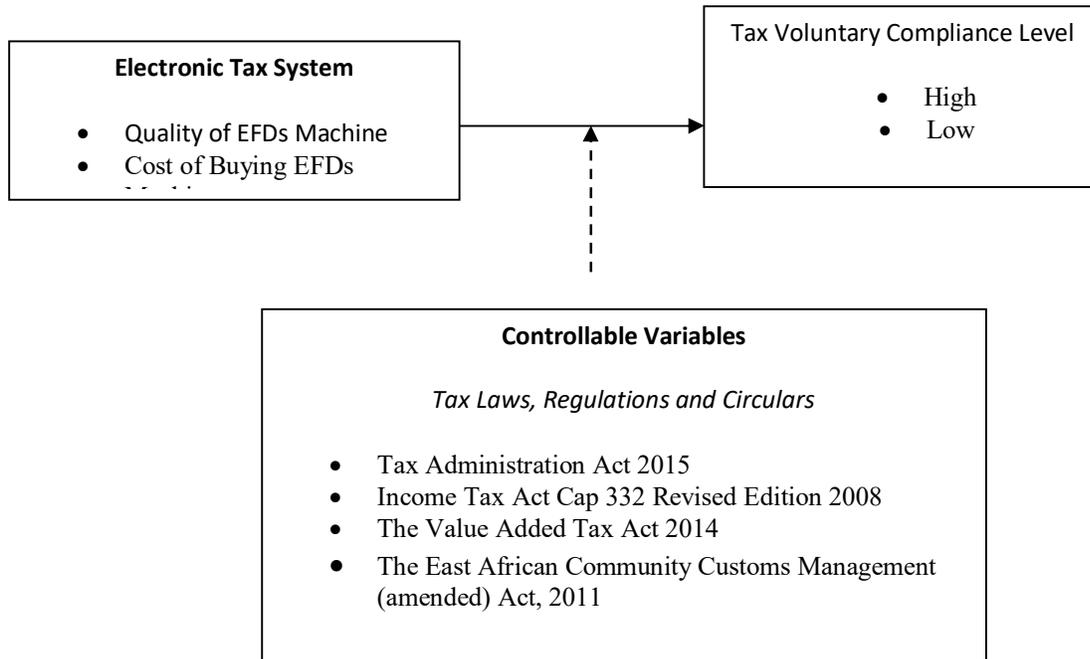
Tax compliance with tax payment by taxpayers in Tanzania is still a greater challenge to the government and this leads to the tax revenue decrease. For example, in the 2014/2015, 2015/2016, 2016/2017, 2017/2018 and 2018/2019 fiscal years Tanzania's non compliance of tax rate was 11.92%, 11.47%, 10.41%, 10.61% and 11.74% of Gross Domestic Product (GDP) respectively of which was among the lowest in African countries (TRA, 2015; TRA, 2016; TRA, 2017; TRA, 2018; TRA, 2019). Tax to the citizens in several nations is very important to support public expenditure (Shemdoe, 2015; Mayowan, 2019). Soneka and Phiri (2019) findings shows that, electronic tax administration system in Zambia is functional, simple to use and also safe also, the greater part of the SMEs taxpayers in Zambia are filing their returns and paying taxes electronically, on the other hand there are few SMEs taxpayers who still believe electronic tax administration is not functional, difficult to use and not safe.

Sharda *et al.*, (2015) findings shows that, adoption in electronic tax administration system in revenue collection is very important in both for private and government since in private, electronic tax administration system is convenience, save costs and save time for both to the tax regulators and financial institutions and hence taxpayers' satisfy with service. While electronic tax administration system is very important to the government since increase the efficiency of revenue collection (Zaidi *et al.*, 2017; Megan *et al.*, 2010; Muturi and Nahashon, 2015; KRA- Kenya Revenue Authority, 2019); Fjeldstad, 2019; Kaisi, 2019; Mohd *et al.*, 2014). Taxation works as circulation of blood throughout the body like money circulates within the subjects (Malik, 2019; Night and Bananuka, 2019). Fox and Murray (2013) finding shows that an increase of government revenue through taxpayers' voluntary compliance has improved the capability of government to spend in different development projects. Also, non compliance of tax cause losses of revenue in developing countries and countries fail to support public expenditure due to insufficient revenues and depends on developed countries for loans, and grants due to economic difficulties (Kar and Cartwright-Smith, 2011; Hauptman and Korez-vide, 2015; Eilu, 2018).

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Independent Variable

Dependent Variable



———— Direct Relationship

- - - - - Indirect Relationship

Figure 1. Shows the relationship between electronic tax system & voluntary tax compliance as adopted from (Thiga and Muturi, 2015).

Figure 1 presents the influence of electronic tax and the alteration of the variable has either a negative or positive impacts to the taxpayers' voluntary compliance level. In the situation where there is taxpayers' voluntary compliance positive results were achieved which includes increasing of government revenues, provision of adequate public services, economic growth, low tax administration costs and improved standard of living. The relationship between the dependent, controllable and the independent variables is demonstrated in the conceptual framework obtainable in figure 1.

Methodology

To attain this objective of this study, the qualitative and quantitative research approaches were used. The study adopted a survey research design technique of data compilation method were used. Both primary data and secondary data in the form of interviews, document reviews and survey. Questionnaires were used as tool of collecting data, systematic and unsystematic random sampling and purposive sampling was used as sampling procedures in the study. The population of the study was from 12,670 small and medium taxpayers registered in Dodoma Region according to TRA. The study involved the sample size of 99 Small and medium taxpayers in Tanzania calculated from Yamane's formula of sampling as represented below;

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$$n = \frac{N}{1 + N(e)^2}$$

Whereby n = Sample size, N = Targeted population, e = Level of precision or confidence interval i.e. 10%. The reasons of adopted 10% and not 5% or 1% is due to the coefficient variation of the population within the researcher interest.

$$n = \frac{12,670}{1 + 12,670(0.1)^2} = \frac{12,670}{127.7} = 99 \text{ Small and Medium Taxpayers}$$

The study validity was conducted throughout planning stage where by researchers validate the questionnaires before data collection begin. Each question was pretested in the areas in purpose to ensure that, data collection is valid. To ensure the consistency of the questions before conducting the study it is compulsory to check for the validity (Morgan and Waring, 2004). We carried out a pilot study by administering ten (10) questionnaires to the small and medium taxpayers to check the clarity and fitness of the tools in collecting appropriate information. The Cronbach's Alpha (α) of the variables was 0.759 which is greater than 0.700. When Cronbach's Alpha (α) is equal or greater than 0.77 is very appropriate Taherdoost (2016), so that the consistency and homogeneity of groups of items in tests and questionnaires were very acceptable.

Econometric Model Specification

We used logistic regression model to estimate the chances of the binary variable with two probable result events such as pass/fail, win/lose, high/low as recommended by (Ozsari and Food, 2016). The taxpayers' voluntary compliance is the discrete random variable and dummy in scenery that could be measured through binary logistic regression or logit model. For that reason, the researchers has constructed the model by pouring logit function from odds proportion and included one independent variables which reveal as pursue; TVC= F(ETAS). Therefore, the researchers constructed the logistic regression model to attain the objective of this study. Logit model is one of binary choice models (or dichotomous models), which is designed to model the 'choice' investigates two discrete chances. This model fundamentally explain the probability of examining success occurrence ($Y_i=1$) is straight depends on survey independent variable which are exogenous to the model. Taxpayers' voluntary compliance topic is the two category; tax payers may comply voluntarily (high taxpayers' compliance) or (low taxpayers' compliance).

Taxpayers are unspecified to have high taxpayers' voluntary compliance if they charge themselves by treatment their accurate chargeable proceeds to tax regulator (at correct time, place, and correct quantity and in suitable way) with no any lawful enforcement and it is their readiness to obey with orders and system of regulators. On the other hand, taxpayers may have taxpayers' voluntary compliance if they are compulsory by tax regulator on those who are reluctant to pay their taxes at right time, place, correct amount and wrong mode through the danger and request of review and well. So, based on the over theoretical review, the researchers constructed the model. Because, dependent variable taxpayers' voluntary compliance is a dichotomous (binary outcome) variable and pleased as qualitative data and the researchers assumes one for high voluntary compliance, or else zero. Designed for this data, logit model is appropriate model to measure how explanatory variable (influence of electronic tax administration system) affect persons' probability of having high taxpayers' voluntary compliance or low voluntary compliance. Since the binary effect variable violate various assumptions of linear regression models such as (non-normal and heteroskedastic). The Logit equation can be developed from probability rations:

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$$\text{Log(Odd ratio)} = \text{Log} \frac{\text{High}}{\text{Low}} = \text{Log} \frac{Y_i = 1}{(Y_i = 0)} = X_i' \beta \dots \dots \dots (1)$$

Where, $y_i=1$ shows an human being “i” is being voluntary compliance (High), $y_i=0$ represents an person “i” is being non compliance (Low), x_i is piece vector of independent variables (TCC,TR,ETAS,TAS,TT), β is portion vector of parameters (coefficients) to be expected and β_0 is the intercept expression. Equation (1) shows that ordinary logarithmic Figure of odds ratio depends on pragmatic independent variable. Equation (1) can also be spoken in terms of probability;

$$\text{Log (Odd ratio)} = \frac{P(Y_i = 1)}{P(Y_i = 0)} = \text{Log} \frac{P(Y_i = 1)}{1 - P(Y_i = 1)} = \beta_0 + X_i' \beta \dots \dots \dots (2)$$

Where, $(y_i=1)$ is the probability of having high tax compliance and $1 - (y_i=1)$ is the probability of having low tax compliance. The stochastic version of equation (2) can be calculated by adding disturbance error term;

$$\text{Log} \frac{P(Y_i = 1)}{1 - P(Y_i = 1)} = \beta_0 + X_i' \beta + U_i \dots \dots \dots (3)$$

Where, U_i is stochastic error term which represents all unobservable factors of tax compliance, and this model shows that odds ratios is not only depends on variables incorporated in the model but also other factors which are not included in the equation. By taking exponential (antilogarithm) both side of equation (3) and rearranging it we have logistic function as follows;

$$\text{Log} \frac{P(Y_i = 1)}{1 - P(Y_i = 1)} = \text{EXP}^{\beta_0 + X_i' \beta + U_i}$$

$$P(Y_i = 1) = (1 - P(Y_i = 1)) \text{EXP}^{\beta_0 + X_i' \beta + U_i}$$

$$P(Y_i = 1) = \frac{\text{EXP}(\beta_0 + X_i' \beta + U_i)}{1 + \text{EXP}(\beta_0 + X_i' \beta + U_i)} \dots \dots \dots (4)$$

Equation (4) explains that the probability of being high tax compliance depends on observed independent variable. This probability is high and limited between 0 and 1 because the underlying model follows logistic distribution. The predicted probability of high tax compliance therefore can be expressed as;

$$P(Y_i = 1) = \frac{\text{EXP}(\beta_0 + X_i' \beta)}{1 + \text{EXP}(\beta_0 + X_i' \beta)} \dots \dots \dots (5)$$

The objectives number one to five of the study were tested through the logistic regression model to prove the effect of cost on taxpayers’ voluntary tax compliance, the influence of the electronic tax administration system on taxpayers’ voluntary compliance, the extent of tax system in promoting taxpayers’ voluntary compliance and the relationship between tax transparency on the taxpayers’ voluntary compliance. The aim of the researchers is to know if the level of taxpayers’ voluntary compliance is high or low basing on

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taxpayers' compliance cost, tax rate, electronic tax administration system, and tax administration system and tax transparency.

Schreiber-gregory and Foundation, (2018) stated that the logistic regression model assume the following; homoscedasticity is not necessary, the dependent variable in logistic regression is not calculated on a ratio or an interval scale, logistic regression does not need a linear association between the dependent and explanatory variables and the residuals do not require to be usually distributed. The research conducted in Ethiopia on the topic of the factors influencing taxpayers' voluntary compliance attitude with tax system used the logit model to prove the findings (Deyganto, 2018; Thiga and Muturi, 2015; Kaisi, 2019).

3. Result

Table 2: Indicates the Electronic Tax Administration System

S/N	Items	Mean	Rank	Decision
1.	The quality of electronic tax devices is good?	2.79	1	A
2.	The cost of repair and maintenances of the EFDs is too high.	2.65	2	A
3.	The electronic tax rules and regulations improve taxpayers' voluntary compliance.	2.64	3	A
4.	The taxpayers do not believe electronic tax administration system.	2.63	4	A
5.	The taxpayers' do not know how to use the EFDs machine.	2.61	5	A
6.	The electronic tax administration system can enhance taxpayers' voluntary compliance.	2.51	6	A
7.	The cost of buying EFDs machine is too high.	2.20	7	D
8.	The electronic tax administration simplifies the tax collection.	1.95	8	D

“A” Means that the Agree (Mean>2.50) “D” Means that the Disagree (Mean<2.50)

Source: Survey Field Data, 2020

The study findings evidently agreed that the quality of electronic tax devices is good, the cost of repair and maintenances of the EFDS is too high, the electronic tax rules and regulations improves taxpayers' voluntary compliance, the taxpayers do not believe electronic tax administration system, the taxpayers' do not know how to use the EFDs machine and the electronic tax administration system can enhance taxpayers'

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voluntary compliance by 2.79 mean average, 2.65 mean average, 2.64 mean average, 2.63 mean average, 2.61 mean average, and 2.51 mean average respectively which is greater than 2.50 mean average while; respondents disagree that the cost of buying EFDS machine is too high and the electronic tax administration simplify the tax collection by 2.20 mean average and 1.95 mean average respectively which is less than 2.50 mean average. A breakdown of responses is listed above in Table 1.

From Table 2 shows the cost of buying EFDS machine is too high, the taxpayers do not believe electronic tax administration system, the taxpayers' do not know how to use the EFDs machine, by 0.713, -0.678, 0.554 (Component 1) -0.416 again repeated in (Component 2) the taxpayers' do not know how to use the EFDs machines, 0.0819, 0.635 0.817 (Component 2) the cost of repair and maintenances the EFDS is too high ,the electronic tax administration simplify the tax collection, the electronic tax administration system can enhance taxpayers' voluntary compliance respectively (Component 3) 0.780, 0.681. The electronic tax administration system can enhance taxpayers' voluntary compliance and the electronic tax rules and regulations improve taxpayers' voluntary compliance respectively (Component 4). So the value which is negative must be deducted from the variable and the variable which has a positive variable must be included.

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Table 2 Factor Analysis for Electronic Tax Administration System

Rotated Component Matrix

Items	Component			
	1	2	3	4
The cost of buying EFDs machine is too high.	0.713			
The taxpayers do not believe on electronic tax administration system.	-0.678			
The taxpayers' do not know how to use the EFDs machine.	0.554	-0.416		
The quality of electronic tax devices is correct.		0.082		
The cost of repair and maintenances the EFDs is too high.		0.635		
The electronic tax administration simplifies the tax collection.			0.817	
The electronic tax administration system can enhance taxpayers' voluntary compliance.				0.780
The electronic tax rules and regulations improve taxpayers' voluntary compliance.				0.681

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation Converged in 7 Iterations.

Source: Survey Field Data, 2020

The Table 3 indicates the model fits as variable added. Electronic tax administration system have significant -2log likelihood test statistics (-2log likelihood= 133.33, p - value = 0.002) which means associated with taxpayers' voluntary compliance.

The Table 3 indicates the model fits on tax administration system. Electronic tax administration system have significant -2log likelihood test statistics (-2log likelihood= 134.9, p - value = 0.002) which means associated with taxpayers' voluntary compliance because the P -value is less than 0.05. On the other hand the study observed that when tax regulator dealing effectively with electronic tax administration system will increase the level of tax voluntary compliance by 0.622 based on Cox & Snell R Square while, based on

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Nagelkerke Square the tax regulator dealing with electronic tax administration system will increase the level of taxpayers' voluntary compliance by 0.723.

Table 3: Shows the Logistic Regression Model Fits on the Electronic Tax Administration System

Model Fits on Electronic Tax Administration System		
Test Statistics	Values	P-value
-2log Likelihood	133.33	0.002
Cox & Snell R Square	0.622	
Nagelkerke R Square	0.723	

Source: Survey Field Data, 2020

Table 4: The Logistic Regression to Determine the Influence of Electronic Tax Administration System on Taxpayers' Voluntary Compliance

Variable	B	Standard Error	Wald	Sig	Exp(B)	95% C I Exp(B)	
Electronic Tax Administration System	0.362	0.286	1.598	0.002	0.436	0.819	2.515
Constant	-1.180	0.725	2.649	0.104	0.307		

Dependent Variable: Tax Voluntary Compliance (1=High Tax Voluntary Compliance, 0=Low Tax Voluntary Compliance)

Source: Survey Field Data, 2020

Discussion

Table 1 reveals that, 2.79 mean average, 2.65 mean average, 2.64 mean average, 2.63 mean average, 2.61 mean average, and 2.51 mean average agree that the quality of electronic tax devices is correctly, the cost of repair and maintenances the EFDs is too high, the electronic tax rules and regulations improves taxpayers' voluntary compliance, the taxpayers do not believe electronic tax administration system, the taxpayers' do not know how to use the EFDs machine and the electronic tax administration system can enhance taxpayers' voluntary compliance respectively which is greater than 2.50 mean average, while respondents disagree that the cost of buying EFDS machine is too high and the electronic tax administration simplify the tax collection the explanatory reasons why the electronic tax administration system does not influence the taxpayers' voluntary compliance as follows, the poor quality of electronic fiscal devices (EFDs), high cost of purchasing the EFDs machine, maintenances and repairing cost of EFDs machine is too high, high level of network failure in EFDs machine, the estimation calculation of actual annual turnovers designed by tax regulators is not proper and the categories group of taxes is not clear. When mean average is greater than 2.50 mean average means that agree ("A") and when mean average is less than 2.50 mean average means that disagree ("D"). This finding supported by different scholars who said that the electronic tax

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administration system is improper they recommended that the tax regulator should be improved (Lee, 2016; Brun and Diakite, 2016; Mlay, 2015; Shemdoe, 2015; Soneka and Phiri, 2019).

The respondents stated that the electronic tax administration system helps to keep proper record of cash transactions, improves the security of the business and increase the level of trust to the customers since does not use EFDs machine, this findings supported by different scholars who said that the electronic tax administration system is very important to the revenue collection since increase the level of efficiency in revenue collection (Obert *et al.*, 2018; Kelvin, 2017; Majdanska and Lindenberg, 2018; Azmi and Kamarulzaman, 2010; Monyo, 2013; Sharda *et al.*, 2015). From researchers point of view the electronic tax administration system is good because the level of tax compliance will increases. This result is supported by different scholars (Azmi and Kamarulzaman, 2010; Obert *et al.*, 2018; Monyo, 2013; Muturi and Nahashon, 2015; Muturi and Nahashon, 2015). Table 4 indicates logistic regression to determine the influence of electronic tax administration system on taxpayers' voluntary compliance. As odd of electronic tax administration system increased, high taxpayers' voluntary compliance increased by Exp (B) = 0.436 high times, which equals to 43.600% of increase

Table 4 indicates logistic regression to determine the influence of electronic tax administration system on taxpayers' voluntary compliance. As odd of electronic tax administration system increased, high taxpayers' voluntary compliance increased by Exp (B) = 0.436 high times, which equals to 43.600% of increase. The study found that electronic tax administration system is significantly with taxpayers' voluntary compliance since the p - value is $0.002 < 0.05$ significance level, the benchmark of significance between dependent variable and independent variable is when P - value = or < than 0.05 significance level. From the researchers point of view the electronic tax administration system is not good because it causes low level of tax compliance. Other scholars' point of views state that when the electronic tax administration system is effective the level of taxpayers' voluntary compliance will increase and when the electronic tax administration system is ineffective the level of taxpayers' voluntary compliance will drop (Agatha, 2018; Fjeldstad, 2019; Soneka and Phiri, 2019). Therefore, when electronic tax administration system is good it increases the level taxpayers compliance. This results is supported by different literature reviewed (Majdanska and Lindenberg, 2018; Kelvin, 2017; Lee, 2016; Kaisi, 2019).

The implication of the results shows that the good electronic tax administration system influence taxpayers' compliance this means that when electronic tax system is good increase level of tax compliance and when the electronic tax is not proper discourage tax compliance this findings supported by different scholars who said that the proper electronic tax administration system encourage taxpayers voluntary compliance (Price Water House Coopers Rwanda Limited, 2015; Mlay, 2015; Mayowan, 2019; Getacher and Baisa, 2014; Mahenge, 2018). There is statistical significance between electronic tax administration system and taxpayers' voluntary compliance with P- value of 0.002. this results supported by different scholars who said that there is positive relationship between electronic tax administration system and taxpayers' voluntary compliance (Nyamwanza *et al.*, 2014; Mayowan, 2019; Megan *et al.*, 2010; Fjeldstad, 2019; Deogratus *et al.*, 2019; Obert *et al.*, 2018; Kaisi, 2019).

In conclusion, the good electronic tax administration system can influence positively taxpayers 'voluntary compliance, in other hand the participatory electronic tax rules and regulation can positively influence taxpayers voluntary compliance, but the cost of running the electronic tax administration system still is high that can influence non tax compliance. The scholars concluded that the good electronic tax administration system influence positively taxpayers compliance while poor electronic tax administration system influence negatively tax compliance (Azmi and Kamarulzaman, 2010; Kira, 2017; Zaidi *et al.*, 2017; Eilu, 2018). Since the interviewees responded that the quality of Electronic Fiscal Devices (EFDs) is poor the tax regulator and policy makers should improve the quality of the EFDs machine in purpose of increasing the level of taxpayers' compliance.

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Since the respondents stated that the cost associating the electronic tax is high the policy makers should amend the tax rules, regulations and policy in order to make good environment of taxpayers' to comply voluntary with tax laws and regulation and hence increase GDP of the nation. Therefore, the researchers suggest that the future researchers to focus on examining the influence of electronic tax administration system on taxpayers voluntary compliance for large taxpayers and to increase the sample size by expanding study area so that can be easy to examining the influence of electronic tax administration system on taxpayers' voluntary compliance.

Acknowledgement

The achievement of this research was not a simple assignment; it was an extremely extensive stages. We are thankful to the adoring and cordial God who has allowed us to finish this work. We also wish to express our utmost appreciation to Dr. Edwin Mhede (TRA Commissioner General); Mr. John Mdee (Research Manager at Tanzania Revenue Authority); Mr. Oswald Haule (Research and Planning Officer at Tanzania Revenue Authority); Mr. Aulelus Myamba (Research Personnel at Tanzania Revenue authority).

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Financial Inclusion; Cost and Implications in Developing Countries: A Review of the Existing Literature

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Abstract:

Financial inclusion is receiving increasing attention for its potential to contribute to economic and financial development while fostering more inclusive growth and greater income equality. This article discusses about research reviews of financial inclusion comprehensively in terms of its nature, basic reasons behind financial exclusion, costs and implication of financial exclusion in developing country like Tanzania. The main objective of this study was to review and analyze various published articles related to financial inclusion in developing countries. The study specifically analyzed the extent to which the existing published academic articles have addressed the challenges associated with financial exclusion. Although substantial progress has been made, there is still much to achieve since FinScope survey Tanzania 2017 reports only 16.7% of adult population in Tanzania access to formal banking services. The same report maintains about 28% of adult Tanzanian are completely excluded from accessing financial services. Based on a content analysis of the analyzed academic articles from demand side, supply side, regulatory and infrastructure and societal barriers. This study found out that most developing countries and Tanzania in particular, are still faced by the mentioned challenges to effective financial inclusion. Lack of a clear and explicit policy on strategies toward inclusive finance and absence of explicit consumer protection regulation in Tanzania and other developing countries is yet another challenge. This study therefore suggests that, firstly, government and other stakeholders to establish guiding policy to enhancing financial inclusion efforts. Secondly, Policy makers and financial services providers need to initiate innovative infrastructure systems to enhance extension of financial services to rural areas at affordable operating costs. Thirdly, there is need for establishing and operationalizing consumer protection regulation among financial services providers. Finally, to encourage variety of financial providers, products and technologies to widen individuals and firms access to finance.

Keywords: Financial inclusion, access to finance, financial exclusion, borrowing cost, socioeconomic development, Tanzania.

Introduction

Financial inclusion has been increasingly receiving great attention due to its potential in contributing to socio-economic and financial development. It also serves to broaden financial and non-financial resources allocation while bringing up inclusive growth and greater income equality among underserved individuals (Yoshino and Morgan 2016). In developing countries, a large segment of low income people have little access to both formal and semi-formal financial services. Consequently, majority are obliged to rely on self-financing including informal sources of finance available unreliably and at significant high cost. The existing unequitable and poor access of inclusive finance is worse among least developed countries which records more than 70 percent being excluded from the realm of the services of banking and non-banking financial institutions (Kumar, 2017).

The growth of economy in any country is dependent among others prevalent of vibrant and effective financial services that are inclusive in the society. Existence of monetary policy that encourages inclusive finance contributes to poverty reduction and growth of various sectors in the economy. Tanzania being among developing countries need to further invest and strengthen efforts of ensuring wide range of financial services made available to majority of low-income individuals. Currently, evidence from Choudhury and

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Bagchi (2016); Isukul et al, (2019) indicates poor people are the most disadvantaged category from accessing and use of financial services. As such, without effective strategies of promoting inclusive financial services, most people particularly small, medium and large entrepreneurs are unlikely to build assets and cushion themselves from various shocks hence shrinking growth of the economy (Ahmed, 2014).

There have been noticeable evidences of improved access of financial services among people in Tanzania and other developing countries. AFI, (2016); NFIF, (2017) points out that provision of credit, insurance and financial advisory services to individuals and firms have recently been increasing. Existence of new technology has enabled mobile money transfers, savings and varied payment transactions to enhance growth of businesses. However, observable extent widening financial inclusion is considered to have not been deeply rooted to influence positively disadvantaged groups such as the poor, women and youth in their livelihood. This necessitates to have more efforts of involving various stakeholders encourage financial service providers, to widen and deepen outreach of their services to majority of population financially excluded (Lotto, 2018; Demirgüç-Kunt and Klapper, 2013).

Inclusive financial development has been a concern of various stakeholders both nationally and internationally. In Tanzania, Banking and Financial Institutions Act (BAFIA), (2006) provided the foundations for licensing, regulation and supervision by the Bank of Tanzania to different deposit and non-deposit taking institutions such as banks, microfinance entities and other financial institutions. BAFIA integrated microfinance companies into the entire system of national financial institutions. Moreover, BAFIA and the Bank of Tanzania Act 2006, provides recognition to non-bank formal financial institutions hence the microfinance institution, Insurance companies, Social security institutions. Microfinance institutions for example were recognized as legal business and an integral part of the national financial system in Tanzania. This aimed/intended to hasten the spread and use of financial services to majority of the needy individuals (Rubambey, 2005; Nyamsogoro, 2010; NMP, 2000; NMP, 2017).

The deepening and intermediation of financial sector in Tanzania has been growing gradually to reaching individuals interested in accessing financial services. The slow growing demand in up taking financial services to people retards initiative towards broader efforts of ensuring services reaches both center and peripheral dwellers (Demirguc-Kunt and Klapper, 2012). FinScope (2017), has reported low level of growth of financial inclusion in Tanzania. This report reveals only 16.7 percent of individuals engaged with the services of banking sector in Tanzania. This was an increase of only 2.7 percent from the study findings as observed by FinScope (2013). Furthermore, FinScope (2017) indicates individuals engaged and used financial services from other formal financial providers than banking institutions constituted 48.6 percent. This meant a significant increase of only 5 percent from the previous report released via the same source. On the other hand, NFIF, (2017); FinScope (2017) have recorded about 28% of adult Tanzanian are completely excluded from accessing financial services. Existence of such escalating figure has raised concern which calls for necessary strategies of encouraging individuals access and use financial services.

Sinclair, (2001); Oshora, et al (2021) added that if majority of productive age are financially excluded from using financial services, it may result to considerable negative impact to the growth of the economy. In addition, Were, et al, (2021) pointed out when a country does not have implementable policies of inclusive finance, there is a danger that most business and productive sectors are being financed by informal practices hence lowering output of the economy. Turvey, (2017) noted when people avoid using formal financial institutions it indicates there is more saving into informal ways such as keeping cash at home or buying illiquid assets, which may be costly, risky, or inconvenient.

Individuals have been taking up existing financial institution services quite gradually. Singh, (2017); Clamara, et al, (2014) considered that to be a drawback toward efforts to promoting financial inclusion. It is also argued that most banking institutions exhibit some conditions including presence of minimum account

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and loan balances, account fees including presence of difficult documentation requirements to their customers. Such conditions negatively influence toward outreach mission of financial service providers. Consequently, eligible clients for using financial products and services ignore these financial institutions' financial and non-financial services. The decision to decline using these services results to relying into informal financial service providers including self-financing which bears higher costs and unreliable. This challenge has been prevailing across many developing countries including Tanzania. On the other hand, Atkinson and Messy (2013) adds that quality of services have significant contribution towards customer satisfaction, because it is affected by various factors such as human interaction, physical environment, value, price, performance etc.

The need for developing inclusive financial sector has been a concern of many stakeholders such as policymakers, academicians and practitioners. This has raised the need for devising various strategies in addressing observed barriers impeding far-flung rendering, and uptake of conventional financial services to most developing countries. Tanzania has recognized the role of inclusive finance in empowering individuals economically and socially, by embracing various regulations and policies encouraging proliferations of financial sector in the country. Existence of National Microfinance Policy (2000) and (2017) respectively, and National Financial Inclusion Framework, (2014) among others have contributed to the growth and outreach of financial sector in Tanzania. There has been an increase demand in using non-bank financial institutions such as microfinance services. This is attributed by easy access of credit services contrary to frequency using banking services.

The growth and operation of microfinance institutions being mostly accessible among non-banking institutions can be considered in two perspectives. Firstly, Social mission perspective that focuses on poverty reduction and secondly, economic mission which insist on sustainable and market oriented financial services (Zerai & Rani, 2012; Makina & Malobola, 2004). The two observations of microfinance missions coincide with a common focus for enhancing financial inclusion by providing microcredit and saving services to the needy individuals. Similarly, to ensure that such micro financial services are offered in a sustainable manner. The social mission strategy of microfinance institutions spearheads on poverty reduction to their clients. It is argued that in order to reach most individuals with financial services, an emphasis should be to extend such facilities to needy clients at reduced cost rates (Robinson, 2001).

The proponents of social mission perspective are in view that since majority who are excluded from financial sector are deprived people. Thus, if the cost of funds directed to them is charged at very high interest rates, efforts toward reaching individuals excluded from financial services cannot be attained (Hartarska & Nadolnyak, 2007). Microfinance Institutions should underscore financial inclusion to ensure disadvantaged individuals access financial services, through small and medium investment projects for raising their standard of living and country's economy as well. Ayyagari *et al.* (2012) and Peer *et al.* (2013) added that there has been a financing gap to majority of low-income earners. Inaccessibility of financial services particularly credit services from commercial banks has deepened poverty levels of many rural and urban communities. Micro-small and medium entrepreneurs (MSMEs) have failed to actively use financial products in improving their business ventures and enhance economic development.

On the other hand, economic mission of microfinance institutions service providers emphasize financial sustainability of microfinance operations. It is argued that in order to efficiently deliver financial services for reaching all individuals in society while remaining sustainable, it is necessary to extend such services at market rate to enable recover transaction costs involved. Furthermore, the Institutionalists charge high interest rates on services such as credit facilities to enable increase revenue generation for expanding microfinance services to majority of needy households (Schriener (2000). In addition, Kinde (2012) posits that without effective financial intermediation to majority of masses, an alarming poverty among

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communities would not be reduced hence economic empowerment is unlikely to be achieved. Thus, if financial services are not market rated, it would result to cease their operations and widening gap of financial exclusion to most poor households (Nyamsogoro, 2010; Tucker & Miles, 2004). An emphasis on financial inclusion has to be well balanced with costs associated to enable outreach of financial services for poverty reduction and sustainable economic development in the society Marwa and Aziakpono (2015).

Beck, (2006); Beck, & Demirguc-Kunt, (2006) presents the problem of financial exclusion is prone to the poor than the non-poor individuals. While most of low-income individuals are detached from financial system, those few accessing financial services are being charged very costly. Consequently, they have been discouraged from further access since these institutions have been deepening their poverty than assisting them. On the other hand, most financial institutions explain high interest rates charged to their clients for several arguments – including high risk of microcredit, high fixed costs associated with small loans, financial institutions' operating expenses and need for profits to enhance sustainability than depending on donors Isukul and Tantua, (2021). In so doing, poverty penalty is relatively higher cost shouldered by the poor compared to the non-poor while accessing financial markets and services Brown, et al, (2015).

Most practitioners and various stakeholders are in favor of strong financial sustainability of banking and non-banking financial institutions for enhanced outreach of services. However, it is noted that most deprived people fail to benefit from available financial services and remains excluded. Thus, in order to invite majority of low-income people into up taking various financial products, it is necessary for financial institutions to design products and services that meets clients demand at bearable rates. On the other hand, semi-formal financial institutions should not follow the example of commercial enterprises whose main objective is to earn large profits (Triki and Faye, 2013). Instead, to moderately package their financial products in a manner that can be accessible in affordable way to individuals excluded from financial service. Therefore, it is imperative that concerted efforts are devised to address the barriers hindering widespread supply and uptake of formal financial services to most developing countries. This will contribute to reduction of poverty as majority would have capital for initiating business and entrepreneurship projects to improve their incomes and growth of country's economy for sustainable development (Beck, et al, 2007).

Literature Review

Inclusive finance facilitates socioeconomic development and reduction of poverty among individuals and country at large. It also guides to enhance effectiveness of monetary policy transmission and stabilizes financial sector in the country. Tanzania being among developing countries, realized the role of financial services as explained in its national development vision and poverty reduction strategies of 2020 - 2025. The need for financial services especially to the poor and underserved cannot be over emphasized, since they are highly unreached by formal financial institutions. As a result, they are unable to capitalize their meager resources towards investment opportunities to unchain from poverty circles (Mandell, and Klein, 2009).

Atkinson and Messy (2013) defined financial inclusion as the process of promoting affordable, timely and adequate access to a wide range of regulated financial products and services and broadening their use by all segments of society, through the implementation of tailored existing and innovative approaches including financial awareness and education with a view to promote financial well-being as well as economic and social inclusion. Similarly, financial inclusion involves the degree of access of households and firms, especially poorer households and small and medium-sized enterprises (SMEs), to financial services (Yoshino and Morgan, 2016). Existence, availability and measurement of financial inclusion has been an issue of concern to most academicians, policy makers and interested parties. However, agreeable measurement for financial

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inclusion involves the percentage of adults with 15 years old and above, reported having at least one account in their name with an institution that provides financial services and emanates under some form of government regulation (UNCTAD, 2021; FII, 2017)

On the other hand, financial exclusion refers to inability to access necessary financial services in an appropriate form due to problems associated with access, conditions, prices, marketing or self-exclusion in response to discouraging experiences or perceptions of individuals/entities (Stephen P. Sinclair 2001). Similarly, Chant Link & Associates, (2004) explains financial exclusion as lack of access by certain consumers to appropriate low cost, fair and safe financial products and services from mainstream providers. Financial exclusion has been an issue of concern in the community since it applies to lower income consumers and/or those in financial hardship. Financially excluded people typically exhibit some characteristics including - lack of a bank account and the financial services associated with it. Similarly, reliance on alternative forms of credit such as doorstep lenders including pawnbrokers. In addition, lack of other key financial products such as insurance, savings products and pensions. Therefore, individuals who are unable to access basic financial services are likely to pay more for managing their money. At times, they find it cumbersome to plan for the future while also becoming over-indebted and being financially stranded (Llanto, 2015).

Tanzania has been setting up a stage to deal with the existing gap in accessing financial services since commencement of financial sector reforms in the early 1990s. Presence of these reforms enabled private players in the financial sector that increased competition in banking and non-banking financial institutions. Villarreal, (2017) posits that existence of vibrant Micro, Small and Medium Enterprises (MSMEs) are the engine of economic growth in any developing country with high unemployment rates. When these people are capacitated through accessing financial services, they are likely to contribute to individual's income and the country at large (NFIF, 2017). The role of financial institutions towards enhancing effective financial inclusion is obviously very significant. Presence of a well-functioning financial sector will ensure financial products offered are linked to demand of the customers to be served so that individuals excluded benefits from financial services (Sigalla, and Carney, (2012).

Empirical studies by Brown, et al, (2015); Oshora, et al, (2021) revealed there is relationship between financial inclusion and economic growth having impacts to individuals and the country respectively. The existing positive influence indicates there is potential growth of financial development, level of economic growth, and reduction of income inequality in the society. When a country has well rooted and equally involving financial services to all people, that would likely fasten socioeconomic development by encouraging wider business investment opportunities. In addition, when individuals are involved with basic financial transactions, they increase households' abilities to accommodate themselves from variety of challenges and enhance consumer confidence. More importantly, financial inclusion widen access to financial services and distribute economic opportunities particularly among poorer households and businesses. (Ahmed, 2014).

Moreover, Gutierrez-Nieto, et al, (2016) found that among the factors influencing financial inclusion were high-quality institutions, efficient legal rules, strong contract enforcement and political stability contributes more to financial inclusion. Presence of these characteristics guide positively to influence individuals engage in using financial services. On the other hand, studies identified some other parameters which induce challenges into up taking and use of financial products and services, including high costs of opening and using bank accounts, high distance to reach financial institution and in-existence of trust in the banking sector to have negatively influencing access and use of financial services.

The influence of financial inclusion on economic development in developing countries has equally been observed in Demirguc,-Kunt, and Levine (2007) that gender issues existing in society strongly and positively influence financial inclusion. It is argued that there is substantial difference between men and

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women regarding borrowing and savings services offered. It is known that men do formally borrow and are likely to save more than women due to factors related to income and asset ownership. As such women have consistently been neglected because of their inferior level of income, lower financial literacy and less business experience, hence relying more on informal financial services. These informal financial services hardly do they have variety of products, offered in sustainable manner and usually charges very high costs. Consequently, they have been unfriendly to individuals excluded from financial products and services to ease their economic hardships.

Krumer-Nevo, et al, (2016) observed that most rural communities have been excluded from services offered by financial institutions such as credits, savings, and payment services among others. These services could have acted as catalyst to enhancing various businesses leading into economic development. Existence and outreach of financial services to majority of needy individuals helps widen operations of financial system through developing saving culture among rural population. According to Beck, (2006) when low-income groups are brought nearly within the perimeter of formal financial institutions such as banking sector. It guarantees them get protected of their financial wealth and other resources from underutilization and mismanagement. Furthermore, financial inclusion helps individuals to easy access of variety of credit products related to their needs and requirements. This helps mitigate the exploitation by various money lenders whose credits are more of burden to low-income individuals.

Materials and Methods

This study focuses on reviewing and analyzing various studies related to financial inclusion in developing countries. It intends to further shed lights on the extent to which existing academic articles addressing issues of financial inclusion have contributed. In this study, an author-driven review approach was employed. The method is considered relevant since issues regarding financial inclusion, cost and implication have been challenging while influencing varying practitioners and policy makers in most developing countries. As such the approach guided researcher to derive expected meaning of the concepts via researcher's original theme (idea). In this process, the researcher reexamined/surveyed on published academic articles in the area regardless of their years of publications.

This intensive desk review of existing literature involved full length published papers in peer reviewed academic journals including books and book chapters mainly in financial inclusion. Thus conference papers, book reviews, abstracts, editor prefaces including conference proceedings were not included in analysis since were considered having limited contributions to the available existing knowledge. Moreover, references cited in the published articles were traced to evaluate their relevance in the study.

This study therefore used content analysis in examining content and concepts from the existing articles. The approach is considered relevant and a common data analysis method in social science (Berg, 2009). It entails a careful, detailed, systematic assessment and interpretation of specific body material to enable identify pattern, themes, biases and meanings. As such this technique helps identify available meaning in the text while maintaining a qualitative textual approach (Elo & Kynga, 2007). The use of this approach when it is carefully undertaken, it offers replication of outcomes (Durian, Reger & Pfarrer, 2007), also this method is analytically flexible (Duriau, Reger & Pfarrer, 2007). In addition, this technique can be applied for inductive and deductive research (Elo & Kynga, 2007) including ability to allow varied analysis to be executed by using qualitative or quantitative methods (Duriau, Reger & Pfarrer, 2007).

Discussion on the Study Findings

Obstacles to Financial Inclusion

Literature on financial inclusion and economic growth reveals that enhancing financial inclusion at micro, macro and institutional level contributes to economic growth. Isukul and Tantua, (2021) maintains that availability of affordable financial services to people have positive influence to their living standard.

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Traditional banks and other formal financial institutions facilitate transactions that helps underserved to smoothen consumptions and build their financial base. Unfortunately, majority of Small and Medium Entrepreneurs (SMEs) including other low income individuals have not been capacitated to access financial services such as mortgages, insurance and pensions for the purpose of enhancing their livelihood. Existing increasing rate of individuals that are being financially excluded has worried various stakeholders in developing countries. Krumer-Nevo, et al, (2016) indicates outreach of financial services is limited to urban dwellers, but even within the urban areas majority are unable to access such services due to various reasons. On the other hand, situation is worse to individuals living in suburban and rural areas. Development of financial sector has not been inclusive to enable them enjoy the services effectively. The widening gap between individuals using financial services and those excluded, has been an issue of concern among policy makers, practitioners and other stakeholders in developing countries. In developing countries for instance, the traditional banking business tend to be out of reach for the rural poor as operating functional bank business offices is not a profitable and viable option (Visconti, 2016).

There are various factors influencing supply and demand of financial services to low income earners and firms. Low bank branch penetration in rural areas is mentioned among factors retarding financial inclusion efforts. Banking institutions being the main financial intermediaries have not invested much into provision of financial literacy to enable underserved communities engage with banking services. In addition, traditional banking system tend to be unfriendly to individuals who are poor and do not own any resources that could guarantee loans in most developing countries. Consequently, the rural and semi urban poor people finds themselves excluded from the realm of accessing financial services (Allen, et al, 2014). Furthermore, existence of stringent regulations and policies introduced by government is considered to adversely influence efforts in place of encouraging financial inclusion. In Tanzania for example, there have been appreciable efforts to enhancing financial inclusion through mobile financial transactions. Existence of such services have encouraged majority of rural and urban people engage with various financial services. However, recently the government of Tanzania in its 2021/2022 budget has introduced taxes in mobile money transactions aiming at widening and increasing revenues. These efforts intended to enable government increase financial resources for various services to its citizens. However, such government decision has been perceived negatively by various stakeholders in a view that, it is likely to decelerate efforts of increasing breadth and depth of financial inclusion to majority of low income and disadvantaged individuals. Consequently, many operators of mobile money transactions have unexpectedly experienced reduction of users in this type of services delivery. Currently, evidence still shows most low income people both in rural and urban are continually in a view of disengaging from using mobile financial transactions. Therefore, this may results in deteriorating efforts already in place to widening provision of financial services among individuals in the country (Maurer, 2012).

Barriers of Financial Inclusion to Women

Existing research globally reveals that women have lowly been accessing formal financial services compared to men. Situation is the same in Africa in which available data shows that 4 out of 5 women are lacking access to financial services. The challenge to the use of financial services among individuals is more critical in rural than urban areas due to effective distance, making high cost in facilitating transportation infrastructure and low mobility of population Triki and Faye, (2013). The need to dealing with the differences in the use of financial services between men and women is necessary to enhance inclusive development. On the other hand, full financial inclusion is unlikely to take its full effect without incorporating existing diverse needs of consumers. Also presence of gender gap in financial inclusion indicates that mainstreaming gender is hardly enough to build inequalities among women's financial inclusion (UNCDF, 2017). The roadblocks to effective execution of financial inclusion among low income individuals particularly women and other disadvantaged groups can be classified into four aspects. These include demand side, supply side, regulatory and infrastructure and societal barriers.

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The demand side factors as drawback to financial inclusion encompasses limited financial capability of individuals, financial illiteracy (limited knowledge of existing financial products), lack of assets for collateral, remoteness to available financial institution, inability to ownership of mobile phones and lack of trust. It is argued that lack of trust is substantial challenge to countries which do not exercise strong regulation (supervision) of banking and non-banking financial institutions. As a result consumer protection and disclosure requirements are disregarded which deteriorates public's confidence to using various financial products (Kempson, et al, 2004). Moreover, Triki and Faye, (2013) revealed majority of women are engaged with informal sector for over 90 percent making them unqualified to formal credit services from formal financial institutions. In addition, most of them do not have ownership titles to enable them access, use and benefit from various financial products and services.

On the other hand, the supply side drivers as constriction to inclusive financial services among women and other disadvantaged groups include banks' risk aversion, high operational costs related to maintenance of small deposits or loans, high costs to extending financial services in small towns or rural areas, absence of convenient access points and presence of bank charges. Presence of such factors are considered to pose unbearable bottleneck to enhancing financial inclusion. Banking institutions for example have been nailing higher charges as operation costs to their clients, rendering them to be reluctant to engage in using such services (Yoshino and Morgan, 2016). Therefore, these factors contribute significantly towards impinging wide spread access of financial services to the needy population.

Similarly, Allen, et al, (2014) identified existing regulatory and infrastructure to be among obstacles undermining effective financial inclusion. The drawbacks are inadequacy of secure and dependable defrayals and settlement systems, unavailability of satisfactory bank branches, and lack of online financial services due to poor internet infrastructures. In addition, some of regulatory factors impinging financial access involves posing stringent requirements to opening braches in rural areas. Moreover, presence of capital adequacy and supervisory rules that limits introducing broad range of products such as small deposits, loans and other financial products. On the other hand, other banking and nonbanking institutions have been reluctant of introducing regulations allowing for alternative collateral for overcoming women's constraints of limited asset accumulation (Ikpefan, at el, 2016).

Furthermore, Demirgüç-Kunt and Klapper, (2013) explained societal factors as constraints to financial inclusion involves discrimination against women regarding access to financial services. It has been pointed out that most women in developing countries face legal restrictions in their ability to head households, work and receive inheritance including prohibition to own an account. In addition, Were, at el, (2021) maintains that men have been dominating in decision making at various levels from family, village and community which triggers to low consideration of women participation in accessing financial services such as credit products. Besides, rural women have partially been informed about various banking and non-banking financial services available for them. Consequently, rural women business owners fail to benefit from existing financial services hence increasing rates of financial exclusion. On the other hand, there are some individuals who decides not to use formal financial products and services since it is against their customs and traditions. Therefore, financial education is needed to help them realize the benefits of using financial services from regulated institutions for building their financial base and economic development.

Costs and Implication of Financial Exclusion

It is obvious that effective utilization of financial services play significant role in people's lives. Majority depends on bank services such as bank accounts to facilitate payment of various bills, receiving salaries, running their businesses. In addition, financial institutions services such as mortgages, insurance and pensions have been helpful to users to purchase homes, retirement serving and protect from various risks (NFIF, 2017). However, there are individuals lacking access to financial products and services from

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banking and nonbanking financial institutions. Those who are financially excluded have been facing difficulties to plan for the future, including incurring significant costs to manage their money in the long run. Financially excluded people for example cannot access affordable financial products and services that are accessible at their disposal. They face hurdles to obtain credit and other financial services since they lack operating account. Financial exclusion therefore add costs on various services to individuals for being vulnerable into illegal and/or high lending cost together with encouraging socioeconomic exclusion (Choudhury and Bagchi, 2016).

Kumar, (2017) considered two aspects of financial exclusion which are intricately interwoven. Firstly, financial exclusion introduces cost on individual or company in terms of missing available opportunities to excel without access to finance or credit. Secondly, at community or national perspective, financial exclusion pulls in combined loss of output or welfare in which the society or country likely not to realize its full growth potential. On the other hand, further observable consequences of financial exclusion includes cost and security related issues in managing cash flow and defrayments, compromised living standard due to lack of access to short, medium or long term loans. Also other effects include higher costs associated with using informal credit sources, hence escalated exposure to unethical, predatory and uncontrolled providers. In addition, financially excluded people are further vulnerable to uninsured risks, including long term or prolonged dependence on informal sources of finances compared to regulated financial institutions offering affordable and wide range services (Anderloni, at el, 2008). In developing countries, individuals most likely to be unleashing from not using financial services include unemployed, those incapable to perform through sickness/disability and single pensioners. Generally, people who are prone to be unable to access financial services are the poor and low income category in the community.

Financial Exclusion and its Dimensions

There are several dimensions of impact from being financially excluded. The analysis in this study has identified three aspects of dimensions as discussed below.

Financial consequences dimension, this reflects financial access difficulties to individuals without operating bank account when processing cheques written in their name from a third party. It therefore requires them to pay extra cost to enable process and effect payment to beneficiary while incurring more time to complete transactions. On the other hand, the same people are prone to facing challenges to payment of various bills particularly when cash settlement are out of reach. Conroy, (2005) posits that individuals without stable relationship with financial institutions incur higher cost in performing occasional payments of taxes, utility bills, and bank transfers to third persons. Also, other costs including raising financial complications to day-to-day cash flow management and non-financial services provided by regulated financial institutions.

Secondly, Social consequences dimension of financial exclusion include absence or reduced links that accelerate individuals feeling of togetherness in the society. Being financially excluded creates a sense of being disjoined with other individuals or members in group who realizes some privileges in using banking and nonbanking services. Bayot, (undated) reveals that lacking access to effective use of financial products may lead to self-isolation and deprecation from social connection and relationship with friends and family. On the other hand, surviving without engaging with formal savings can be problematic in two observations. That people who save via informal means hardly benefits from rate of interest and tax advantages compared to ones saving in formal financial institutions. More importantly, informal savings are much less secure than formal saving facilities.

The impact of lacking formal saving avenues means escalating to non-formal lenders, which results to adversely two consequences. Firstly, exposure to higher interest rates charged by informal lenders and secondly, borrowed customers are likely to be unable to manage regular repayment to their creditors (Krumer-Nevo, et al, 2016).

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Finally, Socio-economic consequences dimension of financial exclusion. This has wider implication due to failure to access financial services. The consequences amount to being unable to fully utilize opportunities existing along with economic activities and social welfare for enhancing distribution of incomes and wealth. Individuals who are credit excluded from banks or other mainstream financial providers for example face negative consequences when interacting with sub-prime lenders. These have higher charges and likely to have unstable terms and conditions of their products and services (Barboni1, at el, 2017). Moreover, it is evident that people who are not linked to financial institutions services face difficulties to build saving capacity from their cash flows. When saving habit is not groomed via operating a bank account, individual's ability to coping with small financial shocks do not exist. Consequently, a prolonged state of poverty and financial hardship is extended to not only an individual but community at large, hence decelerating initiatives to socio-economic development. Also increased financial illiteracy and poor financial habits may be the cause of financial exclusion. This leads to poor financial planning coupled with underutilization of existing economic opportunities for healthier retirement in their old age (Choudhury and Bagchi, 2016).

Constraints to Reduction of Financial Exclusion

The constraints in reducing impacts of financial exclusion among people in developing countries are attributed by several factors. Akinlo & Egbetunde, (2010) reveals instability in income is considered one of the factors accelerating financial exclusion. Existing evidence from developing countries indicates that due to instability in income, most people are unable to afford open bank account or rather maintain the use of other financial instruments. In addition, unstable sources of income culminates into being unable to properly plan for their fewer cash flows or benefiting from available financial and nonfinancial products and services (AFI, 2016). Similarly, saving habit existing within the family positively influences financial exclusion. Existing literature indicates that, usually people inherit prevailing saving habit of various precious assets (especially cash) from their senior elders/members in the family or society. When such saving culture is deep rooted among members it becomes a reason that triggers financial exclusion. As such the family and community finds no motives to adapt new saving methods through opening bank accounts to enable benefit from other financial services and products. Therefore, lack of financial inclusion in the family makes individuals continually retain such custom of not using banking and nonbanking institutions to facilitate their transactions and other services (Zulfiqar, 2016).

Lack of financial literacy; it is argued that financial education of an individual influence usage of financial services. Pascaline Dupas, at el, (2018) adds that with higher level of education/ financial literacy financial exclusion drops. People with low education are unlikely to get confidence of interacting in the financial system, hence financially excluded. Therefore, provision of financial education regarding importance of financial and non-financial products and services raises awareness to participate in the financial markets. This in turn encourages them to participate and benefit from different financial instruments, thus increase financial inclusion level in the community. Ikhide, & Alawode, (2002); Ndanshau & Njau, (2021) maintains that location of an individual or financial institution influences usage of financial services being offered. Consumers of financial products are in different locality – urban, semi urban and rural areas. It is obvious that rural dwellers have less financial inclusion compared to urban and semi urban dwellers. It is also known fact that opening more branches by financial institutions in rural areas is not profitable from supply –side perspective. Consequently, this maximizes rate of financial exclusion upon people living in peripherals compared to urban and semi urban who are rated high in financial inclusion. Therefore, existing low level of using financial services influences efforts in place to broaden financial inclusion. It also retards measures to minimize prevailing challenges of financial exclusion for sustained socio-economic development.

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Best Practices to Curb Impacts of Financial Exclusion

Presence of individuals and communities that are financially excluded has attracted many practitioners, policy makers and researchers. These stakeholders have been working jointly to come up with collective strategies to minimize existing gap between beneficiaries and victims excluded from using financial products and services. Increase in policy interest in recent years has been matched by an upsurge in financial inclusion initiatives, particularly among voluntary sector organizations, in support of the financial services industry Isukul, & Dagogo, (2018). Although there exist some efforts among developing countries which intends to control the challenges of financial exclusion to unbanked individuals. It is imperative for various stakeholders consider implementation of various preventive practices accelerating financial exclusion to the people concerned. Therefore, introduction of policies and regulations oriented toward encouraging wider yet inclusive finance by all regulated financial institutions service providers seems necessary. The institutions such as microfinance and insurance companies, social security institutions, state-owned and private banks, post offices offering financial services, cooperative societies and community organizations. Effective operationalization of such institutions could aid to reduce the impact and severity of financial exclusion especially in rural and semi-urban communities. In addition, other strategies required for enhancing broader outreach of financial inclusion are briefly explained below.

Existence of Innovative Financial Products and Services

Efforts on designing innovative products and services including various microproducts, such microcredit and micro insurance, agent banking, and micro branches could aid to reduce financial exclusion. Llanto, (2015) maintain that insurance companies and mutual benefit associations helps to provide micro insurance and similar products to assist low-income sectors deal with vulnerability risks and catastrophic events. Also, the use of agents or correspondents can help overcome problems of distance and shortages of branches. These services help promoting business correspondents and provide connectivity for financial services in remote and under banked locations (Demirgüç-Kunt, et al, 2012).

Availability of Innovative Delivery Technologies

Introduction of such technologies including electronic money transactions, internet banking and mobile banking has significant contribution in bridging the distance while saving time in provision of financial services to rural people. Existence of telephone banking has great potential due to rapid diffusion of mobile phone ownership to majority of people in developing countries (Clamara, 2014). In Tanzania for example, presence of mobile phones have positively facilitated access to banking services through payment of bills and credits to and from banking and nonbank financial institutions. On the other hand, FinScope, (2017); Lotto, (2018); Llanto, (2015) underscored that e-money accounts and e-money transactions have grown significantly in the past few years to most developing countries, in which active e-money agents facilitate cash –in/out transactions in urban, semi urban and rural areas. This has been a necessary vehicle to widen financial inclusion to majority of the underserved and disadvantaged groups.

Enhance Credit Access through Innovative System

Majority of financially excluded people are neglected from accessing credit services from formal financial institutions. The unbanked poor people lack basic accounting information, bankable collateral and access to credit information. Existence of credit innovative system would provide and encourage more information such as credit guarantee systems, rules to expand eligible collateral and credit data base in order to ease informational asymmetries and increase banking and nonbanking institutions willingness to lending. Similarly, provision of financial education to micro-small and medium entrepreneurs (MSMEs) would encourage them keep better records and enhance regular repayments after credit provision. Therefore, presence of innovative credit system would easily facilitate access to credit and other services to the needy

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individuals while unlocking barriers from financial exclusion (Villarreal, (2017); (Kumar Kara & Bali Swain, 2013).

Conclusion and Recommendations

This study focused on reviewing and analyzing various academic articles related to financial inclusion in Tanzania and other developing countries. The current study has contributed to the existing literature distinctly. The contribution revealed has enabled answering research question such as “what various researcher have done regarding financial inclusion in Tanzania and other developing countries? Also, to what extent had the published academic articles helped in addressing the challenges associated with financial exclusion?” Practically, the analysis in this study concludes that, to a minor extent published works have enlightened on the existing challenges in the deficiencies of financial exclusion and its impacts in social-economic development in Tanzania. Lack of a clear and explicit policy guiding on strategies to widening scope of financial inclusion need to be considered collectively among stakeholders. Also, existing gap between supply and demand of financial services requires great attention, especially in rural and semi urban areas due to low population density including challenging infrastructure development. Furthermore, absence of explicit consumer protection regulation in Tanzania and other developing countries pose significant challenge to consumers, from aggressive practices of financial service providers.

Following these observations, this paper put forth the following recommendations.

The government should provide clear guiding policy to enhancing financial inclusion efforts. Emphasis need to be directed to all financial institutions extending financial and non-financial services on various products to underserved individuals and firms. Secondly, the policy makers and financial services providers have to initiate innovative infrastructure system that would promote extension of financial services to peripheral areas at affordable operating costs. This will facilitate more outreach of financial products to majority of unreachable individuals and encourage income generating activities. Thirdly, there is need for establishing and operationalizing the consumer protection regulation among financial services providers. In so doing will urge them ensure customers do not become victim of their competitiveness to marketing and use of financial products and services. Finally, there is need of establishing variety of financial providers, products and technologies that would be inclusive in accommodating various categories of individuals/firms excluded from the main stream financial services regardless of geographical location.

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Export and Economic Growth in Tanzania: A Granger Causality Analysis

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Abstract

This study examines the causal relationship between export and economic growth in Tanzania using time series data for 20 years starting from 1999 to 2018. The Gross Domestic Product (GDP) was employed as a measure of economic growth, while export was measured by the export of all products (from agricultural, industrial to mineral products). In the data analysis, before running the main analysis the important diagnostic tests were conducted. These included the Augmented Dickey Fuller (ADF) test and the Philip Peron (PP) tests for unit root / stationarity and the Johansen cointegration test to test for the long run relationship between the variables. The results of the diagnostic tests suggested the application of the unrestricted Vector Autoregression (VAR) analysis which was thereafter followed by the Granger causality test. Findings revealed that exports have a significant influence on the Tanzania's economic growth, which implies that increase in exports provide the market for the domestically produced goods and services and thus promote more production and economic growth. The study further confirms that; economic growth does not significantly influence exports from the country. However, it was further revealed that the causality between the export and economic growth is not bi-directional. The study recommends that policy makers should have strategies on how to increase diversity of the exported products and increase local production capacity.

KeyWords: Exports, Economic Growth, Causality, Tanzania.

Introduction

Economic development is very important to any country and it is regarded as one of the main focus of any government in power. In line with this, export is also considered as one of important engine for the economic growth for a country. Export led growth is considered as the development strategy which focus on increasing productive capacity by engaging international markets. Exports provide one of the most reliable source of foreign exchange, which is very useful in importing capital goods hence enhancing capability to produce more goods and services and compete in outside world as well as creating more job opportunities. As contended in the study by Jordaan and Eita (2007) Exports can integrate country's economy to the world economy and help to absorb the impact of external shocks on the internal economy. They also added that exports ease pressure on the balance of payments and generate much-needed job opportunities. According to Keynesian arguments, growth in country's exports leads to income growth through the foreign exchange multiplier in the short run. Moreover, more foreign exchange obtained from exports, can contribute to economic growth which result from the multiplier effects realized through importing manufactured goods, capital goods as well as technology (Shah et al., 2015).

Through export the objective of rapid economic development can be realized in developing countries such as Tanzania. As contended in the argument of classical economic theories of Adam Smith and David Ricard the need for international trade is inevitable in realizing economic growth and there is more economic gain from specialization (Shah et al., 2015). Evidence can be drawn from fast growing economies from Asian countries. Tsen (2006) added that East Asia economies provide a good example of the importance of the sector to economic and development as well as signifying the role of the sector as the engine growth. Export is well known for its contribution in creating employment opportunities as well as the main source of foreign currencies to the country.

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Like in many African countries, after independence Tanzania inherited economy whose exports were largely dominated with primary products such as agricultural products, minerals, which was under private led capitalist economy. In 1967 the country decided to take a different direction and pursued Africa socialism “Ujamaa” where all means of production were owned, controlled and managed by the state, in this stage the government had a role not only to promote export but also to participate in exportation of all products. To enhance her capacity to export the government adopted import substitution industrialization strategy which resulted into many state owned firms. However, due to trade liberalization in the mid-1980s the country started to re-embrace private sector, the move allowed the market led economic system which allowed private sector to take charge of production as well as exportation (Bwana and Omary 2019). During late 1980s and early 1990s the government adopted more relaxed approach and introduced more incentives (such as tax holiday for foreign investors, export processing zones etc) to attract and promote exports. For example, among other reasons for designated export processing zones were established in order to attract investments, create jobs opportunities, focus on export oriented manufacturing, increase number of products in the country’s export structure and facilitate transfer of technology. Therefore, effort made so far and those continue to be done indicate that export has a very significant contribution to the economic growth of Tanzania, though research validating such causal relationship has been given little attention in Tanzania. According to World Bank report the total Tanzania export to the world in 2018 was USD 3,669,212,440 while in the year 1998 it was USD 630,078,400 an increase of 482.3%. (<https://wits.worldbank.org/countrysnapshot/en/TZA>)

General objective of this paper is to examine the causal relationship between export and economic growth of Tanzania for the period of 1998-2018. Specifically, the study focuses on testing whether exports Granger causes economic growth, or whether the causality runs from economic growth to exports, or if the causality between the export and economic growth is bi-directional. Significance of the study can be rationalized from the fact that Tanzania has undergone through various economic reforms which some aimed at improving production and enhancing export capacity and still literature evident that there is uncovered gap regarding the analysis of the causal relationship between export and Tanzania economic growth. It is further worth to note that the determination of the direction of causality between the export and economic growth can help in formulating the best trade and economic strategies. The remaining parts of this paper is structured as follows; *section two* comprises literatures regarding the export-led growth strategy in different countries; *section three* explains the Granger causality testing and other analytical techniques employed in the study; *section four* presents findings and discussion in relation to previous studies, while conclusion, recommendations as well as policy implications is covered in *section five*.

Review of Literature

There is a good number of literatures which try to examine the causal relationship between the export and the economic growth, though the result is mixed and the conclusion is still subject to debate. Generally, empirical studies indicate that the hypothesis of the export led economic growth can be tested from two angles, such as the export impact on group of countries (through cross section study design) and exports impact on the economic growth of a single country (designed through cross countries time series) (Abbas, 2012). Therefore, this study adopted a second approach by testing the impact of Tanzania exports to the economic growth. Like in many African countries it worth to note that, Tanzania comparative advantages depend on the processing of the primary products. Jordaan and Eita (2007) added that in any country the growth of the export sector begins with a readily available inputs supply which feeds the manufacturing sector.

Previous similar studies had also been conducted outside Africa, just to mention few for example Pistoiesi and Rinaldi (2012) examined the relationship between imports, real exports, imports and GDP in Italy starting from 1863 to 2004, cointegration and causality tests were used. The findings record that there is existence of cointegration but the direction of causality is not consistent since it tends to vary over time. Specifically, during the period prior to the First World War there was import growth led GDP growth,

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which turned into GDP-led export growth, while during post second world war bidirectional causality was observed.

Mah (2005) investigated causality between export expansion and economic growth in China over the period 1979-2001 where error correction model revealed a bi-directional causality between the variables under review. Shan and Sun (1999) tested the causality hypothesis of export led growth for USA the result validated a two ways Granger causality between the variables. In a study by Ramos (2001) Granger-causality between exports, imports, and GDP were investigated in Portugal for the period 1865-1998. Findings revealed no significant causality between the variables under review. In a study conducted by Lorde (2011) the validity of export led growth hypothesis for Mexico was tested using cointegration and Granger causality, the study period covers the period of 1960-2003. Empirically findings revealed only short run causality from export to economic growth. In long run, findings revealed inverse causality running from economic growth to exports.

In Japan, Hatemi-j (2002) investigated causal relationship between export growth and economic growth by employing augmenting Granger causality test, where the study period covered 1960-1999. The findings revealed bi-directional causality run between the variables. Sharazi and Manap (2004) investigate impact of export on economic growth of Pakistan, researchers employed multivariate Granger causality for the period of 1960 to 2003. Findings confirm that export have impact on the economic growth of Pakistan.

Studies investigating export and economic growth have also been conducted in Africa, for example Ukpolo (1998) carried out a Granger causality test to investigate the relationship between exports and economic growth in South Africa the study period covered 1964-1993. Result fail to confirm the export led growth as reverse causality is observed. Jordaan and Eita (2007) conducted a study testing the hypothesis of export led growth of Botswana over the period 1996-2007 the analysis of which the Granger causality test was employed, finding validated the existence of bi-direction causality between export and GDP. Bouoiyour (2003) examined the existence of the relationships between trade and growth in GDP in Morocco for the period 1960-2000 where the VEC model was employed. The findings revealed that imports Granger caused exports and both imports and exports Granger caused GDP. In a study by Elbyedi, Hamuda and Gazda (2010) export led growth was tested in Libya over the period 1980- 2007, VECM was employed and the result recorded strong support for existence of long-run bi-directional causality between the two variables (export and GDP). Generally, findings regarding impact of export led economic prosperity of specific countries revealed mixed results as in some findings it was reported that there was strong impact of export on GDP while in some studies research failed to confirm the validity.

Methodology

The main objective of this paper is to analyse the causality between exports and Gross Domestic Product (GDP) in Tanzania. The study utilizes the times series data for 20 years covering the period between 1999 and 2018. The data were obtained from the World Development Indicators (WDI) published by the World Bank. The data for the two variables used were expressed in USDs. To estimate the causality between the two variables, the study made the use of the Granger causality approach, (Granger, 1969).

According to this approach, a variable is said to Granger-cause another variable if the past and present values of that variable can predict the other variable, (Jordaan & Eita, 2007). In our case, exports are said to Granger-cause GDP if the past and present values of export can predict GDP. Since it is our intention to test the two ways causality between exports and GDP, the GDP will also be said to Granger-cause Exports if the past and present values of GDP can predict exports. Therefore, the Granger causality between Exports and GDP can be expressed as seen in equations 1 and 2.

$$Exports_t = \sum_{j=1}^n \phi_j Exports_{t-j} + \sum_{j=1}^n \alpha_j GDP_{t-j} + \varepsilon_t \dots\dots\dots 1$$

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$$GDP_t = \sum_{j=1}^n \gamma_j GDP_{t-1} + \sum_{j=1}^n \beta_j Exports_{t-1} + \mu_t \dots\dots\dots 2$$

Equation 1 simply means that Exports are determined by their past level and the past level of GDP while equation 2 means that GDP is determined by its past level and the past level of Exports. The two equations will be estimated by testing two hypotheses stated as follows:-

- i. $H_0: \alpha_j = 0 ; j = 1 \dots \dots \dots n$ Or GDP does not Granger cause Exports.
- ii. $H_0: \beta_j = 0 ; j = 1 \dots \dots \dots n$ Or Exports do not Granger cause GDP.

Rejection of all the two null hypotheses means that there is bidirectional causality between exports and GDP. Exports Granger cause GDP while GDP also granger causes exports. However, if only one hypothesis is rejected then there is a unidirectional causality. If only the first hypothesis is rejected it means that GDP granger causes Exports and if only the second hypothesis is rejected then it means that only Exports granger causes GDP.

Since this analysis involves times series data which are inherently integrated of order one (I (1)) and may be cointegrated, it was important to test the stationarity of the variables before proceeding further. The Augmented Dickey Fuller (ADF) and the Philips Peron (PP) tests were used to perform the unit root test or the stationarity of the data. Under this, the null hypothesis was that the variables had unit root / were not stationery. The rule of thumb requires us that, if the variables are not stationery at level, but are stationary after the first difference; that is if they are I (1); the Johansen cointegration test has to be performed. If again the variables are cointegrated, the rule requires to opt for the Vector Error Correction Model (VECM) instead of the unrestricted Vector Autoregression (VAR) followed by the Granger causality test, (Johansen & Juselius, 1990; Søren Johansen, 2000). If the Johansen cointegration test proves nonexistence of cointegration however, the unrestricted VAR can be run without necessarily running the VECM, (Søren Johansen, 2000). The selection of the lag length for all estimations was based on the minimum Akaike Information Criterion (AIC), Schwarz Bayesian Information Criteria (SBIC), and Hannan-Quinn Information Criterion (HQIC).

Results and Discussions

The results of the ADF were as presented in table 1. From the table we can see that Export was not stationary at level. However it turned to be stationery after the first difference. GDP was found to be stationary at level and therefore the first difference was not undertaken.

Table 1: Augmented Dickey Fuller Unit Root Test

Variable	At Level		First Difference	
	Test statistic	5% critical value	Test statistic	5% critical value
Exports	0.402	-3.600	-4.210*	-3.600
GDP	-3.796*	-3.600	-	-

* indicates rejection of the null hypothesis in favour of the alternative that there is a unit root at 5% significance level.

To confirm the results obtained by running the ADF, it was necessary to perform another test. The PP test for unit root was tested and the results were as presented on table 2.

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Table 2: Philips Peron Unit Root Test

Variable	At Level		First Difference	
	Test statistic	5% critical value	Test statistic	5% critical value
Exports	-1.423	- 12.500	-17.248*	- 12.500
GDP	0.151	- 12.500	-13.812*	- 12.500

* indicates rejection of the null hypothesis in favour of the alternative that there is a unit root at 5% significance level.

From the PP test results shown on table 2 we can see that all the two variables were not stationery at level. However all of them become stationery after the first difference showing that they are I (1). Since all the variables were I (1) based on the two unit root tests, it was necessary to run the Johansen cointegration test to test for the long run relationship between the two variables using the Johansen full information maximum likelihood. In this study, the cointegrating rank is tested using the Trace statistics and the maximum Eigen value developed by Johansen and Juselius, (Johansen & Juselius, 1990). Table 3 shows the results of the Johansen cointegration test. From the table it can be observed that at rank 0 showing the null hypothesis that there are 0 cointegrated variables, both the trace statistics and the maximum Eigen value are less than the 5% critical values. This suggests that we cannot reject the null hypothesis that there are 0 cointegrated variables shown by the respective maximum rank.

Table 3: Johansen Cointegration Test

Maximum Rank	Trace statistic	5% Critical value
0	6.2390*	15.41
1	0.2014	3.76
Maximum Rank	Max statistic	5% Critical value
0	6.0376*	14.07
1	0.2014	3.76

* indicates the failure to reject the null hypothesis that there are zero (0) cointegrated variables of at 5% significance level.

Since the Johansen cointegration test shows the absence of cointegration between the variables, it follows therefore that we can estimate the Vector Autoregression (VAR) instead of the Vector Error Correction Model (VECM). The VAR was therefore estimated and it was followed by its diagnostic test which is the Granger causality test. The results of the Granger causality after estimating the VAR were as shown in table 4.

Table 4: Granger Causality Results

Null Hypothesis	Wald Statistic	Probability
Export does not cause GDP	3.9635*	0.0433
GDP does not cause Export	0.0718	0.9310

* indicates rejection of the null hypothesis in favour of the alternative that Export Granger causes GDP at 5% significance level.

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From the granger causality results it can be observed that since the probability value under the first null hypothesis was below 0.05 critical value, we were able to reject the null hypothesis in favour of the alternative that Exports Granger caused GDP in the study period. However, under the second hypothesis, since the probability value was greater than 0.05 critical value, we failed to reject the null hypothesis that GDP does not Granger cause exports. Similar studies which have revealed the same results that Exports Granger causes GDP in a unidirectional way include:- (Akoto, 2016; Jordaan & Eita, 2007; Yang, 2015) among others. However, some other related studies have revealed the opposite unidirectional relationship showing that GDP granger causes Exports. These include:- (Abbas, 2012; Dudzeviute, Šimelyte, & Antanavičienė, 2017). Other studies have shown bidirectional causality between exports and GDP. An example of these is the study by Dudzeviute et al., (2017) which showed a bidirectional causality between exports and GDP in Denmark.

Conclusion and Policy Implications

From the findings of this study we can conclude that, exports have a significant influence on the Tanzania's economic growth measured by GDP. This likely implies that the increase in exports widens the market for the domestically produced goods and services and thus fuels more production and economic growth. On the other hand, it can also be concluded that the economic growth does not significantly influence exports from the country. This likely suggests the fact that the economic growth reflected by the increase in the monetary value of goods and services produced, may not necessarily be translated into the increase in exports. For developing countries such as Tanzania, a large proportion of what is produced is consumed domestically and may not be exported. These results signal the need for policies in the country to focus on the export driven-economic growth. Exports have proven a significant influence on the economic growth and therefore, export promotion is likely to fuel economic growth in the country. It is expected that, promoting more exports will encourage the domestic producers to increase production and eventually this will fuel economic growth. The study recommends that policy makers should have strategies on how to increase diversity of the exported products and increase local production capacity which have spillover of technology as well as other externalities. The study suggests that natural extension of this study should try to establish diversity and nature of the export and their respective impact to the economic growth. Future research may also test impact of other variables such as foreign direct investments on the Tanzania economic development.

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Quality of Services Provided By Dar es Salaam Rapid Bus Transit (Dart) and Implications on Customer Satisfaction in Tanzania

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Abstract

The introduction of BRT in Tanzania and Dar es Salaam in particular was widely expected to alleviate the challenges facing public transport. This paper intended to investigate the quality of services provided by Dar es Salaam Rapid Bus Transit (DART) and implications on the customer satisfaction in Tanzania. Specifically, the paper ascertained the level of customer satisfaction based on the quality of services provided by Dar es Salaam Rapid Bus Transit (DART) in Tanzania. The paper utilized the Service Quality Scale (SERVQUAL Scale) based on the mixed approach research design. Data were analysed through SPSS software for quantitative data collected using questionnaires, interviews, focus group discussion and observation while qualitative data were analysed manually based on the formation of codes that triggered emerging themes and categories. Accordingly, findings indicated that elements mostly contributing to good quality of service were not at its place as evidenced by long waiting hours, overcrowding, expensive fare costs and unpleasant ticketing process. However, bus drivers' behaviour as service deliverers seemed to be appreciated by most of BRT service users. These findings provide insights to the policy makers in public transport systems as well as the transportation sector as a whole for the purpose of improving improve the DART services in Tanzania.

Keywords: Quality of Services, Dar Es Salaam Rapid Bus Transit (DART), Customer Satisfaction.

Introduction

Public transportation systems are the effective and efficient means of moving larger numbers of the people especially in densely populated urban centres in the city. In addition, to ensure the wellbeing of its users, the public transport plays a vital role in the productivity of cities which in turn has a direct bearing on individual livelihoods as well as the national economies (World Bank, 2001; Lyndon and Todd, 2006). Public transportation is passenger transportation services, usually local in scope that is available to any person who pays a prescribed fare. It operates on established schedules along designated routes or lines with specific stops and is designed to move relatively large numbers of people at one time (Rodrigue et al., 2006). More specifically, improvement of urban public transport is critical given the current rapid urbanisation worldwide that requires among other things affordable and good quality public transport services; lack of which leads to economic, social, and physical isolation, especially among low-income communities located in the city outskirts with inadequate access to public transport (Nkurunziza et al., 2012). Cities all over the world have gradually developed a wide range of public transport systems to commute the mass between one place to another or from one city/town to another. The common means of public transport in most cities and towns include motorbike taxis, minibuses, metro, Bus Rapid Transit, trains and bicycles. Rail transport is said to be the backbone of transport in most major cities of the developed world (Yerrell et al., 1990). Big cities such as London, Berlin, New York City, Vancouver, Montreal, Paris, Copenhagen, Madrid and Barcelona have developed a well-organized system of electric trains that serve as the fast and reliable transport system (Davies, 2015).

In Africa, BRT is gaining its root and seven cities all over the continent have implemented the project. The first system was opened in year 2008 and since then, six others BRT systems have been inaugurated. Currently BRT systems are in operation in Lagos (Nigeria), opened in March, 2008; Johannesburg (South Africa) opened in

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August, 2009; Cape Town (South Africa), opened in May, 2011; George (South Africa), opened in August, 2015; Dar es Salaam (Tanzania), opened in May, 2016; Marrakech (Morocco), opened in November, 2016; and Accra (Ghana), opened in November, 2016. In Dar es Salaam-Tanzania, the inauguration of BRT in May, 2016 was one of the big steps to provide affordable transport systems that could alleviate road congestions and frequent vehicle accidents. BRT was expected to improve the carrying capacity and reliability relative to a conventional bus system. Dar es Salaam is among the rapidly growing cities in Africa pointing to the need to improve the quality of the public transit services to meet the ever-increasing needs and expectations (Kumar & Barret, 2008). However, for a period of 14 years (1988 to 2002), the population of Dar es Salaam Region has increased by 82.8 percent. Population of Dar es Salaam Region has increased by 75.5 percent from 2,487,288 persons in year 2002 to 4,364,541 persons in year 2012 Census (NBS, 2012). The population increase was recorded in all districts from the year 2002 to 2012 Census; the largest population change was recorded in Ilala District Council (92.2 percent) while the smallest was recorded in Kinondoni District Council by 63.8 percent (NBS, 2012).

The Government of Tanzania initiated the construction of BRT infrastructure for the first phase in April, 2012 and completed in December, 2015 where by the project has a total length of 21.1 kilometres with dedicated bus lanes on three trunk routes with a total of 29 stations (Ahferom, 2009). Currently, the route is serviced by a fleet of 140 Chinese built Golden Dragon buses, providing express and local service for 18 hours daily from 05:00am to 11:00pm. BRT system includes roadways that were dedicated to buses, and gives priority to buses at intersections where buses may interact with other traffic; alongside design features to reduce delays caused by passengers boarding or leaving buses, or purchasing fares. (Africa development bank, 2015). The proposed BRT system, branded Dar es Salaam Rapid Transit (DART) was to operate on specially-designated infrastructure and was planned to replace the inefficient and unpredictable *Daladala* (usual public transport buses) which were characterized by lack of professionalism and safety, lack of reliability, long travel times, overloading of passengers, poor sitting and standing conditions, etc (Kanyama et al., 2004; JICA, 2008). Since, the first phase of the project was supposed to have 305 buses in operation, but there were only 140 buses at the launch of the operations. In February, 2018, DART purchased new 70 BRT buses to improve their operations with an anticipation to purchase 95 buses more buses to reach the required number in the first phase. The procurement of 70 buses was not successful due to the fact that the buses were still at the Tanzania Port Authority (TPA) over tax issues (The citizen 21st Dec. 2018). The DART project seeks to improve the quality of public transport in Dar es Salaam and address all challenges facing the public transportation in the city (JICA, 2008 & Africa Development Bank, 2015).

Problem Statement

Bus Rapid Transport system under supervision of Dar es Salaam Rapid Transit (DART) is expected to dominate mass transport system in Tanzania especially in Dar Es Salaam city and many people depend on this type of transport in Tanzania. Although the project had been completed for the first phase, Bus Rapid Transport has an average carrying capacity of 160,000 passengers per day when buses are operating without any technical interference or flood at Jangwani area in Dar es Salaam-Tanzania. In order to serve effectively its purpose, ordinary commuter buses (*Daladala*) plying between Mbezi, Posta Mpya and Kariakoo in Dar es Salaam-Tanzania were compelled to change the route to give an opportunity for Dar es Salaam Rapid Transit (DART) to operate. In the same vein, using private vehicle to traverse the Dar es Salaam City in Tanzania was also discouraged so that people could opt for Dar es Salaam Rapid Transit (DART) over their private vehicles to go for work. In this regard's customer satisfaction was supposed to be at the core of the urban public transport in Tanzania. Customer satisfaction was defined as the measurement of how a certain product or service performs in relation to the customers' expectation (Hill et al., 2003). The higher the level of customer satisfaction with a product or service, the higher the perceived quality of the product or service. Therefore, this study was assessing various matters which were crucial in ensuring customer satisfaction which includes aspects like a bus fare, on-board comfort, staff behaviour and appearance, ticketing process, buss speed, safety, air ventilation, waiting time

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at bus terminals, number of buses, operating hours, information provision and general customer care provided by the service providers.

It was in that height where the subject of quality services and customer satisfaction became of paramount importance in this paper. Basically, any public transport system was established to meet the needs of the customers. Customers deserve a good quality transport system that enables them to reach the intended destinations and perform the intended activity. Customer satisfaction leads to loyalty hence high performance and revenue collection for the service provider. Previous researchers have identified a number of dimensions of the quality of service. This paper was adopting the five dimensions (tangibles, responsiveness, empathy, reliability, and assurance) approach widely recognized and acceptable set of service quality variables/dimensions were used to measure implications to customer satisfaction. This model was known as the Service Quality Scale (SERVQUAL Scale).

Research Objective

The general objective of this paper was to investigate the quality of services provided by Dar es Salaam Rapid Bus Transit (DART) and implications to customer satisfaction and addressing solutions. Specifically, to examine the level of customer satisfaction based on the service provided by DART

Significance of the Study

The paper was expected in providing insight to the policy makers in the public transport systems as well as the transportation sector as a whole. The paper will enable Dar es Salaam Rapid Bus Transit (DART) to improve their services to customers (Coyles & Gokey, 2002; Bolton & Drew, 1991). The improved transportation system will enable citizen to reach their destination safely and on time. The paper is also of vital important to potential investors and other stakeholders who are interested to invest in DART because customer satisfaction implies that a larger number of people will opt to use this public transport system hence provide mileage to investors. The government will collect taxes from both DART and investors to improve the wellbeing of the citizen.

Relevant Literature

Damayanto, Kenedi, and Yogatama (2018) conducted a study on performance evaluation of service quality of Trans Bandung Raya Bus (case study: route of Elang Terminal – Jatinangor Terminal) Indonesia. The study revealed that the total value of Trans Bandung Raya Bus performance is 23 and based on the performance standards of the Director General of Land Transportation. Decision is the "Good" category. The value of TBRB service quality (2.63) is smaller than the expected value (3.31) which means that TBRB has to improve its performance. The study concluded that service quality variables like empathy and assurance need to be improved.

A study by UNFPA (2007) observed that due to population growth in urban cities, almost all cities throughout the world experience expansion in their geographical space. This is due to different reasons worldwide which were expansions of the results largely as people move into suburban areas in search of a higher quality of living and people build illegal houses in the peripheries of the cities to render cheap rental conditions thereby attracting more and more settlers (Whitehand & Larkham, 1992; UNHABITAT, 1996).

A study by Mbara, T.C. (2002) revealed that, in many African countries, there is no national policy framework within which the urban transport sector that can be addressed. Thus, decisions taken in respect of urban transport are more often a reaction to a crisis. A coherent policy framework is needed to avoid undertaking projects in an ad hoc manner. An area which has greatly suffered is in respect of road maintenance. There is no policy in terms of routine and periodic maintenance and quite often roads are attended to when they are seriously damaged and the costs to restore them will be prohibitive.

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A study conducted by Mlambo and Khayesi, (2006) on the challenges of public transport in Dar es Salaam found that 81.9% of passengers rated operatives' language as poor or very poor. Incidences of abusive language were more pronounced during collection of fares, loading and disembarking of passengers. The study also found that 87.7% of passengers were not satisfied with neatness of bus crew. Apart from bad language and dirtiness of crew, noises from radio and music players were the third ranked nuisance on-board by passengers. Playing music or radio on a high volume, apart from disturbing passengers, led to misunderstanding, and therefore resulting in bad relationship between bus crew and passengers. All these factors contribute to the poor perception of commuters on the quality of services (Mlambo and Khayesi, 2006). Another issue with public transportation in Dar es Salaam is that it does not cater for passengers with special needs including people with disabilities. Also, there is no uniform quality approach for urban public transport and the concept of quality remains somewhat vague. Furthermore, there is no systematic effort within the public transport industry to evaluate applications of quality management (Mlambo and Khayesi, 2006).

Chengula and Kombe (2017) conducted research about the assessment of the effectiveness of Rapid Bus Transit (DBRT) System in Dar es Salaam, Tanzania. The study observed that waiting time for travellers at stations/terminals is reduced to more than 50 percent, delays in journey is reduced to 60 percent and savings of fare cost to travellers is 28 percent compared to previous *daladala* type. The study recommended DBRT must link between arterial roads and truck roads for the DBRT system to be applied life cycle cost and sustainable project.

Kirumirah & Munishi, (2020) conducted research titled "Exploring the Impact of Floods on Urban Transport and its Impact on Livelihood Resilience" this study identified the trend of floods and their impacts on transport system in Dar es Salaam since 2011. The study further analysed the impact of floods on transport infrastructure as well as the situation of floods on BRT systems and its implication on people's livelihood. This study concludes that Dar es Salaam will continue to experience the situation of floods if coordinated planning is not prioritised.

A study by Kanyama et al., (2004) revealed that the Ministry of Transport and Communication acknowledges that the transport sector in Tanzania is characterized by low quality services, namely, the existence of a great outstanding need for infrastructure maintenance and rehabilitation work, inadequate institutional arrangements and laws. It further identified regulations and procedures which are inconstant or incompatible with each other for the creation of the conducive climate of investment hence growth in the sector. Lack of a well-organized coordination system among transport institutions involved in the operation of public transportation in Dar es Salaam was yet another serious problem. Such shortcomings resulted in overlapping areas of responsibilities and with the absence of mechanisms for managing overlaps and conflicts are common in the execution of roles. According to the present Tanzania National Transport Policy (2003), the Ministry of Transport and Communication is supposed to develop a safe, reliable, effective, efficient and fully integrated transport infrastructure and operations which will best meet the needs of travel and transport.

Transport is an integral part of human life. Proper transport link enables efficient frequency of services, flow of passengers and commodity on (rail, roads, air, water) mode of travel. Transport policy stresses strongly that whatever the mode will be, it should primarily consider the human aspect (i.e., safety, liveability, economy, satisfaction etc.) (Peter Freeman & Christian Jamet, 1998). This gives every individual the right to choose the services that he/she desires. In conducting this paper, the researcher was guided by the SERVQUAL Theory. The SERVQUAL Theory was developed by Zeithaml (2003) and explains the relationship between customer satisfaction and service quality. According to the theory, there is a direct relationship between the quality of services offered by a service provider to a customer and the level of customer satisfaction. Since this theory is not one size fit all, there is an additional concept of how other scholars defined and wrote about public transport basing on the variables developed in SERVQUAL Theory (Height & Cresswell, 1979). The quality of transport service can be measured against reliability, convenience, safety, security and comfort (Iles 2005; Height and

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Cresswell, 1979). Speed, accessibility in time, Reliability, and frequency are quality indicators of transport services (Wood and Johnson, 1989). SERVQUAL is a concise multiple-item scale with good reliability and validity that companies can use to better understand the service expectations and perceptions of their customers (Zeithaml et al., 2006). Customer expectations are pre-trial beliefs of what to expect from a product or service and are used as a reference point to compare and evaluate the actual experience. Characteristics of service are explained by Zeithaml et al., (2006) who argued for demand distinct interventions for managing service organizations. This is because services are intangible, heterogeneous, produced and consumed simultaneously, and are perishable. As a result, service management and consistent quality service delivery are challenging tasks. Conclusively, the above reviewed literature literatures have mainly focused on measuring the level of customer satisfaction and slightly spotting challenges of facing BRT project and not quality of service provided by DART as agency of public transport using BRT system. In this case therefore it is necessary to undertake a more specific investigation intended to measure the level of customer satisfaction provided by DART.

Research Methodology

This paper employs a case study research design. This was due to the fact that it offers a comprehensive description and analysis of a single situation or a number of specific situations (Yin, 1984). BRT in Tanzania exists only in Dar es Salaam and therefore it was logical concentrating in Dar es Salaam only. The target population for this study in particular comprised all passengers using BRT system in Dar es Salaam. The sampling method intended to be used were probability in order to give population has an equal chance of being surveyed for a particular piece of research and non-probability sampling was applied to special group of commuters such as pregnant women and aged commuters who were sampled purposively (Ryan, 2011). A sample size of one hundred (100) respondents was used in this study (Kothari, 2004). Respondents from the BRT terminals such as Kimara, Morroco, Gerezani, and Kivukoni and Jangwani were included to constitute a sample. In this study, 20 passengers were selected in each of the four terminals to constitute 100 passengers. Cochran formula was used to calculate optimum sample size of the study. This formula was developed by Cochran (1977) to calculate a desirable sample size of the infinite population. The Cochran formula is given by:

$$n = \frac{Z^2 Pq}{e^2}$$

Where: n = Sample size, Z = Desired confidence level, P = is the estimated proportion of an attribute that is present in the population, q = p -1 and e is the desired level of precision. Assuming the maximum variability is equal to 50% (p=0.5) and taking 95% confidence level with ±10% level of precision, the calculation for required sample size will be as follows; p = 0.5 and q =1- 0.5 = 0.5; e = 0.1 or 10%; z =1.96

$$\text{Then, } n = \frac{(1.96)^2 (0.5) (0.5)}{(0.1)^2}$$

$$= 96.04 \sim 100$$

Therefore, the researcher used simple random sampling probability sampling and purposive non-probability sampling technique respectively to obtain the appropriate respondents from the population. The study used both primary and secondary data collection methods. The paper employs data collection methods such as questionnaires, interview, observation and documentary review. Reliability analysis was used in this paper which allows studying the properties of measurement scales and the item that make them up. The reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Survey question were created basing on literature review and frame of reference to ensure result validity. A descriptive analysis of data in the study

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was performed by using IBM SPSS Statistics Version 20 as well as Microsoft Excel to give frequencies and percentages through tables.

Data Analysis

This paper presents detailed results and discussion of the research findings in an attempt to achieve the research objectives. The discussion is guided with the research specific objective as it appears in this particular paper was to examine the level of customer satisfaction based on the service provided by DART.

Commuters' responses regarding the overall satisfaction on quality of service provided by DART showed that 51% of commuters were not satisfied and less satisfied with routings. Only 18% seems to be satisfied by the routes. 64% of commuters were not satisfied with on-board comfort, and 17% were less satisfied compared to 3% very satisfied, 2% satisfied and 14% neutral. Commuters felt that overloading of buses especially during peak hours were leading to inadequate air circulation due to poor ventilation, pick pocketing and very difficult for people with disabilities. 67% of commuters were satisfied and very satisfied with the driving behaviour of drivers and only 16% were less and not satisfied while 17% were neutral. With respect to operating hours, 46% of commuters were not satisfied and less satisfied, whereas 5% were very satisfied, 20% were satisfied and 29% were neutral. Checking on bus fare 40% of commuters were not satisfied and 22% were less satisfied compared to 5% who were very satisfied, 12% were satisfied and 21% maintained a neutral position.

Under waiting hours perception, only 1% of the respondents declared to be very satisfied, 9% were satisfied while 15% were neutral and 75% where not satisfied and less satisfied with waiting hours. With regards to travel speed of the busses, it was appreciated by about 70% respondents who were satisfied and very satisfied and only 10% where neutral, less satisfied and not satisfied respectively. Staff manners was rated at average where by 28% of respondents where neutral and 29% where less satisfied. The level of safety of this public transport was also researched. It was revealed that 60% of respondents where not satisfied, 21% percent less satisfied, 14% were neutral, 2% where satisfied, and only 3% were very satisfied. In view of the ticketing process, no respondent was very satisfied with the process, only 2% where satisfied, 5% where neutral while the rest were not satisfied with the entire process.

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Table 1 Customers Responses on the Level of Satisfaction

Perception	Very satisfied	Satisfied	Neutral	Less Satisfied	Not satisfied
Routing	3%	15%	31%	25%	26%
Operating hours	5%	20%	29%	18%	28%
Fare	5%	12%	21%	22%	40%
Travel speed	50%	20%	10%	10%	10%
Waiting time at the bus/bus arrival time	1%	9%	15%	20%	55%
Onboard comfort	3%	2%	14%	17%	64%
Driver driving behaviour	45%	22%	17%	10%	6%
Staff manners	10%	22%	28%	29%	11%
Safety	3%	2%	14%	21%	60%
Ticketing process	0%	2%	5%	16%	77%
Provision of information and updates	11%	16%	30%	19%	26%
Number of buses available	1%	1%	5%	12%	81%
Bus stop conditions	11%	16%	30%	18%	25%
Security	30%	22%	17%	20%	11%

Source: Field Data (2021)

Conclusion and Recommendations.

This research intended to investigate the quality of services provided by Dar es Salaam Rapid Bus Transit (DART) and Implications to Customer Satisfaction. Specifically, the research ascertained the level of customer satisfaction based on the quality of services provided by Dar es Salaam Rapid Bus Transit (DART) in Tanzania. Under this objective researcher measured the level of customer satisfaction and from the results researcher found that most of the passengers as DART customers were not satisfied with the quality service provided by DART. Most of the respondent showed not to be satisfied with routings of BRT buses, On-board comfort, Commuters overloading and overcrowding of passengers especially during peak hours, bus fare as mentioned to be relatively high, waiting time, number of buses available, safety of the service, bus stop conditions and over all staff behaviours however travel speed of the busses and drivers' behaviour were appreciated by respondents to be relatively satisfactory.

It can be concluded from the study that with the introduction of BRT, when fully implemented will tremendously improve the quality of service and reduce the existing short coming as identified in this study. These shortcomings include small number of buses, lack of knowledge on customer care groups and an increase in unplanned urban population as this will continuously burden the already overstaffed transport system. Slow implementation of BRT is hindering the progress of the system. These loopholes need to be dealt with in order to fully realize the results of the system.

Although the government and the relevant authorities are improving the road infrastructure, the pace is slow and there is urgent need to seriously change and implement new rules and regulations which take into account the changing environment and technology if improvement is to be achieved in providing quality service.

This paper recommends on the following: -

- (i) TANROADS and DART should observe the need for construction of bridge flying over at Jangwani area to avoid seasonal closure of service during rainy seasons.
- (ii) DART management should invest in provision of training to drivers and staff attending customers so to improve customer ad service provide positive relationship
- (iii) DART should invest in introduction of proper ticketing process this includes use of payment cards, mobile and electronic ticketing
- (iv) DART should construct infrastructure such as bus terminus with sheds, toilets with proper lighting and provide necessary security. Commuters are at a disadvantage especially during rainy season due to lack of sheds to cover themselves from the rain.
- (v) DART should make installation of security infrastructures at bus terminals this include CCTV cameras, gates and emergency exist features.
- (vi) Organize themselves when boarding or disembarking from Buses. Commuters should arrange themselves at bus terminals (single file line) to enable them to embark orderly. This will drastically reduce the petty theft incidents experienced by commuters daily;
- (vii) Report to the traffic police over abnormal driving behaviours. Change in the driving behaviour of bus drivers could be achieved once commuters take an upper hand in reporting culprits to the law enforcement agencies;
- (viii) Desist from vandalizing road signals as this will put commuters' lives at risk as drivers are guided by the same roads signs they destroy.
- (ix) Proper use of infrastructures installed in buses includes sits, light, speakers and sliding windows.

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**Lockdown Effect of COVID-19 Pandemic on Firms Economic Performance: Implications for Dar es
Salaam Stock Market**

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Abstract

This paper investigated the lockdown effect of COVID-19 pandemic on listed firms in Tanzanian stock market, DSE. The study was motivated by the nonsymmetrical adverse economic effect experienced by listed firms on DSE due to the pandemic shock. Although the pandemic has been a full swing crisis to the entire economy, the effect has been varying across individual firms listed on DSE. Some of the listed firms on DSE opted for a lockdown strategy as opposed to others. The choice differences on decision whether to lock down or not, drew an interest of the study to enquire and infer the findings on the differences on severity of COVID-19 effect for the two groups. The study hypothesized based on a probable reason for the variation in adversity of the effect based on the decision opted by listed firms on whether to lock down or not. Based on the DID econometric technique, using an average share price as a proxy for firm performance, the study revealed the key finding that, for firms which locked down, the economic performance decreases by 12 percentage point compared to those which did not lockdown. The finding was consistent even after the dependent variable was switched to opening and closing share prices. An empirical comparative analysis by sector confirmed the existence of varying adverse effect across sectors. The service sector has been revealed to have experienced the most severe effect ($\beta_3 = -0.29$, $p < 0.001$) followed by manufacturing ($\beta_3 = -0.14$, $p < 0.001$) and banking and finance sector ($\beta_3 = -0.03$, $p < 0.001$). The revealed negative effect for firms which locked down provides a benchmark for policy makers to institute the anti-lockdown related policies for future incidences of similar pandemic. This would provide appropriate measures not only to cushioning firms' economy but also the entire economy from the adverse effect of similar nature.

Key words: Lock down, COVID-19, economic performance.

Introduction

Currently the world is battling against COVID-19 Pandemic, which has posed an incredible economic downturn for thousands of economic agents around the globe. The downturn emanates from governments' directives of closing down business operations (Tashanova, Sekerbay, Chen, Luo, Zhao & Zhang, 2020). The lockdown includes restrictions on various sectors such as transport which significantly hurdles goods movement especially imports and exports. It harms private firms' performance due to loss of investors' confidence in the market (Jung, Park, Hong & Hyun, 2016). Nevertheless, contrary to many economies, Tanzanian regime adopted a unique approach that discourages business shut down in order to maintain its fastest economic growth pace among other African economies.

Despite the Tanzanian government initiative put forth to support business environment in the existing pandemic, yet private firms especially some of those listed in Dar es Salaam Stock Exchange (DSE) experience a sharp decline in their daily business performance (DSE, 2020). Notwithstanding, a no lockdown initiative of Tanzanian government following COVID-19 outbreak in March 2020, some private firms decided to indefinitely lock down their staff members from attending their duties at workplaces while others did not. It is evident that some listed firms, have recorded a significant drop in their sales volumes implying poor economic performance.

The effect is translated to firms' downsizing due to the aftermath effects of poor financial position of such firms. Consequently, it may prompt a spillover effect on surge in unemployment rate of the entire economy. *Why some listed firms in DSE as opposed to others listed in the same market, experience a sharp decline in business performance given the government support of no lockdown?* This is a basic question that the paper seeks to address. In order to address the research question, a comparative study was undertaken by testing a null hypothesis that; *there is no significant difference in economic performance effect between firms that locked down and those which did not during COVID-19 pandemic in Tanzanian stock exchange market.*

The findings of the study would shade light on lockdown effect of the pandemic on firms' economic performance. Consequently, the findings would assist policy makers in developing appropriate policies which might plausibly underpin the future mitigation strategies of similar pandemic effects, while maintaining firm's and national economic stability. To the best of my knowledge, none of the studies has been carried out in this area. The paper contributes to the existing literature on lockdown effect by the application of the differences in differences econometric technique not previously used in existing literature. The idea is quite unique due to the fact that, most economies were directed by their governments to entirely lockdown all economic activities in order to mitigate the pandemic shock. In Tanzania, the government discouraged lockdown which, however some firms opted for lock down strategy which calls for the interest of this research that poses a unique contribution of the study. The remainder of this paper is structured as follows; section two lays down a literature review, section three provides methodology, section four is about discussion of the findings while the last section five, is about concluding remarks and policy outlook.

Thus, the main intent of this paper is to empirically examine the lockdown effect of COVID-19 pandemic on firm's economic performance in Tanzania. The study descriptively provides a comparative analysis between firms which opted to lockdown against those that adhered to the government support to normally continue operating their business activities in the same market. A sectoral analysis was also undertaken to reveal the magnitude of lockdown effect across various sectors of listed firms in DSE.

Staff lock down through closure of firm's workplace would create a significant loss of confidence to investor's decision in purchasing shares from a locked down firm in the market (Tashanova, Sekerbay, Chen, Luo, Zhao & Zhang, 2020). When investors are knowledgeable on firm's lockdown status, they may lose confidence to patronize such firms to invest in shares. Subsequently, the demand for shares, share prices and sales volume may be negatively affected.

Literature Review

Covid-19 Pandemic and Firm's Performance in Stock Market

The first case of COVID-19 pandemic outbreak was initially noted in Wuhan city, Hubei province of the People's Republic of China in December 2019 (Mc Kibbin & Fernando, 2020). The pandemic had spread to over 213 economies and territories around the world and 2 international conveyances (Worldometers, 2020). Subsequently five others epicenters featuring the Germany, France Italy Spain and United States of America picked up the pandemic outbreak recording over a hundred thousand cases (Worldometers, 2020).

The rapid spread of the coronavirus and its severity prompted the World Health Organization (WHO) to declare the virus as a global pandemic on March 11, 2020 and called for serious intervention by governments through their health sectors (Mc Kibbin and Fernando, 2020). Despite containment measures taken by governments against transmission of the pandemic, the spread of the virus continued on rapid surge (Addi et al, 2020). The rapid spreading new pandemic posed ambiguities on its transition ways despite the tireless efforts put forth by medical practitioners and researchers who introduced a single transmission mode through infected person fluid (Kim, 2020, Addi et al, 2020, Bai, Yao, Wei, Tian, Jin, Chen & Wang, 2020, ACDC, 2020). The symptoms of the fatal pandemic features dry cough, shortness of breath, sorethroat, fever, and ultimately death. ACDC (2020)

revealed that, the incubation period for coronavirus is between 2 to 14 days. The pandemic has posed economic recession to most businesses in private sector and entire economies across the globe. In Tanzania, a total of 509 cases and 21 deaths were reported (Worldometers, 2020). The similar pattern of experience befalls the private sector where most companies locked down through closure of their workplaces which harmed their performance.

Hope, Saidu and Success (2020) asserts that, firm's performance depends on the profit maximization of a firm and satisfaction of their consumers who are directly affected by the activities of the firm. Economic performance is a relative measure of how a firm optimally utilizes its resources to generate profit (Nnamani, Onyekwelu & Ugwu, 2017). The performance assessment of a firm highly depends on profitability factors including economic value added (EVA), return on investment (ROI), return on assets (ROA), return on equity (ROE), depreciation and amortization margin (EBTIDA), market value performance and change in stock price (Santos & Brito, 2012). The effect of COVID-19 pandemic in Tanzania prompted some business owners and managers to quickly embark on containment measures against the coronavirus spread amongst their staff members. A panic decision includes lockdown, firm's operational shutdown or reducing production level of output. The decision to lockdown might have a negative effect on firm's economic performance. Information on firm's lockdown of staff members through closure of workplaces may pose negative sentiments to potential and current investors against such firms. Investors in stock market for instance, may develop pessimistic perception that the economic performance of these firms may be negatively affected through risks associated with closure of the workplaces. Associated risks include uncertainty on future firm's existence in the market, high loss caused by underperformance, ineffectiveness due to staff members retrenchment caused by downsizing, loss of customers; all of these result into decrease in demand for firm's products that would negatively affect firm's economic performance in stock market which may be signaled by the drop in share price.

Pandemic Effect to Dar es Salaam Stock Market

The Dar es Salaam Stock Exchange (DSE) is a market place where buyers and sellers of financial instruments meet. The exchange is the secondary leg of Capital Markets that help avail long term and affordable capital to companies from investors with investment motives. The stock exchange is therefore part of the process through which companies looking for capital; issue of financial instruments to investors from the general public so as to raise capital and finance their businesses. The two main financial instruments issued by companies to raise capital are shares and corporate bonds (DSE, 2020).

Tanzania is not exceptional to the COVID-19 pandemic shock on stock market, a number of private firms featuring those listed in DSE closed down their workplaces. The firms' management ordered a lockdown of staff members early in March 2020 after emergence of the first case of COVID-19 patient in the economy. As reported by DSE (2020), there has been a significant negative effect to listed firms in DSE market in terms of share price performance causing exit of investors, and decline in liquidity from dry in foreign capital inflows by 80 to 90 percent of the total market. The report added that subsequently, all share index in the market dropped by 16 percent in March 2020. The DSE dropped from 2,122.77 points in January to under 1,747.70 points in March, 2020. Although the pandemic shock has been a full swing adverse effect to the entire market, it is worth mentioning that the severity of the shock varies across firms. It is expected that the degree of severity on firms which closed their workplaces and locked down their staff members to experience higher negative economic shock, compared to those that normally continued operating their businesses. This calls for analytical comparative study on the effect to firms' economic performance emanating from the lockdown strategy adopted by some firms, as opposed to the ones which did not listed on DSE. The study is imperative to establish insights that would underpin the institution of appropriate mitigation policies against similar pandemics in the future.

Relevant Empirical Review

Few studies have recognized the shock effect of epidemics and pandemics similar to COVID 19 on firm's economic performance. Siu and Wong (2004) studied in Hong Kong on Severe Acute Respiratory Syndrome (SARS) epidemic effect to Hong Kong's economy, and found a negative consumer effects on locally consumed goods and tourism sector. Kim, Kim, Lee and Tang (2020) examined the influence of infectious various epidemic disease outbreaks on the firm's economic performance of the catering industry from 2004 to 2016 and revealed a negative effect of epidemic shocks on firm's economic performance. Ichev and Marinc (2016) examined the effect of Ebola shock on information flow within asset pricing and realized a negative effect on stock prices. Jung, Park, Hong and Hyun (2016) examined the effect of epidemic shock on consumer consumption expenditures and discovered distortive effect in consumer consumption expenditures. Nippani and Washer (2004) examined the effect of SARS on stock markets in a number of economies and found negative effect just for two countries. Del and Paltrinieri (2017) analyzed the effect of Ebola on funds inflow to some African countries from 2006 to 2015 and found negative affect on funds flows. Macciocchi et al., (2016) examined economic effect of the Zika virus outbreak in Latin America and found insignificant negative effect. Ming-Hsiang, Shawn, and Gon (2007) examined SARS outbreak effect on Taiwanese hotel stocks and found anegative effect on return and stock price. Mei-ping Chen et al., (2018) analyzed the effect of the SARS epidemic on Asian stock markets and found a negative effect on the four markets. Wang, Yang, and Chen (2013) studied on the effect of infectious disease shock on biotechnology stock in Taiwan and confirmed a suggestive negative effect. Hai, et al, (2020) examined the effect of CODID 19 outbreak on countries and their responses and found a negative effect on major effected countries. Hope, Saidu and Success (2020) examined the effect of COVID 19 on firm's performance in Nigeria and confirmed a negative economic performance of private firms.

None of the above studies has established a lockdown effect of pandemic or epidemic on firms economic performance. The study attempts to address the research question on lock down effect of COVID 19 pandemic on firms economic performance based on the Differences and Differences (DID) econometric method. The approach is appropriate to the study due to its ability to provide a distinctive effect between two extremes, the treatment and control groups; which in this case are the locked down firms and those that did not lockdown. This is imperative because the severity in pandemic effect in DSE varies across firms where lock down might be the key determining factor for the variation.

Methodology

Data and Source

The study employed data from DSE which provides stock markets in Tanzania. Listed firms in DSE were included in the sample. The share prices which are published on daily market reports per firm were used as a proxy for firm's economic performance which in this case is a dependent variable. According to Zarah (2017) the stock market price is the stock price determined by the interaction of market participants on the demand and supply of a share. The price reflects the stock price that occurs in the stock market at a given moment. Stock prices should reflect a company's financial performance. When a company's financial performance increases, the market will appreciate with rising stock prices, and vice versa. In other words, the firm's financial performance should be reflected in the stock price. If the financial performance increases, then the tendency of shares of the company will be favorable to investors, thus encouraging the increase in stock prices. There are 27 listed firms in DSE and the study period is 177 days. The days are divided into before and after COVID-19 pandemic making a sample consisting of 4,762 observations within 27 unbalanced panels of dataset due to missing values on public holidays and weekends of which DSE does not operate.

Theoretical Framework and Model Specification

The study employed the DID econometric technique that provides a comparative analysis between a treatment and control groups based on before and after time aspects. Consider an experiment set to evaluate the impact

of exogenous interventional shock such as policy that requires outcomes comparison between the affected/treatment group to an unaffected /control group, supported by time bound before and after the shock. In the same manner let's assume that there are two regions A and B subject to before and after shock context. Both regions are equally exposed to the same environment before a new intervention. The intervention time provides a cut off line into before and after periods. Assuming that region B is suddenly subject to shock intervention and exposed to after effects that result into a notable difference of group B relative to group A. The difference may be due to the shock intervention, but also might be due to other key characteristics that varies between the two groups which also determines the outcome differences, e.g. region A might be subject to different weather condition relative to region B which might be a contributing factor to the outcome difference in the level of business performance. If the outcome is sales volume which also depends on waether that varies in the two regions, a favorable weather in region B relative to region A might also contribute to a betterperformance of group B apart from a shock intervention exposed to group B that needs to be evaluated. A better remedy for this overlapping is to evaluate the impact of the intervention bycontrolling for other characteristic difference between the two regions. It's difficult to control forunobservable characteristics, even if we have enough data to control observable ones.

However, apart from the difference in characteristics that might contribute positive changes experienced by region B, it might also be contributed by other changes in a course of interventionapart from the shock that cannot be captured. Now consider a double approach that comprises of after and before associated with the treatment and control group comparative approach. If the after and before difference in the control group emanates from the same difference in the treatment group, then if other changes that occur over time are also present in the control group, then these factors are controlled for when the control group after and before difference is nettedout from the impact estimate. Also if there are important characteristics that are determinants of outcomes and that differ between the treatment and control groups, then, as long as these treatment and control group differences are constant over time, their influence is eliminated bystudying changes over time so is for any time invariant unobservable characteristics which are also netted out.

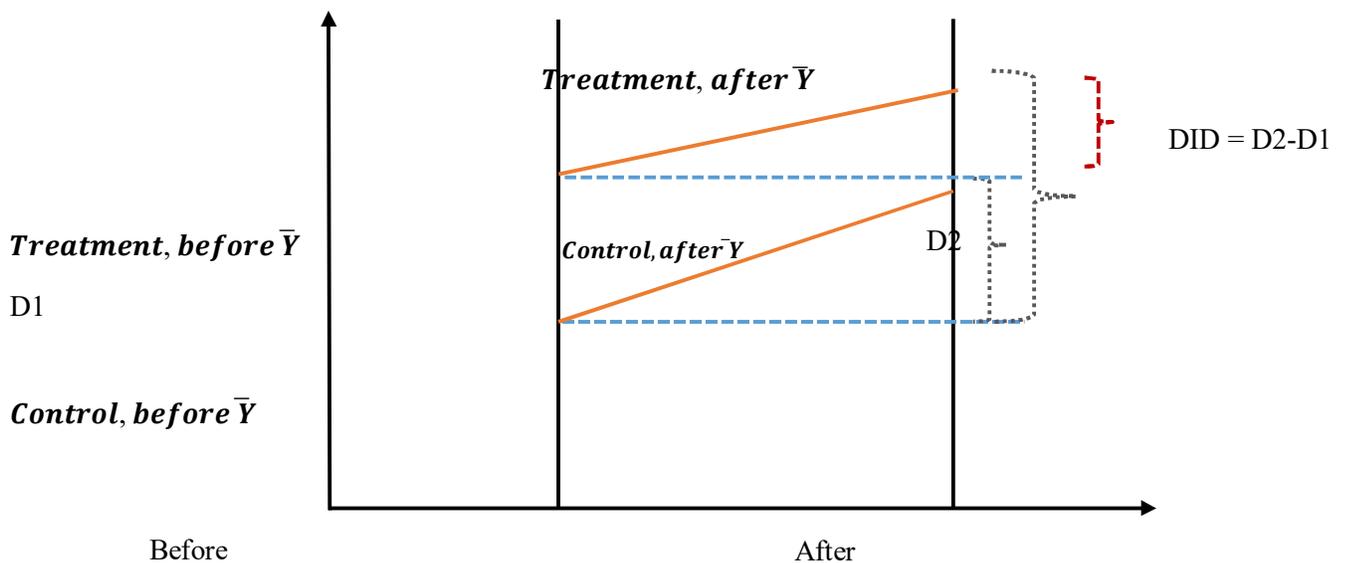


Figure 3.1: Difference in Differences Illustration Source: Researcher's Own Construction

Alternatively, the following mathematical equations elucidate the above pictorial presentation. Let us consider a two group scenario $\{G= 1, 2\}$ in two different periods $\{T=1, 2\}$. Initially at T_1 , both groups are exposed to control status. At T_2 is when only G_2 is exposed to treatment status, let $T_g = 1$ represents a dummy variable capturing group 2 observations at T_2 while $P_t = 1$ represents a dummy variable capturing treatment period 2 observations. In the two periods two groups DID, the treatment variable is simply the product of these two dummy variables: $D_{gt} = T_g \times P_t$. This is because $D_{gt} = 0$ is when both groups are exposed to the first period because $P_t = 0$ and $T_g = 0$; and D_{gt}

$= 1$ only happens when the second group is exposed to the treatment because this is when both T_g and P_t dummies are equal to 1. Let's further assume that untreated expected outcome is given by

$$Y(0)_{gt} = \beta_0 + \beta_1 T_g + \beta_2 P_t + \varepsilon_{gt} \dots \dots \dots (1).$$

Before and shock intervention, the expected outcome in the first group is β_0 in the first period while in the second period is $\beta_0 + \beta_1$. The expected untreated outcome in the second group is equal to $\beta_0 + \beta_1$ while in the second period is $\beta_0 + \beta_1 + \beta_2$. We assume a common trend applies where the coefficient on T_g provides a time-invariant difference in expected outcomes between the two groups. The group coefficient includes the combined effects of all the constant differences between the two groups and during the study period. Likewise, the coefficient P_t captures the changing combined effects between the two periods which also affect outcomes similarly in both cases. Practically, β_1 is termed as the group effect and β_2 the time trend. Basically, the model for the expected treatment outcome is the sum of untreated outcome and treatment effect, which is usually constant across observations:

$$Y(1)_{gt} = Y(0)_{gt} + \beta_3 \dots \dots \dots (2)$$

Thus generally the overall outcome is expressed as;

$$Y_{gt} = Y(0)_{gt} + D \{Y(1)_{gt} - Y(0)_{gt}\} \dots \dots \dots (3)$$

Replacing the outcomes notations with the model specification it gives;

$$Y_{gt} = \beta_0 + \beta_1 T_g + \beta_2 P_t + \varepsilon_{gt} + D_{gt} \{Y(0)_{gt} + \beta_3 - Y(0)_{gt}\} \dots \dots \dots (4)$$

In the two-group two-period model, $D_{gt} = T_g \times P_t$, which implies that after canceling the $Y(0)_{gt}$

3.1.1 Identification Strategy

The DID econometric estimation technique was directly adopted from the aforesaid theoretical model as follows; $Y_{gt} = \beta_0 + \beta_1 T_g + \beta_2 P_t + \beta_3 (T_g \times P_t) + \varepsilon_{gt} \dots \dots \dots (5)$ where; Y_{gt} is treatment outcome in this case firm performance indicated as daily share price which is a proxy for firm performance, $\beta_0, \beta_1, \beta_2$ are constant term, group and period coefficients respectively, β_3 is DID coefficient. T_g is a group dummy, 1 if a firm is within a treatment group (for locked down firms) and 0 otherwise, P_t is period dummy, 1 if a period is after treatment (COVID-19 shock) period and 0 otherwise ($T_g \times P_t$) is a composite interaction term of the treatment effect while ε_{gt} is a composite error term. The model was executed under the key assumptions of DID model. These include; the common trend parallel assumption, time invariant group characters and period time-variant attributes while the lockdown intervention is a strictly exogenous emanating from pandemic shock.

4.0 Findings and Discussion

The regression results are based on dependent variable which is average daily share price on DSE. The DID treatment variable together with associated controls on sector, firm, firm treatment and time treatment dummies was run against average share price to establish a baseline model. Table 4.1 indicates a negative and statistically significant coefficient on DID variable at one percent significance level. It dictates a negative firms' economic performance for those which adopted the lockdown strategy. The adverse performance could be due to loss of confidence by investors who hesitated to invest in firms which locked down their work places compared to those which did not. The locked down firms implies inefficiency in performance due to loss of expected immediate returns that would have been realized without locking down.

Table 4.1: Baseline Model on Lockdown Effect of COVID-19 Pandemic on Firm Performance

Variables	(1)	(2)	(3)
DID	-0.1196***	-0.1210***	-0.1138***
	(0.032)	(0.034)	(0.035)
Sector	0.1756***		0.0696***
	(0.012)		(0.007)
Firm	-0.0327***	-0.0210***	
	(0.003)	(0.002)	
Firm-treatment	0.1579***	-0.0546**	0.1070***
	(0.019)	(0.022)	(0.020)
Time-treatment	0.0999***	0.0999***	0.0999***
	(0.028)	(0.030)	(0.031)
Constant	0.1548***	0.5564***	0.0379
	(0.024)	(0.037)	(0.024)
Observations	4,762	4,762	4,762

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Although some firms allowed staff to work from their homes, inefficient performance is evident to such firms due to cultural difference particularly in developing countries which encountered disrupting environment compared to developed countries who may be used to the practice. In developing countries including Tanzania, the working environment is designed for staff to directly operate in designated physical work places on physical contact basis. Most homes lack adequate office facilities to perform better compared to designated work places implying underperformance. Interference by home chores, emergencies, less supervision and lack of team synergy for those who individually worked from their homes, reduced their performance level and ultimately the entire firm performance. Although the pandemic posed the holistic shock to the entire economy, the empirical evidence unveil worse performance to firms which locked down compared to those which continued to operate their business at their work places. Based on the first estimation column in Table 4.1, for firms which locked down, the firm economic performance decreases by 12 percentage point compared to those which did not lock down.

The dataset provides daily opening and closing prices for each listed firm which were separately use in robustness checks of the findings. The results are provided in Table 4.2 which indicates negative and statistically significant DID coefficient at one percent significance level. Consistent results are evident both on opening and closing price as proxies for firm economic performance.

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Table 4.2: Robustness Checks on Lockdown Effect of COVID-19 Pandemic on Firm Economic Performance

Variables	Dependent Variable – Opening Share Price			Dependent Variable – Closing Share Price		
	(1)	(2)	(3)	(4)	(5)	(6)
DID	-0.1199*** (0.032)	-0.1213*** (0.034)	-0.1141*** (0.035)	-0.1202*** (0.032)	-0.1215*** (0.034)	-0.1143*** (0.035)
Sector	0.1757*** (0.012)		0.0696*** (0.007)	0.1759*** (0.012)		0.0698*** (0.007)
Firm	-0.0328*** (0.003)	-0.0211*** (0.002)		-0.0328*** (0.003)	-0.0211*** (0.002)	
Firm-treatment	0.1580*** (0.020)	-0.0547** (0.022)	0.1070*** (0.020)	0.1581*** (0.020)	-0.0549** (0.022)	0.1070*** (0.020)
Time-treatment	0.1003*** (0.028)	0.1003*** (0.030)	0.1003*** (0.031)	0.1003*** (0.028)	0.1003*** (0.030)	0.1003*** (0.031)
Constant	0.1547*** (0.024)	0.5567*** (0.037)	0.0377 (0.024)	0.1546*** (0.024)	0.5571*** (0.037)	0.0375 (0.024)
Observations	4,762	4,762	4,762	4,762	4,762	4,762

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Sectoral lockdown effect is expected to be nonsymmetrical depending on the nature of a business run by a particular sector in which firms operates. Different sectors execute activities differently based on orientation of their businesses. Service delivery firms for instance, require physical contacts in to directly attend customers. Similarly, the manufacturing sector does the same in operating machines and equipment, the two sectors are opposed by the banking sector which needs less office (due to extended mobile banking) hours to perform duties at their physical work places. The data set provides various firm categories by sector, these include; banking and finance, manufacturing and service sectors. The results presented in Table 4.3 are based on a sectoral comparative analysis among the aforesaid sectors. The most effected sector by lockdown effect is the service sector. For firms which locked down in the sector, the firm economic performance decreases by 29 percentage point compared to those which did not lockdown. The finding is evident by a negative and statistically significant coefficient of DID variable at one percent significant level. The reason for severity effect on service sector compared to other sectors could be due to the nature of the sector which requires much time to physically attend customers at work places as compared to manufacturing and banking and finance sectors. A partial or full lockdown of the firms in the sector results to a severe negative effect to their economic performance.

Table 4.3: Lockdown Effect of COVID-19 on Firms Performance by Sector

Variables	Manufacturing Sector		Banking & Finance Sector		Service Sector	
	(1)	(2)	(3)	(4)	(5)	(6)
DID	-0.1360*** (0.024)	-0.1450*** (0.026)	-0.0334*** (0.009)	-0.0335** (0.013)	-0.2911*** (0.052)	-0.2911*** (0.081)
Firm	0.0050*** (0.000)		-0.0466*** (0.001)		-0.2125*** (0.006)	
Firm-treatment	0.2957*** (0.024)	0.2987*** (0.026)			0.8650*** (0.054)	-0.5873*** (0.048)
Time-treatment		0.0025 (0.004)				0.2946*** (0.080)
Constant	-0.0373*** (0.006)	0.0479*** (0.003)	0.6386*** (0.017)	0.2830*** (0.011)	3.1814*** (0.077)	0.7019*** (0.048)
Observations	1,260	1,260	1,648	1,648	1,030	1,030

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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This is because, the sector is customer sensitive which calls for direct survive delivery to customers with good customer care and survive. The sector's products are demand elastic, once a firm in the sector, fails to provide adequate service to customers due to lock down, it ought to lose massive customers. This imply adverse economic performance as opposed to those which continued to deliver their services without locking down.

The second severely affected sector by lock down effect is the manufacturing sector indicated by a negative and statistically significant coefficient at one percent significance level. On average, for firms which locked down in the sector, the firm's economic performance decreases by 14 percentage point compared to those which did not lock down. The reason for this sector being moderately affected relative to others could be due to the positive working capital that would have been caused by a good amount of product storage prior to lock down. The stock would be have been indirectly supplied to customers through wholesalers and other storage agencies even if such firms locked down. The positive working capital caused by product storage is normally used by manufacturing firms as a mitigation strategy to their income management when they are informed on future crisis which may cease their production operations.

The least affected sector is the banking and finance sector which is evident by a negative and statistically significant coefficient of DID variable at one percent significant level. On average, for firms which locked down in the sector, the firm's economic performance decreases by three percentage point compared to those which did not lock down. The reason for firms under this sector being less affected could be due to a supportive environment created by the Central Bank, the Bank of Tanzania (BoT) by increasing daily transaction limit to mobile money operators from TZS. 3,000,000 to TZS. 5,000,000, and the increase in daily balance to mobile operators from TZS. 5,000,000 to TZS. 10,000,000. This encouraged customers to make use of digital payment platforms for transactions, hence reducing the customers need to patronize physical bank premises. Customers were encourage to shift from visiting physical bank premises to mobile banking which implies less effect to firms which locked down in this sector (URT, 2020). Similarly, bank agencies which operate closer to the communities have been effectively utilized as the right arm of banks which locked down, to serve their customers in order to complement the inefficiency which would have been caused by locking down their work places.

Concluding Remarks and Policy Outlook

This paper investigated the lockdown effect of COVID-19 pandemic on listed firms in Tanzanian stock market, DSE. The study was motivated by the nonsymmetrical adverse economic effect experienced by listed firms on DSE due to the pandemic effect. Although the pandemic has been a full swing crisis to the entire economy, the effect has been varying across individual firms listed on DSE. This is due to the unique approach adopted by the Tanzanian government which directed a no lock down strategy to all economic activities as opposed to the common practice adopted by most regimes around the globe. The panic caused by COVID-19 shock prompted regimes of many countries to lockdown their citizens from undertaking various economic activities. However, some of the listed firms on DSE opted for a lockdown strategy as opposed to others. The choice differences on decision whether to lock down or not drew an interest of the study to enquire and infer the findings on the differences on severity of COVID-19 effect for the two groups; those which locked down against those which did not among the listed firms on DSE. The study hypothesized based on a probable reason for the variation in adversity of the effect from the decision opted by listed firms on whether to lock down or not.

Based on the DID econometric technique using average share price as a proxy for firm performance, the study revealed the key finding that, for firms which locked down, on average the firm economic performance decreases by 12 percentage point compared to those which did not lock down. The finding was consistent even when the dependent variable was switched to opening and closing share prices reported by the daily market reports of DSE. In an empirical comparative analysis by sector, the study confirmed existence of adverse effect across the sectors of participating firms on DSE. The service sector has been revealed to have experienced the most severe effect followed by manufacturing and banking and

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finance sector. Service sector is customer sensitive which calls for direct survive delivery to customers with good customer care and service. The nature of the sector's products are demand elastic, once a firm in the sector, fails to provide adequate service to customers due to lock down, it ought to lose massive customers which implies poor performance. The moderate effect to manufacturing sector could be due to the positive working capital that would have been caused by a good amount of product stored prior to lock down as a proactive strategy. The stock would have been indirectly supplied to customers through wholesalers and other storage agencies even if such firms locked down. The reason for firms under the banking and finance sector being less affected could be due to the supportive environment created by the Central Bank; BoT by increasing daily transaction limit and daily balance to mobile money operators. Also, effective use of bank agencies which are closer to the community would be a cushioning reason to the adverse effect encountered by the sector without directly operating through a conventional approach in their work places.

The revealed negative effect to firms which locked down provides a benchmark to policy makers to institute the anti-lock down related policies for future incidences of similar pandemic to COVID-19. This would provide appropriate measures not only to cushioning firms' economy but also the entire economy from the adverse effect of similar nature. Even if the instituted policies would allow for freedom of choice on whether to lock down or not, the policies should clearly assert on appropriate regulatory authorities to provide sector specific cushioning policy measure. This could be done by emulating the BoT's intervention to ensure crisis relief to the banking and finance sector which eventually experienced the least effect relative to other sectors.

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