EFFECTS OF VOCATIONAL EDUCATION TRAINING ON BUSINESS PERFORMANCE AMONG SELF-EMPLOYED VOCATIONAL AND NON-VOCATIONAL GRADUATES IN ARUSHA AND DAR ES SALAAM CITIES, TANZANIA

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By

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A Thesis Submitted in Fulfilment of the Requirements for the Award of Doctor of Philosophy of Moshi Co-operative University

Moshi

2020

DECLARATION

AND

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I, Nicodemus Simon Mwakilema, do hereby declare to the Senate of Moshi Co-operative University that this thesis is my own original work and that it has not been presented and will not be presented to any other higher learning Institution for a similar of any other academic award.

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The undersigned certifies that he has read and hereby recommends for acceptance by the Moshi Co-operative University a Thesis titled "**Effects of Vocational Education Training on Business Performance among Self-Employed Vocational and Non-Vocational Graduates in Arusha and Dar es Salaam Cities, Tanzania**" in fulfilment of the requirements for the award of a degree of Doctor of Philosophy of Moshi Co-operative University.

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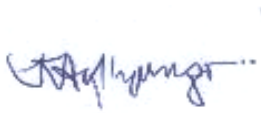

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Date: _____

DEDICATION

This work is dedicated to my late beloved father, Simon Tobias Mwakilema and my mother, Justina Lyugi Kabungu who passed away before the dreams of this work could be realised; to my beloved wife, Sia Charles Temu, daughters Glory, Gladness and Gianna, Mwakilema family and Temu family for their moral support, love and patience.

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However, I am entirely responsible for any shortcomings in this study.

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LIST OF ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
ADF	African Development Fund
AUC	African Union Commission
BRELA	Business Registration and Licensing Authority
CEDEFOP	European Centre for Development of Vocational Training
COGS	Cost of Goods Sold
CSSH	College of Social Sciences and Humanities
DAS	District Administrative Secretary
DFID	Department for International Development
DLMPD	Directorate of Labour Market Planning and Development
DRPS	Directorate of Research and Postgraduates Studies
DVTC	District Vocational Training Centres
ESRF	Economic and Social Research Foundation
EU	European Union
FYDP	Five Years Development Plan
GDP	Gross Domestic Product
GLOPP	Globalisation and Livelihood Options for People living in Poverty
GoK	Government of Kenya
IC	Intangible Capital
IDS	Industrial Development Strategy
ILO	International Labour Organization
ILRI	International Livestock Research Institute
IOM	International Organisation for Migration
KES	Kenyan Shillings
KII	Key Informant Interview
KMO	Kaiser-Meyer-Olkin measure of sampling adequacy
LAOI	Livelihoods Assets Ownership Index
LGA	Local Government Authorities
LMI	Lower Middle Income
MLMP	Ministry of Labour and Manpower Development
MoCU	Moshi Co-operative University
MSMEs	Micro, Small and Medium Enterprises

NDV	National Development Vision
NUFFIC	Netherlands Universities Foundation for International Cooperation
NVTD	National Vocational Training Division
OECD	Organization for Economic Cooperation and Development
PSU	Postgraduates Studies Unit
RAS	Regional Administrative Secretary
ROCE	Return on Capital Employed
ROI	Return on Investment
RPLA	Recognition of Prior Learning Assessment
SACCOS	Savings and Credit Cooperative Societies
SDL	Skills Development Levy
SGDs	Sustainable Development Goals
SLA	Sustainable Livelihood Approach
SLF	Sustainable Livelihood Framework
SSA	Sub-Saharan Africa
SUA	Sokoine University of Agriculture
TBS	Tanzania Bureau of Standards
TRA	Tanzania Revenue Authority
TVET	Technical, Vocational Education and Training
TVETA	Technical, Vocational Education and Training Authority
TZS	Tanzanian Shillings
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
URT	United Republic of Tanzania
USD	United States Dollar
VET	Vocational Education and Training
VETA	Vocational Education and Training Authority
WEO	Ward Executive Officer

EXTENDED ABSTRACT

Skills and knowledge acquired through Vocational Education and Training (VET) have much potential for improving performance among firms owned by self-employed VET graduates. However, studies debate on whether such skills and knowledge contribute to better firms' performance. Effects of vocational education and training on business performance among self-employed VET and non-VET graduates and their contribution to attainment of sustainable livelihoods outcomes have not sufficiently been explored. The study on which this thesis is based was conducted in Arusha and Dar es Salaam Cities, Tanzania, to contribute to this knowledge gap. Specifically, the study (i) assessed factors that influence self-employment among graduates, (ii) determined firms' competitive strategies used in attainment of profitability, (iii) compared effects of assets capitalisation on revenue performance, and (iv) determined livelihood assets owned and chances for sustainable livelihoods outcomes attainment among self-employed graduates. Quantitative and qualitative data were collected in March and April 2018 through a cross-sectional survey involving a sample of 384 self-employed VET and non-VET graduates. Quantitative data were analysed using Statistical Package for Social Sciences and Microsoft Excel computer programmes while qualitative data were transcribed into text and analysed using constant comparison content analysis approach. Binary logistic regression results indicated that four factors influenced self-employment among VET graduates while seven factors influenced self-employment among non-VET graduates. The results on competitive strategies indicated that implementation of cost-leadership and differentiation strategies among both VET and non-VET graduates were positively related to firms profitability. However, further findings indicated that there was no difference in profitability variables performance between VET and non-VET graduates. Multiple linear regression results indicated that tangible and intangible capital (experience in business) positively influenced revenue attainment among firms owned by both categories of graduates. The results further indicated that there was no significant difference in livelihood assets owned and thus chances for sustainable livelihoods outcomes among the them were almost the same and limited to the level of assets owned. It is, therefore, concluded that seven factors influence self-employment, whereby among the factors, seven are significant among non-VET while four factors are significant among VET graduates towards self-employment. It is also concluded

that cost-leadership and differentiation are the two strategies that influence profitability among firms owned by both VET and non-VET graduates. On the basis that tangible and intangible assets positively influence firms revenue for both graduates businesses, it is concluded that tangible and intangible assets (experience in business) are the main factors that influence revenue generation among firms owned by VET graduates and non-VET graduates respectively. It is also concluded that livelihoods assets owned by VET and non-VET graduates are almost equal and the sustainability chances of livelihoods outcomes attainment are the almost same and limited to the level of assets owned by each group. Based on the factors that can be improved, it is recommended that Business Registration and Licensing Authority (BRELA) and Local Government Authorities (LGAs), in partnership with Vocational Education and Training Authority (VETA), should make collaborative efforts to come up with solutions that meet the current demands of the labour market for self-employment among graduates. The efforts are expected to not only provide a solution to unemployment problems but also address the skills and knowledge gap needed for self-employment among graduates. As some of the self-employment determining factors cannot be altered, policy interventions by BRELA should focus on improving knowledge related to firms registration procedures while LGAs interventions should focus more on provision of knowledge related to business licensing procedures among final year students in the training institutions. LGAs should also establish special seed funds within the LGAs annual budgets to provide start-up loans among self-employed graduates. VETA, on its part, should improve the provision of entrepreneurship training in its training programmes in order to equip graduates with knowledge and skills needed for self-employment and also arrange for appropriate apprenticeship programmes with industries to equip students with the needed self-employment experience. It is further recommended that in improving profitability among firms, VET and non-VET graduates should employ both cost-leadership and differentiation strategies. Moreover, it is recommended that policy intervention by LGAs and other development partners should be directed at financing small businesses through capital assets. Self-employed graduates should also ensure maximum utilisation of both tangible and intangibles assets (experience in business) for them to attain higher revenues in their businesses. Lastly, it is recommended that LGAs and other development partners should prioritize in their development agendas to support graduates with capital assets necessary for

improving their livelihood assets bases and increase chances for sustainable livelihoods among them. Graduates also should consider establishing self-help institutions such as SACCOS from which they can access funds for financing livelihood assets acquisition to be employed in their self-employment activities.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Problem

1.1.1 Vocational education: Global perspectives and its role in labour market

Establishment of Vocational Education and Training (VET) system has been largely influenced by industrial revolution, which took place in the 18th century mainly in many of the European Countries (Cedefop, 2004). The system aimed at equipping people with knowledge, know-how, skills and/or competences needed in particular occupations or more broadly, in the labour market for various job requirements (European Commission, 2014; Magaji, 2015; Rufus *et al.*, 2019). According to United Nations Educational, Scientific and Cultural Organisation (UNESCO) and International Labour Organisation's (ILO's) general conference, VET is defined as the study of technologies and related sciences including acquisition of practical skills, attitudes, understanding and knowledge related to occupations in various sectors of the economy and social life (UNESCO and ILO, 2002). It is argued that VET is not only important in providing employment opportunities to individuals but also enhancing firms productivity. In due regard, VET programmes are claimed to be indispensable instruments for improving labour mobility, adaptability and productivity, thereby contributing in enhancing firms' competitiveness and redressing labour market imbalances (Agrawal, 2013).

Based on a literature review in sociology and history of education, Agrawal (2013) describes some perspectives on the rise of vocational education in the world during the early part of the twentieth century. The most common view relates to the rise of vocational education with technological changes produced by industrial revolution (Cedefop, 2004; Agrawal, 2013). As a result of the changes and mechanization of processes, jobs became complex and highly specialized, aspects which caused demand for skilled workers (Mouzakitis, 2010; Cong and Wang, 2012). Such aspects, in turn, promoted growth of vocational education in provision of training for technically proficient labour across the globe so as to meet requirements for skilled workforce. VET have expanded to become a significant and growing form of education system worldwide. Literature indicates that, in India, it started in the 1950s; China adopted Soviet Union's model in 1949; and in Sub-Saharan Africa

(SSA), it started in the late 1950s and 1960s (Yang, 2014; Rao *et al.*, 2014; McGrath, 2019).

Growth of vocational education and training plays an important role in solving socio-economic and problems existing in societies (NUFFIC, 2010; OECD, 2014). However, OECD (2014) argues that for a VET system to solve such problems, it should meet the following qualities: decision on provision, how it meets needs and how the mix as well as content of vocational programmes are determined. With regard to delivering quality of vocational training, it should dwell on the following aspects: the manner vocational skills are imparted to learners using learning outcomes; how skills are assessed, certified and exploited; and pertinent supporting conditions, referred to the policies, practices and institutions that underpin vocational education and training. Therefore, it is important to note that if all these qualities are properly met, for VET can reduce problem of unemployment, one of the most pressing social and economic problem facing developing countries today (Hicks *et al*., 2016). For example, in Africa, the violent acts during the 2007 post-election in Kenya; the killing of migrants in South Africa in 2008 and 2019; and increased militancy, violent crimes, kidnappings, restiveness and socially delinquent behaviour in Nigeria are said to have partly been caused by high unemployment rate (IOM, 2009; Maduka, 2015; Hicks *et al*., 2016). Among countries with such problems, in recognition of vocational education as a measure to solve unemployment, the Government of Kenya, with support from development partners; invested over Kenya shillings (KES) 30 billion[1] in expansion and modernization of Technical and Vocational Education and Training during the 2010s (GoK, 2014). Moreover, the Technical and Vocational Education and Training Authority (TVETA) was established in 2013, under the Technical and Vocational Education Training (TVET) Act 2013 to regulate the conduct of Vocational Education in the country.

Globally, since its introduction, VET play a key role in mass unemployment alleviation, provision of specific skills for self-employment, prevention of mass movement of school leavers from rural to urban areas, and re-orienting students' attitudes towards the rural society (Sabates *et al.,* 2012; De Jaeghere, 2013). Thus, VET encompasses a powerful means for empowering people to develop their full capabilities, enabling them to seize social and employment opportunities, as well as

[1] KES means Kenyan Shilling; USD 1 = KES 102.37 in January 2017.

increasing productivity of both workers and enterprises (AfDB *et al*., 2012; European Commission, 2014). In addition, VET imparts people with knowledge and skills to not only for responding to changes occurring in their communities, but also to empowers them as catalysts for community change to influence on rural transformation, poverty alleviation thereby meet various developmental goals from the policy point of view (UNESCO-INRULED, 2001; Atchoarena and Gasperini, 2003; Chinapah, 2011). Accordingly, Cedefop (2014), argues that Vocational Education and Training has been a driving force for success and competitiveness for European economies and societies. A similar study by Cedefop (2011) indicated that economic benefits in form of higher participation in the labour market, lower unemployment and economic autonomy of individuals have been realised in several countries in Europe.

Previous studies for example, Mwasalwiba, (2012); Mwasalwiba *et al.,* (2012); VETA *et al.*, (2013) observed that integrating entrepreneurship in VET system results in highly socio-economic benefits among graduates; at societal level more businesses are created; and reduced unemployment rate in society is realised. Scholars such as Sayyar and colleagues (2012) as well as Kilasi (2013) argue that, in order for the present education system to produce job creators and not job seekers, it is very important to integrate entrepreneurship and, more specifically, vocational education in the education system. Also, studies point to a close link between vocational training and key economic variables such as sales levels, employment and Gross Domestic Product (GDP) growth (Squire *et al.*, 2009; Dickson and Harmon, 2011). Moreover, higher turnover and profits have been reported among self-employed VET graduates in countries with more developed VET systems than in less developed ones (Cedefop, 2011). Likewise, Marin-Dias and co-workers (2014), in their study on "Effects of training on the competitive economic advantage of companies in Spain", found out existence of the relationship between training and financial turnover. Pertaining to profit, Marin-Dias and colleagues (2014) argue that financial benefits from training in terms of profitability prevail over expenditure incurred on staff training. Similarly, Myers and co-workers (2004) found a positive correlation between business profits and employees' education and skills among graduates.

Further studies indicated that, in today's world of business, skills acquired through VET have been claimed to meet the main objectives of business firms including obtaining competitive advantage, increasing financial turnover as well as profits, and enhancing labour productivity through introduction of new strategies in human resources (Becker, 2009). From an organisational perspective, training and the pursuit of excellence through VET enable firms to improve their profitability by modifying their employees' skills and attitudes (Davenport, 1998; Drucker, 1999) and by increasing their job satisfaction (Schmidt, 2007) as well as commitment to organizations (Barrett and O'Connell, 2001). In this sense, it is argued that organizations and individuals who invests in VET training tend to have more success (Conti, 2012; Tharenou *et al.;* 2007) than those who do not. If firms consider their staff as strategically valuable assets, then they should invest in them for competence and devoted labour force, which should constitute prerequisite for business achievements (Aragón-Sánchez*et al.*, 2003).

Further literature indicates that, VET skills are highly linked with firms' financial performance, such as profitability, return on investment (ROI), sales growth and revenue growth (Liao and Wu, 2009). Studies (Shane, 2003; Kaplan and Norton, 2007) are also link with growth in customer base, internal business processes and learning with the ability of business survival, growth in ventures sales and profitability. However, literature on business performance indicates that there is lack of consensus on the definition of what constitutes business performance. According to Chahal *et al.* (2016), business performance refers to activities which are under control of individuals, that contribute to the organization's goals as well as objectives and can be measured according to the individual's skills level. In other words, quantity and quality of achievement such that an individual or a group contributes to the organization (Schermerhorn, Hunt and Osborn, 2000). Accordingly, Absar *et al.* (2010) as well as Katone and Kuzmina-Merlino, (2012), explained that business performance is dependent on employees' skills, knowledge and experience. Therefore, an efficient and unique human pool helps the organization to achieve this goal through resource utilization effectiveness, innovation, employees as well as customers' satisfaction and better quality of products or services.

It is further claimed that, while VET promises many benefits among its graduates in many cases, studies indicate that effects of different kinds of vocational skills on

business financial performance are hard to identify because skills are not deployed in isolation (Cedefop, 2011). Further Cedefop (2011) argue that, skills are usually combined with other factors of production such as machinery and equipment, before they can contribute to business performance. In addition, there is a key methodological issue (measurement of skills) due to indirect effects of skills on business financial performance. Moreover, several problems have been reported to distort the link of VET skills with financial performance including: the misconception of VET, weak government policies, wrong societal perception, inadequate funding, lack of basic training facilities, inadequate qualified personnel, political influence on VET programmes and lack of apprenticeship programmes, among others (Okonkwo, 2008; Lawal, 2013). Nonetheless, despite these challenges, there are a range of studies, which have looked into the benefits, which accrue to both individuals and organisations due to investment in education, training or skills (Tamkin, 2005; OECD and World Bank, 2013; Cedefop, 2011). In this study, the problem related to skill measurement was resolved by developing skill measures that used vocation education and training output data to derive a measure (admittedly imperfect) of the stock of certified VET skills. It was combined with relative effects on business net worth, revenue and profitability data by skill level to capture the relative importance of certified skills and uncertified skills (on the assumption that they were rewarded by business financial performance measures mentioned in this work).

With the exception of a study conducted by Cedefop (2011) in selected countries in Europe, minimal efforts have been made to assess the relative importance of skills acquired through vocational education and training compared to skills acquired through other types of education. This study filled this knowledge gap in the Tanzanian context by investigating effects of VET education and training on performance of businesses owned by self-employed VET and non-VET graduates in Tanzania. Therefore, this study, focused on three measures of business performance according to Shane (2003), which included business survival, growth in business sales revenue and profitability. Borrowing from Shane (2003) and for operational purposes, business net worth was taken as a substitute for business survival and comprised a combination of current and fixed assets. Growth in business was

expressed in terms of total business revenue, while profitability was taken to be net profit/earnings registered by business within a specific period of time.

1.1.2 Vocational education in Tanzania

In Tanzania, the history of VET goes back to 1940 when apprenticeship Ordinance was ratified to guide vocational training in the industry. The Vocational Training Act of 1974 established the National Vocational Training Division (NVTD) under the Ministry of Labour and Manpower Development (MLMP) which was replaced by the Vocational and Training Act Number 1 of 1994 (Bennell *et al.*, 1999; URT, 2006). The Vocational and Training Authority (VETA) is charged with broad tasks of coordinating, regulating, financing, promoting and providing VET in the country. It promotes balance of supply and demand for skilled labour in both wage-based employment and skills needed in self-employment (VETA, 2010).

Subsequently, five years from 2009 to 2014, VETA made significant developments towards improving VET in Tanzania, including increase in VET centres from 672 to 759, training of 3481 informal sector operators, training of 1650 employees under skills enhancement programme, increased enrolment in long as well as short courses from 104 840 to 159 345, and construction of new centres together with renovation of vocational training centres in various areas in the country (Moshi, 2014; VETA, 2014). Despite the presented achievements, VETA experiences a number of challenges such as low capacity of VET to meet the ever increasing demand for VET; inadequate funding to establish District Vocational Training Centres (DVTCs); and delayed remittance of Skill Development Levy (SDL) from Treasury (VETA, 2014), among others.

Currently, VETA coordinates more than 860 Vocational Training Centres (both public and private) which provide training in more than 90 different long courses and various tailor-made short courses to equip young men and women with basic skills before they join organizations in various sectors of the national economy (VETA, 2010). Mcha (2012) argues that skills requirements in the labour market are incompatible with skills supply. For example, in the National Development Vision (NDV) 2025, Tanzania envisaged becoming a middle income country by 2025 (ADF, 2014). However, the country achieved a Lower Middle Income (LMI) status in 2020 earlier than stated in the Tanzania Development Vision (TDV) 2025. Nevertheless, to

sustain LMI status, investing in human development is key. This would require the country proportions of highly skilled working population to quadruple and that of medium skilled work force to more than double. This would mean adding about three million highly skilled and seven million medium skilled Tanzanians in the labour market by 2025 (ADF, 2014).

In Tanzania, the VET is designed to prepare, update or retrain artisans for employment or self-employment at the semi-skilled level in any branch of economic activity (VETA, 2010). In another vein, the VET graduates are expected to provide the needed labour for improved performance in industry and in other economic and social service sectors, provide young and adult persons with opportunities to acquire skills in production, service, entrepreneurship as well as business management and to enable the productive and service sectors train and develop their human resources (URT, 1994). Moreover, the VET has a vital role to play in poverty reduction through employment generation in various economic sectors in developing economies like Tanzania. The critical role of vocational education is highly needed to improve productivity, income and equitable access to employment opportunities. It is widely accepted that vocational training is an essential instrument for poverty reduction especially for those with no formal employment in the society (Nwachukwu, 2014). In due regard, the challenge is to design integrated employment generating macro-economic policies to enable VET graduates create more self-employment activities and reduce unemployment, a major challenge to majority of the population and the labour market (Ntallima, 2014).

Therefore, VETA is expected to contribute significantly in bridging this huge gap of human resources requirements through provision of training that will provide a link between knowledge and skills to motivate individuals in society so as to be productive, self-reliant and self-dependent by inculcating into individuals' technical, vocational and entrepreneurial skills. Accordingly, Usman (2014) argues that acquisition of skills is a manifestation of ideas and knowledge through training geared towards instilling in individuals, the spirit of entrepreneurship needed for meaningful development. This implies that if individuals are given an opportunity to acquire relevant skills needed for self-sustenance through self-employment, it will promote their charisma in any work environment and hence increase chances for

achieving the National Development Vision 2025 and Sustainable Development Goal (SDG) one, which is to reduce poverty among people by 2030.

1.2 Statement of the Problem

Vocational education and training skills, coupled up with access to capital, machinery and equipment, have potential to increase revenue, profitability, business net worthiness, livelihood assets ownership and poverty reduction among self-employed graduates (Cedefop, 2011; URT, 2014). However, some businesses operated by self-employed graduates have been claimed not to perform properly in terms of earnings (Shitundu, 2003; VETA, 2010; Haji, 2015). Yet, factors and the extent to which they affect business performance of self-employed graduates, are unknown. In view of such situation, it is questionable whether or not VET contributes significantly to better business performance among self-employed graduates in the study areas.

Accordingly, Mwasalwiba and co-authors (2012) argue that "lack of start-up capital, inhibitive banking and taxation, issues of trust, poor technology, corruption, and cheap imports of commodities from countries such as China discourage graduate entrepreneurs' business ventures" during start-up and in course of doing business. Also other studies for instance (Mcha, 2012; Msigwa and Kipesha, 2013) asserts that some of employment situations in Tanzania include an imbalance between demand and supply of labour in the market and low rate of job creation in the general economy, resulting from low rate of investment and absence of specific employment stimulus programmes such as provision of tax rebates at sector as well as local levels.

Among the identified causes, it is unclear, which ones affect self-employed graduates in the study areas. Moreover, there could be other factors, which have not been pointed out in previous studies, but none of them have been established. The problem, if not investigated and resolved, is the likelihood of continued decline in business performance among self-employed graduates. Thus, make it a challenge to realise the goal of poverty eradication as set out in the Sustainable Development Goals (SDGs), particularly SDG 1 (ILO, 2017), which envisage to end poverty in all of its forms by 2030, be impossible. Therefore, the study sought to determine the effects of vocational education on business performance among self-employed VET and non-VET graduates in the selected study areas.

1.3 Justification for the Study

According to Act Number 1 of 1994, one of the objectives of VETA is to promote a balanced supply and demand for skilled labour in both wage employment and skills needed for self-employment in rural and urban areas (see also, VETA, 2010). In due regard, VETA has been given the role of transforming the Tanzania's country's economy and hence, the vocational training system must meet demands of labour market and must address issues concerning growing unemployment in the country. Therefore, this research was imperative to produce empirical findings so as to understand better factors affecting self-employment, which is a major source of livelihoods among the majority of the graduates in the country. Also, findings from this study will inform the existing vocational education and training laws and policies. Thus, contribute to improvement in the existing legal framework governing vocational education and training system in the country. Accordingly, it would impact the societal and economic development, which highly depends on the strength of VET because it imparts hands on skills not accessible from other forms of education systems and thus, an entry routes into the labour market through self-employment (VETA, 2010).

The trend of VET graduates in Tanzania from 2012 to 2015 shows an increase in the number of graduates from 79 119 in 2012 to 123 081 in 2015 (URT, 2016a). This translates into 56% increase over the four years, which did not match with the rate whereby VET graduates got into self-employment. Moreover, a tracer study by VETA indicated that self-employment among VET graduates stood at 50.5% while wage-based employment in both public and private sectors was observed at 43% and the rest were unemployed (VETA, 2010). Therefore, the results from this study will contribute to new knowledge regarding VET and thus, uncover specific factors contributing to self-employment and business performance among firms owned by graduates. Such information was necessary in influencing on political, economic and social actions so as to manage operations related to self-employment among firms owned by graduates due to declining formal employment in the country.

Besides the research was in line with the National Development Vision 2025, Small and Medium Enterprise Policy of 2003 and the National Employment Policy of 2008 which put emphasis on youth training for increasing employment opportunities (URT, 2008; URT, 2003). Moreover, the research was crucial and timely because it

was done during the era when the Fifth Phase Government was scaling up the amount and quality of investments under the Second Five-Year Development Plan II (FYDP II) of 2016/2017 to 2020/2021 whereby one among other goals, Tanzania was expected to attain a middle income and a semi-industrialised economy including social status by 2025 (URT, 2016b). Therefore, there was a need to determine effects of Vocational Education Training on financial performance of businesses owned by self-employed VET and non-VET graduates because the country was striving to achieve such goals.

1.4 Objectives

1.4.1 Main objective

The main objective of this study was to determine effects of vocational education training on business performance among self-employed VET and non-VET graduates in Dar es Salaam as well as Arusha Cities, Tanzania.

1.4.2 Specific objectives

The following were specific objectives of the study:

(i) Determine influence of selected socio-economic factors on self-employment among Vocational and Non-Vocational Graduates;

(ii) Compare firms' competitive strategies including profitability among businesses owned by self-employed vocational and non-vocational graduates;

(iii) Determine impact of asset capitalization on revenue generation among self-employed VET and non-VET graduates and

(iv) Compare livelihood assets and their contribution to livelihoods outcomes attainment between self-employed VET and non-VET graduates in the study areas.

1.5 Research Questions and Hypotheses

The study was driven by research questions and hypotheses since it used qualitative research approach to collect and analyse qualitative data, while quantitative research approach was used to collect and analyse quantitative data. (see Creswell, 2005). To that end, research questions were inevitable in guiding the qualitative research approach, while hypotheses were necessary in applying inferential analyses for quantitative data.

1.5.1 Research questions

The study was guided by the following research questions:

(i) What factors influence on self-employment among VET and non-VET graduates in the study areas?

(ii) What are firms' competitive strategies and profitability levels among VET and non-VET graduates?

(iii) What factors influence on business performance among businesses owned by VET and non-VET graduates in the study areas?

(iv) What are livelihoods assets owned and their chances for sustainable livelihoods among VET and non-VET graduates?

1.5.2 Research hypotheses

The following null hypotheses guided the study:

(i) Selected socio-economic factors do not have significant influences on chances for self-employment among VET and non-VET graduates;

(ii) There is no significant difference in firms' profitability performance and other profitability variables among businesses owned by self-employed VET and non-VET graduates in the study areas;

(iii) Tangible and intangible assets do not have a significant impact on revenue generation among VET and non-VET graduates; and

(iv) There is no significant difference in possession of livelihood assets (natural, physical, financial, human and social) and thus livelihoods outcomes attainment between self-employed VET and non-VET graduates in the study areas.

1.6 Theoretical Review

1.6.1 The Needs and Entrepreneurship Economic Theories

The first manuscript that is presented in the second chapter of this thesis was guided by two theories, namely, the Theory of Needs by David McClelland (1961) as well as Douglas and Shepherd (2000) Economic Theory of Entrepreneurship. The theory of needs for achievement has been used by various researchers, for example Mangasini (2015) and Royle and Hall (2012), to explain why individuals choose self-employment rather than other forms of employment. The theory of needs by McClelland (1961) states that every person has one of the following three main driving motivators: needs for achievement, affiliation, or power. These motivators are not inherent because people develop them through culture and life experiences.

Achievers like to solve problems and achieve goals. The need for power refers to the desire within a person to hold control and authority over another person so as to influence and change his/her decision in accordance with his/her own needs or desires. The need for affiliation refers to an urge of a person to have interpersonal and social relationships with others or a particular set of people. The achievement aspect of the theory attempts to explain the science of self-employment in the context of this study. The author argues that a relatively higher amount of self-employment society is determined by the high average level of need for achievement. The need for achievement (N-Ach) is the extent to which an individual desires to perform difficult and challenging tasks successfully.

In the context of this paper, on one hand, conscientious individuals are achievement-oriented and on the other hand, they are described as hard workers, efficient as well as dutiful. The need for achievement expresses the motivation of individuals to search for new and better solutions than those given in the actual environment. Therefore, it is asserted that achievement-oriented persons will become successful self-employed. The theory informs this paper on factors that influence on VET and non-VET graduates towards self-employment. Besides, the theory acknowledges that people who possess high achievement needs are people who always work to excel by particularly avoiding low reward low risk situations and difficult to achieve high risk situations. Such people avoid low risk situations because of lack of a real challenges and their understanding that such achievement is not genuine. Also they avoid high risk situations because they perceive and understand it to be highly about luck as well as chance and not about one's own effort. However, the theory has been criticised that self-employment outcomes and activities cannot be exclusively explained by psychological aspects of the individual person. Issues outside self-employed individuals or businesses need to be considered (Kinunda-Rutashobya and Olomi, 1999). They are related to the environment or circumstances in which the business operates. In this regard, the Theory of needs for achievement was used in the study to give a clear picture on the factors behind why individuals choose being self-employed rather than other forms of employment.

The Economic Theory of Entrepreneurship is based on economics' viewpoint, which explains about an individual's choices for self-employment (Douglas and Shepherd, 2000; Anaele *et al.,* 2014; Szaban and Skrzek-Lubasinska, 2018). The Economic

Theory of Entrepreneurship by Douglas and Shepherd (2000) states that the decision to be an entrepreneur may be modelled as a utility-maximizing career choice made by an individual. The theory distinguishes between entrepreneurial attitudes and entrepreneurial abilities, and links an individual's income potential to these abilities as well as attitudes. They investigate more fully the "working conditions" in terms of the individual's attitudes on specific work conditions such as effort required, risk exposure, and decision-making autonomy as factors for one having high or less attitude on entrepreneurial activity.

Thus, the economic theory of entrepreneurship explains, in part, an individual's choice to be self-employed, or to be an employee of an existing organization, by utilizing a utility-maximization model of human behaviour—an individual will choose the career option that promises the greatest expected utility (Anaele *et al.*, 2014). The theory considers three main attitudes on which one might expect to differ between those intending to be self-employed and those intending to be employees. These attitudes are those towards hard work, financial risk, and decision-making autonomy—which is called "independence". Thus, based on objective of this manuscript, which sought to determine selected socio-economic factors on self-employment among VET and non-VET graduates, this study on which this thesis is based positioned itself in the area of the Economic Theory of Entrepreneurship (supported by McClelland's theory), which facilitated to explain entrepreneurship as a career option that promises the greatest expected utility.

The Economic Theory of Entrepreneurship is much more appropriate in predicting and understanding graduates' engagement in various self-employment activities. It is argued that graduates' attitudes affect their career choice as to whether or not an individual chooses self-employment based on his/her attitude on work, business risk and decision making autonomy that they possess in their business ventures. Thus, it was expected that self-employed VET and non-VET graduates with positive attitude on their businesses would be self-employed while those with negative or low attitude would likely opt for other forms of employment, such as waged employment. Since the economic theory of entrepreneurship explains entrepreneurship as a career option that promises the greatest expected utility, the theory was used to measure the graduates' attitudes towards choosing self-employment as a carrier option that

promises the maximum expected utility among self-employed graduates as done in manuscript two.

1.6.2 Theory of Generic Competitive Strategy

In examining firms' competitive strategies, Porter's (1980, 1985) Theory of Generic Competitive Strategy was employed in the second manuscript. The theory is one among prominent and dominant examples in strategy literature used to explain a firm's competitive advantage (Campbell-Hunt, 2000). According to Porter (1985), there are basic businesses strategies-differentiation, cost-leadership and focus, and a firm carries out the best by selecting one strategy on which to put emphasis. Porter (1980) recommended that; for ensuring long-term profitability performance, a business must make a choice between one of the generic strategies rather than end up being "stuck in the middle." However, some studies found out that a combination of these strategies may give a business the best chances to attain a competitive advantage (see for example Allen and Helms, 2006; Amoako-Gyampah and Acquaah, 2008; Li *et al.,* 2009).

Differentiation and low-cost position represent two fundamentally different routes to competitive advantage and superior performance (Li *et al*., 2009). But the most important features for a firm's achievement is its ability to conquer a higher position in the industry in which it operates, that can arise from either differentiating its products/services and charging a premium price or selecting a cost-base lower than cost bases of its rivals but yet offering similar products and/or services (Granados *et al.,* 2019). Noticeable differentiation activities include unique products/services, innovative features, strong brand names, effective promotion programmes and so on. Low-cost strategies focus on gaining competitive advantage by having the lowest cost in the industry. Some of the basic activities involve aggressive construction of scale facilities, enthusiastic tracking down of cost reduction and cost minimization in various areas (Porter, 1980: 35).

In the context of this thesis, a combination strategy (differentiation and cost-leadership) was given precedence because it has been established in previous studies that businesses following the combination strategy exhibit higher performance than those following either cost-leadership or differentiation alone (Spanos*et al.,* 2004; Pertusa-Ortega *et al*., 2009; Gonzalez-Benito and Suarez-Gonzalez, 2010; Claver-

Cortes *et al.*, 2012). Provided that a combination strategy is highly associated with better profitability performance, the focus of the manuscript was to contextualized the sort of influence that cost-leadership and differentiation strategy have influenced on profitability performance among businesses owned by VET and non-VET graduates in Arusha and Dar es Salaam cities.

1.6.3 Human Capital Theory

The Theory of Human Capital, states that the more one invests in his/her education, the more returns he/she should receive in form of earnings (Brixy and Hessels, 2010). The Theory guided the third manuscript; it states that skills obtained through education and experience in one's lifetime are what develop an intuition for successful business behaviour due to a broad set of skills that are transferable among occupations (Mincer, 1958; Schultz, 1993; Black and Lynch, 1996; Fitzenberger and Volter, 2007). Moreover, the theory suggests that individuals possess skills that are directly relevant to their occupations (Rastogi, 2000 and OECD, 2001). For example, having education and work experience in the auto mechanic field should result in higher economic success for an individual starting an auto mechanic shop than having education and experience in music trying to start the same auto mechanic shop. In this sense, VET graduates with specific vocational educational skills and experience in particular fields should theoretically have more advantages than those with general educational skills and experience doing a similar business when looking at success of their businesses. In the context of this study, physical capital and human capital were factors considered to influence revenue generation. However, human capital in terms of educational skills, business experience, sex, age and marital status were given precedence because the said characteristics are considered the main drivers that make capitalised physical assets either perform better or not. Thus, the Theory of Human Capital was tested in this manuscript by examining the sort of influence which tangible and intangible assets have on revenue generation among firms owned by self-employed vocational and non-vocational education graduates in the study areas.

1.6.4 Sustainable Livelihood Approach

Sustainability, as a policy idea, has its cause in the Brundtland Report of 1987. The report explains tension between aspirations of humankind towards a better life, on one hand, and limitations imposed by the nature on the other hand. According to

DFID (2001), Sustainable Livelihood Approach (SLA), which guided the fourth manuscript, seeks to gain accurate and realistic understanding of people's strengths in terms of assets or capital assets. The SLA concept asserts that people with more assets ownership have better chances to convert their strengths at their disposal into positive and sustainable livelihood outcomes than those without such assets. The approach is important in analysing how people's attempts to convert the strengths at their disposal into positive livelihood outcomes (GLOPP, 2008). The approach is based on the premise that people need an array of assets to attain positive livelihood outcomes. Ibrahim and colleagues (2018) argue that among the components of SLA, the most difficult part is the range of assets (physical, natural, human, social, and financial), which people use in building their livelihoods.

Sustainability of livelihoods forms hypothetical perspective which is echoed in two situations of whether a livelihood is sustainable environmentally or socially (Krantz, 2001; Biggs *et al.,* 2014). Environmental sustainability concerns the external impact of livelihood on local or global resources or other assets while social sustainability concerns on internal capacity to cope with stress and shocks (Biggs *et al.,* 2014). In the context of this study, livelihoods sustainability is achieved through livelihood resources/assets shaped by prevailing social institutions and processes (Krantz, 2001).

Based on this perspective, this study focused on how self-employed graduates make use of their capabilities and utilise livelihood assets or capital items to cope with livelihood vulnerability as well as shocks and thus attain sustainable livelihoods outcomes. Provided that self-employment is largely associated with different types of assets (physical, natural, social, human and financial) used in building livelihoods as observed by Ibrahim *et al.* (2018), focus for application of the SLA was to contextualise the levels and compare whether or not there was any difference in livelihood assets owned and how they were related to achieve sustainable livelihoods outcomes among vocational and non-vocational graduates.

1.7 The Conceptual Framework

A Conceptual Framework is a narrative outline presentation of variables to be studied and relationships between variables. The conceptual framework for this study is based on the Theory of Need for Achievement postulated by David McClelland

(1961) and Specific Human Capital Theory (Brixy and Hessels, 2010). This conceptual framework was first put forward by OECD and the World Bank (2013) and thereafter adapted to this study. It explains the effect of vocational education and training as a driving force to both supply of skills (skills acquisition) and demand for skills (skills requirements). Also these factors will have an impact on matching skills obtained through vocation education and training in relation to self-employment activities required in the labour market (matching), which, in turn, will have an impact on business performance (revenue levels, profitability and net worth and thus chances for livelihoods attainment among graduates) as depicted in Figure 1.1.

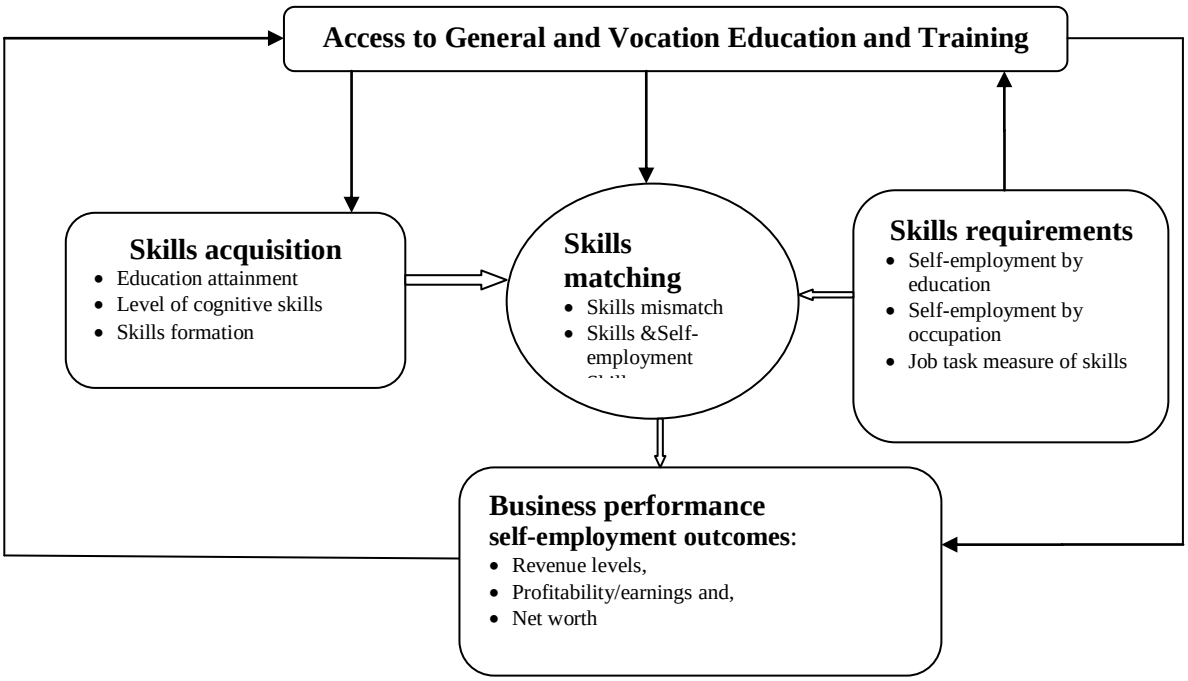

Figure 1.1: Conceptual framework for the study, adapted and modified from (Organisation for Economic Co-operation Development and World Bank, 2013)

The independent variables employed in the framework were access to general and vocational education and training captured by skills acquired and requirements while efficiency of matching skills with self-employment activities in the labour market were intervening variable (Figure 1.1). Skill acquisition covered the stock of graduates (VET and non-VET) in the labour market who had acquired skills through previous investments in education and who were key drivers of business performance including source of skills for self-employment activities captured by education and training attained by each individual. On the other hand, skills requirements (i.e. demand for and utilisation of skills) ultimately determined how each business owned

by a graduate performed in the market. Two key indicators were proposed, namely self-employment activities by education background of graduates and occupations. Also, matching indicator was used to track efficiency of matching skills obtained through education and training with self-employment activities in the labour market. In addition, indicators of over- and under-qualification in relation with a particular activity undertaken were also used (OECD and World Bank, 2013).

The dependent variable in the study was business performance which was measured in terms of amount of revenues, profits/earnings and firms net worthiness. Independent variables in the thesis refers to those activities, under the control of individuals; whereby they contribute to the organization's goals as well as objectives and they were measured according to the individual's skills level, education level attainment, job tasks performed and activities performed by education and occupation. In other words, it is quantity and quality of the achievement as a result of education that an individual or a group contributed to the organization's performance (see also, Schermerhorn *et al*., 2000; Absar, *et al*., 2010). In this study, VET graduates included persons who had undergone formal Vocational Education and Training certification, while non-VET graduates were persons without such qualification and certification.

1.8 General Research Methodology

1.8.1 Description of the study areas

The research on which this thesis is based was conducted in Dar es Salaam and Arusha cities. Dar es Salaam is located on the Eastern coast of Tanzania and lies between Latitudes $6^0$45' South and $7^0$25' South, and between Longitudes 39^0 East and $39^0$55' East. It borders with the Indian Ocean to the East and with Pwani region on the North, South and West sides (ILRI, 2007, cited by Kabede and Nicholls, 2011). It comprises a total land area of 1 630.7 kilometre square [km^2 (about 0.2% of the entire Tanzania Mainland area)]. Arusha city is one of the seven Districts of Arusha Region. Other districts include Arumeru, Modnduli, Ngorongoro, Longido, Arusha rural and Karatu. Arusha city is located between Latitudes 20^0' South and 60^0 South of the Equator and between Longitudes 35^0.50 East to 38^0' East of Greenwich (URT, 2020).

The two cities were chosen for they differ in many aspects, such as population size, individuals' income levels, economic activities as well as human development between regions among others (UNDP, 2018). Dar es Salaam is the largest city with oldest VET school in Tanzania and Arusha city ranks just below Dar es Salaam, among other cities, in terms of social services and public infrastructure investments including vocational institutions (VETA, 2010; Wenban-Smith, 2015 cited in Andreasen *et al.,* 2017). Specifically, Dar es Salaam was chosen because it is the largest city with the highest record of VET centres, which stood at 75 VET centres by 2015, followed by Arusha, which is among the major cities and had 52 VET centres by 2015, more than other major cities in Tanzania (URT, 2016a). It implies that there were more self-employed graduates in the two cities in comparison to other cities in Tanzania.

1.8.2 Research philosophy

The study was guided by the positivism research philosophy which is based on the idea that science is the only way to learn about truth (Collins, 2010). The philosophy is based on a view that knowledge stems from human experience, it has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determinable and regular manner. The positivism approach initiates scientific investigation with a theory, which states a certain hypothesis, then data are collected and analysed to either disprove or support the theory (Cohen *et al.,* 2018). Positivists reduce the causes of the problem into discrete sets of ideas to test variables which consist of hypotheses and research questions (Creswell, 2009). Scientists in positivism tend to generalise to the world their findings derived from the hypotheses test (Cohen *et al.,* 2018). In a similar manner, this study assessed effects of Vocational Education and Training on firms' performance among firms owned by VET and non-VET graduates in which different theories; including the Human Capital Theory, the Needs Theory, the Economic Theory of Entrepreneurship, Competitive Strategies Theory and the Sustainable Livelihood Approach; were adopted to guide scientific methods of data collection and analysis. Hypotheses were tested to guide the causal links to the problem of the study.

1.8.3 Research design, sampling procedure and sample size

The study adapted a cross-sectional research design since it facilitates collection of data more or less simultaneously, and enables examination of variables once at a single point in time (Bryman and Bell, 2011). Moreover, it enabled determination of relations of various self-employment factors between self-employed VET and non-VET graduates. The study population was VET graduates and non-VET graduates with different skills who were self-employed in Arusha and Dar es Salaam cities. The unit of analysis was an individual owner of a business under self-employment. The VET graduates were vocational education alumni (treated), while non-VET graduates (control) were those without any formal vocational education training. The choice of the two groups was justified in terms of fairly balanced characteristics such as age, types of business activities, business locations and formal education determined during piloting of the study. A total of 384 respondents were involved in this study, distributed into two equal number based on maximum variability that p = 0.5 and q = 0.5, according to Cochran, (1977). Therefore, based on Cochran (1977), one half (192) of the respondents were VET graduates and the other half (192) of the respondents were non-VET graduates. The sample size was determined by using the following formula by Cochran (1977):

$$n = \frac{z^2 p(1-p)}{\ell^2} \quad \text{.....(1.1)}$$

Where:

n = sample size

z = the abscissa of the normal curve

p = probability that the selected respondent in the population was a VET graduate

q = (1-p) probability that the selected respondent in the population was a non-VET graduate

ℓ = the acceptable sampling error.

Therefore, using p = 0.5 (maximum variability), q = 1-0.5 = 0.5, z = 1.96, at the 95% confidence level and ±5% precision, the resulting sample was as follows:

$$n = \frac{(1.96)^2(0.5)(1-0.5)}{(0.05)^2} = 384 \quad \text{.....(1.2)}$$

Therefore, 384 participants were involved in the study.

1.8.4 Instrumentation and data collection techniques

Snowball sampling was employed to collect data from individual graduates in Arusha and Dar es Salaam cities for interview. The technique was used in finding and recruiting "hidden populations", respondents who were not easily accessible to the researcher through other sampling strategies (see Babbie and Mouton, 2001). Nonetheless, snowball sampling method suffers from some critiques such as producing results, which are not good for generalisation due to lack of sampling frame (Morgan, 2008 cited by Kirchherr and Charles, 2018), lack of sample diversity and under representation of respondents in the population (Shaghaghi *et al.,* 2011), but was appropriate for getting the sample. This is because, several studies refute the criticism propounded by some scholars with regard to the snowball sampling method. For instance, Creswell (2005) and Noy (2009) argues that the intent of research is not only to generalise results to a population but also to develop an in-depth investigation of a central phenomenon, thereby produce a unique type of social knowledge.

In overcoming some of the weaknesses already identified, the study used three key methodological approaches recommended to reduce the observed weaknesses. The approaches were the following: a key contact list of respondents was obtained from the Directorate of Labour Market Planning and Development (DLMPD) at VETA Chang'ombe; colleges and schools which served as seeds for snowball sampling method were sampled. The seeds were different in terms of business categories whereby nine different businesses were included in the pool of seeds obtained from the respective institutions to solve the diversity and under representation problem. Then, face-to-face interviews were conducted because it is claimed by many scholars that they generate trust required to gain referrals and reduce sampling bias (see Creswell, 2005; Noy, 2009; Sadler *et al.,* 2010; Shaghaghi *et al.,* 2011; Kirchherr and Charles, 2018).

Quantitative data were collected by using a survey approach with a structured questionnaire for each business. From the total sample of 384 respondents, the population of Arusha (1 694 310) and the population of Dar es Salaam (4 364 541), as per 2012 national population census (URT, 2013), were used to find proportions of Arusha respondents. In due regard, they yielded approximately 28% equivalent to 106 respondents from Arusha and 72% equivalent to 278 respondents from Dar es

Salaam. The first respondents from each of the two cities were obtained through referral and recommendations provided by representative of the DLMPD at VETA Chang'ombe, Dar es Salaam.

Qualitative data were collected using Key Informant Interviews (KIIs) whereby a total of nine KIIs were held. The key informants (technical and administrative personnel) were selected based on their knowledge of vocational education and graduates' employment status. For the VET institutions that were involved, one retired VETA Director General, two College Principals, two Academic Department Heads, one representatives of the DLMPD at VETA Head Office Dar es Salaam, one VET student and one experienced self-employed individual were interviewed. Qualitative and quantitative methods of data collection complemented each other and thus, increased the overall validity of the study findings through verification of respondents' answers, checking responses' uniformity of one method against the other and within methods triangulation as recommended by Casey and Murphy (2009). Qualitative research approach allowed for an in-depth probing and yielded detailed information (see Saunders *et al.,* 2009).

1.8.5 Reliability and validity

Reliability and validity are essential concepts in contemporary research because they are used to increase correctness of assessment and evaluation in a research work (Mahojan, 2017). Reliability refers to the extent to which the same answers can be obtained using the same instruments more than one time (Babbie, 2010). There are three types of reliability: stability, equivalence and internal consistency (Cohen *et al.*, 2018). The study pre-tested (pilot survey) the data collection tools to ensure stability and lucidity of items. The preliminary study involved 30 respondents (15 VET graduates and 15 non-VET graduates) self-employed in different activities in Moshi Municipality were interviewed to evaluate consistency and clarity of the tools. In due regard, some alterations were invoked to make the tools flawless. Moreover, Cronbach's alpha coefficient was used to test the internal consistence of items in the tools. Fifteen items in the questionnaire were chosen randomly to compute the alpha coefficient. The result showed a good internal consistency with alpha coefficient of 0.819 which is above the threshold of 0.7 (see Cohen *et al.,* 2018).

Validity explains how well the collected data cover the actual area of investigation (Ghauri and Gronhaug, 2005). Validity actually means measuring what is intended to be measured (Field, 2018). In this study, content and construct validity were guaranteed by conducting broad theoretical and empirical reviews on the area under study to establish important theories and empirical works on self-employment including small firms' financial performance among graduates. Experts in the areas were also consulted for more inputs and views to ensure that study tools captured correct and accurate data for the study.

1.8.6 Data analysis plan

Qualitative data were analysed using constant comparison technique by comparing occurrences applicable to each category and restricting data to the theory as proposed by Kolb (2012). Qualitative data recorded in note books were transcribed, categorised as well as coded and later on, they were grouped into themes in relation to the study objectives. Themes were further deduced into meaningful information.

Quantitative data for the first specific objective were analysed using descriptive statistics, factor analysis and binary logistic regression. Descriptive statistics were used to describe firms' profiles and socio-demographic factors of self-employed graduate business owners. Factor analysis was used to analyse data in order to identify common factors which influenced on self-employment among VET and non-VET graduates. Later on, they were subjected to binary logistic regression to identify the main factors influencing on self-employment among graduates. For specific objective two, a profitability ratio analysis was used to assess firms' profitability performance, an independent samples t-test was used to compare profitability performance and a multiple linear regression analysis was employed to determine the relationship between competitive strategies and profitability performance. Moreover, for specific objective three, descriptive statistics were used to describe business performance indicators while an independent samples t-test was conducted to compare firms' revenue and net worth performance between VET and non-VET graduates. To determine the influence of assets and social demographic factors on revenue, a multiple linear regression analysis was conducted. Descriptive statistics were used to determine levels of livelihoods assets owned while a Mann-Whitney U test was used to compare livelihood assets owned between VET and non-VET graduates in the fourth objective. The detailed analysis for quantitative data are found

in the respective manuscripts in chapters two, three, four and five for each specific objective.

1.9 Ethical Consideration

The study observed research ethical requirements as provided in the Moshi Co-operative University (MoCU) general guidelines and regulations for postgraduate studies of 2020. Before data collection, research permit was obtained from MoCU and thereafter, it was presented to the Regional Administrative Secretaries (RASs) of Arusha and Dar es Salaam regions. The RASs from the two regions notified the District Administrative Secretaries (DASs) who further issued permits to notify the Ward Executive Officers (WEOs) of the places where the study had to be conducted. Moreover, the researcher introduced himself and the study to the respondents and explained to them objectives of the study and sought consent from them before starting actual data collection. The study further highly observed respondents' confidentiality, anonymity, voluntary participation and respect for their privacy.

1.10 Limitations of the Study

The study encountered some limitations, which were out of the researcher's control during data collection. First, the study relied on financial data provided by respondents, which might be subject to biases related to accuracy and dishonest. To address this limitation, on one hand, efforts were made to ensure that financial data for assets, liability and expenses were related to current market prices by the year ended 31st December, 2017. In due regard, the financial data were assumed to represent fairly true economic values of the financial data owned by self-employed VET and non-VET graduates. On the other hand, the respondents were assured that their individual privacy and financial information were valued and that results from the research would not allow personal and business identification to anyone. This was necessary to avoid respondents hiding some important data for the research. In addition, triangulation of data was used to reduce the impact of the mentioned limitations. Moreover, most of self-employed graduates did not prepare financial statements, which were among the important sources of financial data for the study. The challenge was addressed by the researcher, with the help of two enumerators well versed with accounting knowledge, constructed simple financial statements from information provided by the respondents.

1.11 Organization of the Thesis

This thesis is organized in four publishable manuscripts, each of which forms a chapter. The whole thesis is arranged in six chapters starting with an introduction part in chapter one, which provides background information to the thesis. Chapter two presents manuscript number one that focuses on the determinants of self-employment among self-employed VET and non-VET graduates. This is followed by chapter three, which presents manuscript two that deals with competitive strategies and profitability among firms owned by self-employed VET and non-VET graduates. Chapter four presents manuscript number three, which concentrates on comparing assets capitalisation and revenue generation between firms owned by self-employed VET and non-VET graduates. Chapter five, on the other hand, presents the fourth manuscript that deals with comparison of livelihood assets owned by self-employed VET graduates and non-VET graduates including their contribution to livelihoods attainment among them. In chapter six, the thesis presents summary of results, discussion from all the manuscripts, and finally, draws out conclusions and recommendations.

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CHAPTER TWO

2.0 FACTORS INFLUENCING ON SELF-EMPLOYMENT AMONG VOCATIONAL AND NON-VOCATIONAL GRADUATES IN ARUSHA AND DAR ES SALAAM CITIES, TANZANIA

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2.1 Abstract

Self-employment provides an important alternative source of jobs in Tanzania, like in other countries with relatively high unemployment. This problem of unemployment is a major challenge among both vocational and non-vocational graduates. Thus, this manuscript sought to determine factors influencing on self-employment among vocational and non-vocational graduates. The study adapted a cross-sectional survey design with a sample of 384 respondents. Quantitative data were analysed using descriptive statistics, factor analysis, and binary logistic regression while qualitative data were analysed through content analysis. Results indicated that 11 out of 30 factors influenced on self-employment among graduates. Further analysis on factors indicated that age, experience in business, entrepreneurship training and access to capital significantly influenced on self-employment ($p < 0.05$) for both categories of graduates. Moreover, marital status, easy business start-up procedures and availability of facilities significantly influenced on self-employment ($p < 0.05$) among non-vocational graduates. It is concluded that age, experience in business, entrepreneurship training and access to capital are the main factors influencing on self-employment among Vocational and Non-Vocational Graduates in Tanzania, particularly in Arusha and Dar es Salaam cities, while marital status, easy business start-up procedures, and availability of facilities are additional factors that influence on self-employment among non-vocational graduates. As some of the self-employment determining factors cannot be altered, policy interventions should be directed at strengthening factors which can be improved such as entrepreneurship training and access to capital for both vocational and non-vocational graduates while start-up procedures and availability of facilities should be given importance by non-vocational graduates, local authorities and regional authorities in areas, where the businesses operates.

Key words: Self-employment, business, vocational, non-vocational, graduates

2.2 Introduction

Self-employment refers to a situation whereby individuals own and work in their own businesses, including unincorporated businesses as well as own-account workers (OECD, 2016). Self-employment is considered an essential factor in economic development and a critical source of new jobs, which provide alternative employment opportunities for the majority of the labour force in countries where massive and increasing unemployment has become a significant economic problem (Wakesa *et al.,* 2016). Moreover, self-employment rates are 16.6% for European Union (EU) countries and 16.1% for Organisation for Economic Co-operation and Development (OECD) countries (Simoes *et al.,* 2016). In emerging economies, self-employment accounts for 53% of the workforce in low-income countries and 36% in lower-middle-income countries, mainly in agriculture in both cases (Fields, 2013). In Sub-Saharan Africa (SSA), self-employment accounts for 66% of total employment (Fields, 2013). East Africa shows a similar trend as SSA whereby more than 60% of the population is self-employed mainly in the informal sector (AUC and OECD, 2018). In Tanzania, self-employment has a reasonable contribution to the Gross Domestic Product (GDP) growth from 27% in 2010 to 35% in 2016 (Tanzania Invest, 2019). With the increasing unemployment rate in the formal sector, self-employment has been crucial in the emerging economies as a strategy to achieving sustainable economic development and poverty reduction (Ihua, 2009; URT, 2012).

However, despite declining contribution of the informal sector as a per cent of GDP from 62.5% in 1991 to 39.7% in 2010, the segment employs 62.5% of the yearly urban labour force, which is higher than the estimated 8.5 percent by the formal sector (ESRF, 2016). There are more than three million businesses owned by self-employed individuals in the informal sector in Tanzania, employing more than five million individuals (ESRF, 2016). Notwithstanding the contribution of the informal sector to the country's GDP and self-employment to the majority of the labour force (URT, 2012; ESRF, 2016), factors for entry into self-employment activities are not well-known, particularly for Vocational Education and Training (VET) and non-VET graduates. In this manuscript, self-employment includes nine businesses, which according to VETA (2010), they were mostly preferred by VET graduates. The businesses include carpentry, textile and clothing, motor vehicle mechanics, motor vehicle electrical wiring, electrical installation, secretarial services as well as

computer application, construction, food preparation, and welding and fabrication. Therefore, graduates in areas that were considered to have low preference for self-employment such as fitter mechanics, pattern making and boiler mechanics, among others were excluded.

Previous studies (for example, Blanchflower, 2000; ILO, 2015; Simoes *et al.,* 2016; Dvoulety, 2018) indicate that factors related to occupations, demographics and individual characteristics have been found to provide insights into self-employment activities among small business owners. For instance, Dvoulety (2018) established that necessary individual characteristics variables including age, gender, marital status, number of children and experience in business were found to influence on self-employment among men and women. However, women had a lower tendency to enter into self-employment than men due to their avoidance of various business-related perils such as operational losses, market competition with similar businesses among others, for firms owned by women. Accordingly, Simoes *et al.* (2016) argue that the tendency of becoming self-employed is higher for married individuals and those having children than others. This is mainly because a spouse may provide as a source of monetary, material and emotional support and having children relates to higher family expenditures, necessitating higher income.

Moreover, studies have revealed that parents' entrepreneurial backgrounds can initiate self-employment intentions in their children (Altinay *et al.,* 2012; Laspita *et al.,* 2012; Lindquist *et al.,* 2017). Lindquist *et al.* (2017) argue that family business exposes the young generation and affects their intentions to self-employment perception as a desirable career choice in their lifetime. If a parent is self-employed, it increases chances that the person will become self-employed by a factor of 1.3 to 3.0 (Andersson and Hammarstedt, 2011). Access to financial resources is claimed to positively influence on self-employment, among other factors, and wealthier individuals with lower financial constraints get into self-employment than others (Beck and Demirguc-Kunt, 2006; Simoes *et al.,* 2016). Other factors which are claimed to influence on self-employment include human capital variables representing education and business experiences. It is argued that formal education increases skills needed for self-employment activities while business experience is positively linked with self-employment (Levie *et al.,* 2009; Block and Sandner, 2009; Packham *et al.*, 2010; Lange *et al.*, 2011).

The role of entrepreneurship education in relation to self-employment has been confirmed by many empirical studies. For example, studies by Matlay (2008) and Van der Zwan *et al.* (2013) have shown that majority of the individuals with entrepreneurship education attain self-employment status in comparison to those without. Gibcus *et al*. (2012) found more self-employed individuals among entrepreneurship alumni than alumni without entrepreneurship background. Similarly, Mangasini (2015) argue that entrepreneurship education had increased graduates' need for achievement for those who had studied entrepreneurship courses rather than those without. A study by VETA *et al.* (2013) indicated that entrepreneurship education and training is a necessary tool for self-employment but insufficient if not supported or linked to other factors such as support of capital and linkage with employers, industries and other business development services.

Therefore, based on the literature, it is important to note that most of the aforementioned studies were based on developed and capitalist economies, which from the outset, provided supportive environment for individuals to enter into entrepreneurship and self-employment activities. However, the Tanzanian environment, through "*Ujamaa policy*" (socialist policy), before policy change in the 1990's did not support individual ownership of means of production, a situation, which negatively impacted on individuals from entering entrepreneurship and self-employment activities during that time (Mangasini, 2015). Moreover, existing literature indicates that no study, which has been done so far relating to specific factors influencing on self-employment among VET and non-VET graduates in the country. Thus, the study fills in the literature gap and provides insight into specific factors, which induce VET and non-VET graduates to enter into self-employment in the Tanzanian environment after the country adapted economic liberalisation policies in mid 1990s'. Such policies allowed individuals to own means of production and thus, enter into self-employment activities.

Hence, regardless of the current Tanzanian environment supporting entrepreneurship and self-employment activities, unemployment situation among graduates is still high (LO/FTF, 2018). For instance, it is estimated that of more than 850 000 graduates who enter the labour market annually, only 50 000 to 60 000 are absorbed into the formal sector. Moreover, studies indicate that the self-employment status for VET and non-VET graduates stands at 38% and 22.7% respectively (Mangasini,

2015; VETA, 2019). In comparison to the number of graduates entering the labour market, the number of graduates going for self-employment is still low, an aspect which implies that the majority of graduates are unemployed. The unemployment situation is claimed to be slightly higher in urban areas at 13.4% compared to the national average of 10.3%, Dar es Salaam Region having the highest unemployment rate at 21.5% (URT, 2015). As a result, the Tanzanian National Employment Policy (URT, 2008) was established, and one among other issues focuses on quality employment and promotion of self-employment opportunities among graduates.

Moreover, one among reasons for establishment of Vocational Education and Training Authority (VETA) in Tanzania was to impart technical skills among graduates to enable them get into sustainable self-employment and reduce poverty among the disadvantaged groups (URT, 1994). However, some VET graduates fail to get into self-employment after graduation despite their positive intentions before their graduation (VETA, 2019). The situation is worse for female graduates, 81.2% of whom are claimed to stay unemployed for more than one year compared to 78.7% of the unemployed male graduates (VETA, 2010). This situation poses a challenge as to the specific factors that contribute to self-employment among VET and non-VET graduates. Thus, the study objectives were to identify factors that influence on self-employment and analyse factors that influence on self-employment among VET and non-VET graduates in the study areas. Based on the objectives it was hypothesised that, selected socio-economic factors do not have significant influences on chances for self-employment among VET and non-VET graduates. Therefore, the scope of this manuscript is limited to the identification and analysis of various factors that influence on VET and non-VET enter into self-employment activities.

In line with determination of the factors that induce people to enter into self-employment, this manuscript used two theories, namely, Theory of Needs by David McClelland (1961) as well as Douglas and Shepherd (2000) Economic Theory of Entrepreneurship. These theories were chosen for this manuscript because they reasonably explain reasons for individuals to choose self-employment rather than other forms of employment, and various scholars have used them for that purpose (Douglas and Shepherd, 2002; Mangasini, 2015; Royle and Hall, 2012). The achievement aspect of the theory by McClelland (1961) is that it attempts to explain the science of self-employment in the perspective that a higher amount of self-

employment in society is determined by the high average level of need for achievement as an individual's desire to perform difficult and challenging tasks successfully. Therefore, in the context of this manuscript, it is asserted that achievement-oriented persons are successfully self-employed.

The Economic Theory of Entrepreneurship by Douglas and Shepherd (2000), states that the decision to be an entrepreneur may be modelled as a utility-maximizing career choice made by an individual. The theory explains, in part, that an individual's choice to be self-employed, or to be an employee of an existing organization, by utilizing a utility-maximization model of human behaviour—an individual chooses the career option that promises the greatest expected utility. The theory was much more appropriate in predicting and understanding graduates' engagement in various self-employment activities in this manuscript. Thus, it was expected that self-employed VET and non-VET graduates with positive attitude on their business were self-employed, while those with negative or low attitude were likely to opt for other forms of employment activities, such as wage employment.

2.3 Methodology

2.3.1 Description of the study area

The research on which this manuscript is based was conducted in Dar es Salaam and Arusha cities. The two cities were chosen for they differ in many aspects, such as population size, individuals' income levels, economic activities as well as human development between regions among others (UNDP *et al.,* 2018). Moreover, Dar es Salaam city is the largest city in Tanzania followed by Arusha city, in terms of social services and public infrastructure investments including vocational institutions (VETA, 2010; Wenban-Smith, 2015 in Andreasen *et al.,* 2017). Specifically, Dar es Salaam city was chosen because it is the largest city with the oldest and highest record of VET centres which stood at 75 VET centres by 2015, followed by Arusha, which is among the major cities, which had 52 VET centres by 2015, more than other major cities in Tanzania (URT, 2016). The assumption here is that the larger the number of VET institutes, the more self-employed graduates in the two cities than other cities in Tanzania.

2.3.2 Research design, sampling procedures and sample size

Cross-sectional research design was adapted to facilitate collection of data more or less simultaneously and enables examination of variables once at a single point in time (Bryman and Bell, 2011). Besides, it permitted determination relations of various self-employment factors between self-employed VET and non-VET graduates. The study population was VET and non-VET graduates with different skills who were self-employed in Arusha and Dar es Salaam cities. The unit of analysis was an individual owner of a business under self-employment. The VET graduates were vocational education alumni (treated) and non-VET graduates (control) were those without any formal vocational education training. The choice of the two groups was justified in terms of fairly balanced features such as age, types of business activities, business locations and formal education, which were previously determined during piloting of the study. A total of 384 respondents on which this manuscript is based were involved in this study. The respondents were distributed into two equal numbers based on maximum variability that $p = 0.5$ and $q = 0.5$ according to Cochran, (1977). Therefore, based on Cochran (1977), one half (192) respondents were VET graduates and the other half (192) of the respondents were non-VET graduates.

2.3.3 Instruments and data collection

Snowball sampling was employed to collect data from individual graduates in Arusha and Dar es Salaam cities for interview. The method was used in finding and recruiting "hidden populations." In due regard, respondents who were not easily accessible to the researcher through other sampling strategies were sought for (see Babbie and Mouton, 2001). Nevertheless, snowball sampling procedure suffers from several critiques, such as producing results which are not good for generalisation due to lack of sampling frame (Morgan, 2008 cited by Kirchherr and Charles, 2018) and lack of sample diversity and under representation of respondents in the population (Shaghaghi *et al.,* 2011). However, several studies refute criticism propounded by some scholars with regard to snowball sampling procedure. For instance, Creswell (2005) and Noy (2009) argue that the intent of research is not only to generalise results to a population but also to develop an in-depth investigation of a central phenomenon and thus, produce a unique type of social knowledge. Therefore, the research on which this manuscript is based contextualised socio-economic factors

influence on self-employment among graduates in the two cities. Thus, facilitated better understanding of self-employment situation and factors underpinning self-employment among graduates in the study areas.

In overcoming some of the weaknesses already identified in this work, the study used three key methodological approaches recommended to reduce the observed weaknesses. The approaches were: a key contact list of respondents was obtained from the Directorate of Labour Market Planning and Development (DLMPD) at VETA Chang'ombe; colleges and schools which helped as the seeds for snowball sampling procedure, the seeds being different in terms of business categories whereby nine different businesses were included in the pool of seeds obtained from the respective institutions to solve the diversity and under representation problem; and a face-to-face interviews were conducted because as claimed by many scholars, generate trust required to gain referrals and reduce sampling bias (Creswell, 2005; Noy, 2009; Sadler *et al.*, 2010; Shaghaghi *et al.*, 2011; Kirchherr and Charles, 2018). A survey approach was used to collect quantitative data using a structured questionnaire for each business. From the overall sample of 384 respondents, the population of Arusha (1 694 310) and the population of Dar es Salaam (4 364 541), as per Tanzania national census of 2012 (URT, 2013), were used to find proportions of Arusha respondents which yielded approximately 28% equivalent to 106 respondents from Arusha and 72% equivalent to 278 respondents from Dar es Salaam. The first respondents from the two cities were obtained through referral and recommendations provided by representatives of the DLMPD at VETA Chang'ombe Dar es Salaam, Colleges, Schools and key contact person list developed during field work.

Qualitative data were collected using Key Informant Interviews (KIIs) whereby a total of five KIIs were held. The key informants (technical and administrative personnel) were selected based on their knowledge of vocational education and graduates' employment status. For the VET institutions that were involved, retired VETA Director General, College Principals, Heads of Academic Departments and representatives of the DLMPD at VETA Head Office Dar es Salaam were interviewed. Qualitative and quantitative methods for data collection complemented each other. Thus, increased the overall validity of the study findings through verification of respondents' answers, checking responses' uniformity of one method

against the other and within methods triangulation as recommended by Casey and Murphy (2009). The qualitative research approach allowed for an in-depth probing and yielded detailed information (see Saunders *et al.,* 2009).

2.3.4 Data processing and analysis

The qualitative data were analysed using constant comparison technique by associating occurrences applicable to each category and restricting data to the theory as proposed by Kolb (2012). Quantitative data were analysed using descriptive statistics, factor analysis and binary logistic regression. Factor analysis was used to analyse data in order to identify common factors, which influenced on self-employment among VET and non-VET graduates. Pre-test of the questionnaire conducted by interviewing 30 self-employed VET and non-VET graduates in Arusha and Moshi enabled the researcher to identify the main factors that influenced on self-employment among the graduates in the study areas. In addition, literature review provided insight into more factors influencing on self-employment elsewhere in different economic jurisdictions. Then, the identified factors combined with other social demographic variables (age, business experience, sex and marital status) were quantitatively analysed using binary logistic regression to test the hypothesis that selected socio-economic factors do not have a significant influence on self-employment among VET and non-VET graduates in the study areas. The analysis was appropriate since the dependent variable was a dichotomous variable with options 0 and 1 (measured as 1 = High if the graduate had high scores on self-employment attribute; or 0 = Low if the graduate had low scores on self-employment attribute.

Accordingly, the binary logistic regression model was adopted because the variables used met the underlying assumptions that all predictor variables were nominal, ordinal, interval, or ratio variables (Field, 2018). The underlying assumptions of the model, among other things, included sample size adequacy, linearity, and multicollinearity (see Pallant, 2011). The sampling adequacy assumption was tested using the method by Peduzzi *et al.* (1996). The formula for a minimum number of cases to include in a study was given by:

$$n = 10 (k)/p \quad \text{.....(2.1)}$$

Whereby:

"k" is the number of covariates included in the model, and "p" is the proportion of positive cases in the sample. Thus, with 15 covariates included in the model, the minimum sample size (10 (15) /0.828), equal to182 cases, was needed. For the analysis, the study used a sample of 192 for each category of graduates, which was over and above the minimum recommended number. The linearity assumption was tested to check whether continuous variables in the model if it had any relationship with log of outcome variables. The interaction between each predictor and log of itself in the model was significantly higher than 0.05 indicating that assumption of linearity of logit was met for all the predictor variables as indicated in Table 2.1.

Table 2. 1: Linearity assumption test for continuous variables (n = 384)

Variable	Significance (p-value)
Age	0.413
Experience in the business	0.369
Age by Ln(Age)	0.409
Experience by Ln (Experience)	0.957

Moreover, multicollinearity was tested to determine whether or not there was a strong correlation among independent variables that would have caused problems when assessing the individual importance of each independent variable in the model. Field (2018) asserts that an inter-correlation of variables ranging from 0.8 and above signals multicollinearity. Inter-correlation among all the independent variables (Table 2.2) confirmed absence of multicollinearity. Interpretation of the binary logistic regression was based on group statistics, Omnibus tests of model coefficients, Hosmer and Lemeshow test, Cox and Snell and Nagelkerke R^2, Wald statistic, B-values, Exp (B) and significance (p-values).

Table 2. 2: Variables correlation matrix (r-value)

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}
X_1	1	0.026	0.040	0.330	0.029	-0.16	-0.11	-0.18	-0.01	0.08	0.13	0.11	0.10	0.08	0.04
X_2		1	-0.01	0.11	-0.15	-0.29	-0.22	-0.15	0.08	0.13	-018	0.12	-0.04	-0.10	0.11
X_3			1	-0.02	-0.03	-0.02	0.05	-0.11	-0.08	-0.07	0.08	-0.00	-0.04	-0.01	-0.07
X_4				1	-0.11	-0.11	0.01	-0.05	-0.11	0.17	-0.13	-0.01	-0.06	0.04	0.11
X_5					1	0.11	0.01	0.06	0.03	-0.04	0.11	-0.01	0.04	-0.06	-0.01
X_6						1	-0.06	0.28	-0.10	-0.15	0.27	-0.10	0.02	-0.10	-0.09
X_7							1	-0.04	-0.11	0.12	0.06	-0.01	-0.11	0.16	-0.03
X_8								1	-0.26	-0.12	0.13	-0.07	-0.00	-0.01	-0.07
X_9									1	-0.12	0.02	-0.12	-0.04	-0.13	0.12
X_{10}										1	-0.06	0.13	-0.02	0.03	-0.03
X_{11}											1	-0.45	-0.07	-0.24	-0.03
X_{12}												1	-0.11	-0.04	-0.10
X_{13}													1	-0.09	-0.13
X_{14}														1	-0.07
X_{15}															1

The binary logistic regression equation and variable description (Table: 3) were given by:

$$P(Y) = \frac{1}{1 + e^{-(b_o + b_1 x_1 + b_2 x_2 + \ldots b_{15} x_{15})}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2.2)$$

Whereby:

P = probability (y) that an attribute has a high or low contribution towards self-employment, coded as 1/0 respectively;

e = natural logarithm base (= 2.7182818284…);

b_0 = intercept at (y-axis) when all of the independent variables (X_1 through X_{15}) are equal to zero;

x_1 to x_{15} = predictor/independent variables entered into the model.

Table 2. 3: Description of the model variables and measurement levels

Variables	Variable definition	Level of measurement
P	Probability of Y occurring, given known values of Xs	Binary
X_1	Age of respondent (years)	Continuous variable
X_2	Experience in business (years)	Continuous variable
X_3	Sex of respondent (1 = Male; 0 = Female)	Dummy
X_4	Marital status of business owner (1 = male; 0 = otherwise)	Dummy
X_5	Easy procedure to start a business (1 = Yes; 0 = No)	Dummy
X_6	Entrepreneurship training (1 = Yes; 0 = No)	Dummy
X_7	Formal education other than VET (1 = Yes; 0 = No)	Dummy
X_8	Elaborate teaching method (1 = Yes; 0 = No)	Dummy
X_9	Low start-up capital (1 = Yes; 0 = No)	Dummy
X_{10}	Wanted more money (1 = Yes; 0 = No)	Dummy
X_{11}	Accessed financial support (1 = Yes; 0 = No)	Dummy
X_{12}	Availability of markets/demand (1 = Yes; 0 = No)	Dummy
X_{13}	Availability of physical facilities (1 = Yes; 0 = No)	Dummy
X_{14}	Family business background (1 = Yes; 0 = No)	Dummy
X_{15}	Wanted better work condition (1 = Yes; 0 = No)	Dummy

2.4 Results and Discussion

This section of the manuscript provides descriptive comparison on firms' profile owned by VET and non-VET graduates in the study areas. Moreover, the section presents exploratory factor analysis results on factors identified to influence on self-employment among VET and non-VET. Lastly, the section presents binary logistical regression results regarding significant factors influencing on self-employment for each category of graduates.

2.4.1 Profile of firms owned by vocational and non-vocational graduates

The firms' profiles were assessed in terms of type of business owned by self-employed graduates, business size and firm's age since their establishment. Their findings are presented in Table 2.4.

Table 2. 4: Profile of firms owned by the graduates

Types of business	VET graduates n = 192		Non-VET graduates n = 192	
	Frequency	**%**	**Frequency**	**%**
Carpentry	21	10.9	37	19.3
Textile/clothing	40	20.8	28	14.6
Motor Vehicle mechanics	25	13.0	21	10.9
Motor Vehicle electrical wiring	9	4.7	2	1.0
Electrical installation	25	13.0	4	2.1
Computer application	16	8.3	17	8.9
Construction/masonry	10	5.2	9	4.7
Food preparation/vendor	18	9.4	40	20.8
Welding and fabrication	22	11.5	29	15.1
Hair salon	6	3.1	5	2.6
Total	**192**	**100**	**192**	**100**
Business size:				
Micro firms	184	95.8	184	95.8
Small firms	8	04.2	8	04.2
Total	**192**	**100**	**192**	**100**
Firm age:				
Young	110	57.3	117	60.9
Adult	49	25.5	43	22.4
Mature	33	17.2	32	16.7
Total	**192**	**100**	**192**	**100**

On one hand, trade classification presented in Table 2.4 indicates, that textile and clothing was the most preferred type of trade among VET graduates, accounting for 20.8% of all business types. It was followed by motor vehicle mechanics and electrical installation in which case, both accounted for 13.0% of all business owned by VET graduates. On the other hand, non-VET graduates' business ownership preferences indicated food preparation was the most preferred of all businesses, accounting for 20.8%, followed by carpentry 19.3%, and welding and fabrication accounting for 15.1% as indicated in Table 2.4. Other business preferences for both groups are as presented in Table 2.4. The results from this study show a slight difference in terms of most preferred trade compared to previous studies by VETA (2010). The study by VETA (2010) indicated auto-motive (21.5%) and construction (21.3%), followed by clothing and textile (17.4%), while a VETA (2019) tracer study indicated that domestic electrical installation (19%) and motor vehicles mechanics (10%) were the most preferred of all trades.

These findings explain the fact that trade preferences change as the market demands for goods and services in the market change. Furthermore, some of the respondents preferred to invest in low capital businesses, such as motor vehicle electrical wiring, hair salon, textile, and clothing. Investing in low capital businesses enabled the

investors to earn their day-to-day livelihoods compared to other types of trade, which required substantial capital investment.

The results indicate differing preferences between VET and non-VET graduates in almost all types of business they invested. Such pattern, could be attributed by the fact that some businesses need more specialised skills and training than other types of business. For example, VET graduates showed high preferences in textile and clothing, probably due to the specialised nature of the activities, which requires more skills and training than food preparations found to be highly preferred by non-VET graduates. Thus, the findings from this study provide some insights on importance of vocational education and training in creating necessary skills and knowledge required for self-employment opportunities in the labour market.

Business size categories were defined based on number of employees in a firm/business. Firms/businesses with employees between one (1) and four (4) were classified as micro firms; businesses with employees between 5 and 49 were classified as small; firms with employees between 50 and 99 were classified as medium-sized; and firms with 100 and above employees were classified as large firms. This classification is provided by Small and Medium Enterprises Policy of 2003 (URT, 2003). The results in Table 2.4 indicate that 95.8% of surveyed firms for both VET and non-VET graduates were in the microenterprise category, while only 4.2% were found to be small firms for both groups. None of the firms was observed in the last two types of medium and large-sized firms.

Regarding firm's duration of operation (age), a study conducted in Ghana by Joshua and Nicholas (2006) was used to categorize firms' age since their establishment. Businesses in operation from one to five years were categorized as "young"; those aged from six to ten years were categorized as "adult"; and those with over 10 years were named as "mature". In this study, the businesses were categorized according to age on the basis of date of establishment up to the year ended 31st December 2017. There were 57.3% and 60.9% young businesses owned by VET and non-VET graduates respectively, while 25.5% and 22.4% of the businesses were categorised as mature and were owned by VET and non-VET graduates respectively (Table 2.4). The adult business category accounted for 17.2% and 16.7% for VET and non-VET graduates, respectively (Table 2.4). Since majority of the firms were at a young age,

the findings indicate that there was a high rate of graduates entering into self-employment by the end of December 2017. This is a healthy situation for the country's economic development and employment creation for majority of the graduates in the commercial sector and for the country at large. This could be one among factors that led to Tanzania achieve lower middle income status earlier than anticipated in 2025 development agenda.

2.4.2 Factors influencing self-employment among VET and non-VET graduates

In order to identify factors, which influence self-employment among graduates, 30 factors reported by respondents to influence self-employment were subjected to factor analysis. The aim was to obtain the most pertinent factors influencing on self-employment among graduates. The suitability of the data for factor analysis was determined using Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy as well as Bartlett's test of sphericity, and the results are as shown in Table 5.

Table 2. 5: KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.676
Bartlett's Test of Sphericity	Approx. Chi-Square	2070.485
df		435
	Sig.	0.000

a. Type of respondents = Self-employed VET and Non-VET graduates (n = 384)

Results indicate a KMO of 0.676, implying a considerable value of sampling adequacy for factor analysis, which is beyond the cut-off point of 0.5. The Bartlett test of sphericity had a significant value (chi-square 2070.485, df = 435, $p < 0.001$). Based on the Bartlett's test, using factor analysis was appropriate because the p-value was significant, which supports factorability of the correlation matrix (see Pallant, 2011). Thereafter, factor extraction was done to identify important factors influencing self-employment among VET and non-VET graduates. The factors were extracted based on the Eigenvalues of 1.0 and above as recommended by Field (2018) as well as Pallant (2011). The Eigenvalues associated with each factor showed variance explained by that particular linear component. Table 2.6 presents the Eigenvalues related to each factor after extraction.

Table 2. 6: Total variance explained (components 1 - 11 with eigenvalues ≥ 1)

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.480	11.600	11.600	2.876	9.588	9.588
2	2.607	8.689	20.288	2.206	7.352	16.940
3	2.056	6.852	27.140	1.781	5.938	22.878
4	1.756	5.852	32.992	1.744	5.813	28.690
5	1.470	4.900	37.891	1.625	5.416	34.106
6	1.356	4.521	42.413	1.468	4.892	38.998
7	1.296	4.320	46.733	1.411	4.702	43.700
8	1.197	3.988	50.721	1.383	4.610	48.310
9	1.159	3.863	54.584	1.366	4.552	52.862
10	1.052	3.506	58.090	1.326	4.420	57.282
11	1.002	3.341	61.431	1.245	4.149	61.431

Extraction Method: Principal Component Analysis. Type of respondents = self-employed VET and Non-VET graduates (n = 384)

After extraction, only 11 factors with Eigenvalues of 1 and above were retained, out of the 30 factors subjected to factor analysis as recommended by Field (2018), explaining a total of 61.431% of the variance (Table 2.6). Subsequently, identified components were used to determine patterns of factor loadings for easy interpretation. The oblique rotation was chosen and factor loadings of 0.3 and above were retained as advised by Pallant (2011) that factor loadings should be higher for constructs they are meant to support in comparison with other factors. Therefore, from the analysis, a total of 11 factors, namely, easy start-up procedures, wanted more money, elaborate teaching method, availability of markets, family business experience, better work conditions, availability of the physical facility, entrepreneurship training, formal education, low start-up capital, and access to capital; were found to influence to highly self-employment among VET as well as non-VET graduates. All other factors from the 12^{th} to the 30^{th} component with Eigenvalues up to 1.0 were dropped and excluded (not included in Table 6) because they were found to have less contribution to self-employment as recommended by Field (2018).

Results presented in Table 2.6 indicate that out of eleven extracted components, one component was related to legal aspects or enabling environment for self-employment (easy start-up procedures), and three components were related to education (elaborative teaching method, entrepreneurship training and formal education other than VET). The other three components were related to financial factors (wanted more money, low start-up capital and access to finance). Two components were related to infrastructure (availability of markets/demand and physical facilities), and

the last two components were related to social issues (good family business background and better working conditions). The findings show that education and financial factors were more pertinent factors to self-employment, followed by infrastructure factors and social factors, while the legal factor was the least factor to influence self-employment among VET and non-VET graduates.

In addition, it was found that out of the eleven factors, five factors (easy administrative procedures, elaborative teaching methods, low start-up capital, availability of markets and physical facilities) were not observed in literature review, thus, these factors were specific factors contributing to self-employment among graduates in the study areas and probably in the Tanzanian environment, at large. In due regard, the factors provide insights on explaining self-employment among Tanzanian graduates. The findings from this manuscript provide some light to the Tanzanian government through relevant authorities together with other stakeholders, concerned with graduate' self-employability, among other factors, to strengthen issues related to the factors pointed out in this manuscript with the aim of increasing self-employability among graduates in the country. The remaining six factors out of eleven (formal education other than VET, entrepreneurship training, wanted more money, access to finance, family business background and better working conditions) have been reported to influence self-employment elsewhere in literature review (see Packham *et al.*, 2010; Lange *et al.*, 2011; Simoes *et al.*, 2016).

Generally, the results in this manuscript establishes that all eleven identified factors are necessary for self-employability among graduates, if well considered by relevant authorities. However, there seems to be little or no exciting political will to support graduates' self-employability in Tanzania irrespective of many policies and legal framework in place to support them (Mangasini, 2015). This is because the process of entry into self-employment among graduates is not well coordinated by responsible government machineries. For instance, access to capital among graduates has been a long standing problem (see Simoes *et al.*, 2016), but the government has not controlled lending policies of financial institutions so that their loans can be easily accessed by poor people including newly graduated individuals (see Mangasini, 2015). It is evident that the government has an important role to play in facilitating and encouraging self-employability among graduates, not only in setting up policies and legal framework, which seem to support self-employment but also by

having appropriate enforcement mechanism that make self-employment a reality among graduates in the labour market.

2.4.3 Binary logistic regression results for self-employment factors

Identified factors in preceding sub-section were subjected to further analysis using binary logistic regression to determine their influence on chances of self-employment among vocational and non-vocational graduates. The results are presented in Table 2.7.

Table 2. 7: Binary logistic regression results for VET and non-VET graduates

		VET Graduates(n = 192)					Non-VET Graduates (n = 192)				
Independent variables	**df**	**B**	**S.E.**	**Wald**	**Sig**	**Exp(B)**	**B**	**S.E**	**Wald**	**Sig**	**Exp(B)**
Age of business owner	1	0.38	0.10	14.83	0.000*	1.468	0.20	0.06	11.30	0.001*	1.226
Exp. in business	1	1.30	0.31	18.14	0.000*	3.681	1.57	0.35	19.87	0.000*	4.798
Sex of business owner	1	0.91	0.70	1.67	0.196	2.482	-0.49	0.82	0.35	0.552	0.615
Marital status	1	0.72	0.73	0.96	0.327	2.045	2.23	0.84	7.10	0.008*	9.310
Start-up procedures	1	-0.38	0.66	0.33	0.568	0.688	-1.55	0.70	4.92	0.027*	0.212
Entrepreneurship	1	-3.04	0.91	11.10	0.001*	0.048	-2.60	0.98	7.05	0.008*	0.075
Formal education	1	-0.02	1.16	0.00	0.988	0.983	-0.94	0.83	1.31	0.253	0.389
Teaching method	1	-0.69	0.79	0.78	0.377	0.499	-0.74	0.76	0.94	0.332	0.477
Low start-up capital	1	1.28	0.88	2.12	0.146	3.610	-0.39	0.77	0.27	0.613	0.677
Wanted more money	1	-0.14	0.89	0.03	0.873	0.867	1.03	0.90	1.30	0.254	2.793
Financial support	1	-1.64	0.78	4.43	0.035*	0.680	-3.18	0.91	12.26	0.000*	7.099
Avail. of facilities	1	-0.39	0.77	0.26	0.614	0.194	1.96	0.87	5.11	0.024*	0.042
Avail. of markets	1	-0.15	0.70	0.05	0.828	0.860	0.54	0.80	0.45	0.502	1.710
Family business exp.	1	0.37	0.71	0.28	0.598	1.454	0.37	0.73	0.25	0.617	1.443
Working conditions	1	-0.12	0.89	0.02	0.890	0.884	0.63	0.92	0.47	0.493	1.884
Constant	1	-12.11	3.08	15.42	0.000	0.000	-8.12	2.39	11.57	0.001	0.000

VET graduates: Overall Wald statistic = 27.001 (p = 0.000); Omnibus Test of Model Coefficients Chi-square = 166.307 (p = 0.000); Hosmer and Lemeshow Test Chi-square = 55.210 (p = 0.001); Cox & Snell R^2 = 0.579; Nagelkerke R^2 = 0.817. Non-VET graduates: Overall Wald statistic = 19.289 (p = 0.000); Omnibus Test of Model Coefficients Chi-square = 179.600 (p = 0.000); Hosmer and Lemeshow Test Chi-square = 12.510 (p = 0.130); Cox & Snell R^2 = 0.608; Nagelkerke R^2 = 0.842.

The findings indicate that the overall Wald statistic for VET graduates was significant at ($p < 0.05$), meaning that self-employment factors in the overall model highly contributed to VET graduates being self-employed (Table 2.7). The chi-square for the Omnibus Tests of the model coefficient was significant at ($p < 0.05$), which indicate that self-employment attributes in the overall model influenced VET graduates be in self-employment (Table 2.7). The chi-square for the Hosmer and Lemeshow Test of the goodness of fit suggests that the model was not well fitting the data as was $p = 0.001$ [$(p < 0.001)^2$ Table 2.7]. The Cox and Snell R^2 and the Nagelkerke R^2 were 0.579 and 0.817, respectively, indicating that the predictor variables entered in the model altogether accounted for 57.9% to 81.7% of the observed variance on chances of VET graduates being self-employed. Age of business owner, experience in business, entrepreneurship training, and access to financial support had significant effect on chances of VET graduates to be self-

[2]Unlike a a p-value of less or equal to 0.05 for the Omnibus Test chi-square which shows that the overall model well predicts the outcome, a p-value greater than 0.05 for the Hosmer-Lemeshow Test chi-square shows that the overall model well predicts the outcome (Field, 2018).

employed (Table 2.7). Other predictor variables as indicated in Table 2.7 did not have significant effect ($p > 0.05$). This implies that the only four factors out of eleven identified in the preceding section had high effects on chances for VET graduates to be self-employed, and the remaining factors were considered to have low chances for them being in self-employment (Table 2.7).

Among the predictor variables found to have significant effect on chances of self-employment they include age, experience in business, entrepreneurship training and access to financial support. Experience in business having the highest Wald statistic test of 18.14 (Table 2.7) implies that experience in business significantly contributed in predicting self-employment among VET graduates. With an Exp (B) coefficient of 3.682, the finding implies that for every unit increase in business experience, the odds of being in self-employment among VET graduates with more experienced in business were 3.682 times than those of VET graduates with less business experience (Table 2.7).

Age of business owner with a Wald statistic of 14.83 shows that age was one among the variables which highly contributed to predicting self-employment among VET graduates in the study areas (Table 2.7). Further findings show that age was a strong predictor of VET graduates towards self-employment at $p = 0.000$ and an Exp (B) value of 1.648 which shows that older VET graduates were 1.468 times more likely to be self-employed than younger ones (Table 2.7). The implication from the findings show that when age among VET graduate' is increases by 1 unit (1 year), there is a 1.648 likelihoods for the graduates to be self-employed in business in the labour market.

Moreover, results indicated that, having participated in entrepreneurship training highly decreased chances of self-employment among VET graduates (Wald statistic = 11.10, B = -3.04, $p = 0.001$) in the study areas (Table 2.7). The model produced an Exp (B) value of 0.048, indicating that participating in entrepreneurship training decreased chances of self-employment by 0.048 times among VET graduates. This implies that the odds of being self-employed are 0.048 times as the odds of being self-employed when such training does not take place among VET graduates.

Another variable found to be an important determinant of VET graduates self-employment was access to financial support. Results showed a Wald statistic of 4.43 (Table 2.7), indicating that access to financial support is one among the variables that significantly contribute to self-employment among VET graduates. The findings indicate that financial support had statistically significant effect on chances of self-employment at $p = 0.035$, with an Exp (B) = 0.680 (Table 2.7), which implies that the odds of being self-employed among VET graduates who had access to financial support were 0.680 times the odds of being self-employment when such access to financial support was not there.

Results for non-VET graduates presented in Table 2.7 indicate a significant overall Wald statistic = 19.289, $p < 0.05$ which means that the predictor variables in the overall model significantly contributed to self-employment among non-VET graduates. The chi-square for the Omnibus Tests of the model coefficient was significant ($p < 0.05$) (Table 2.7), which indicates that the predictor variables in the overall model also contributed to non-VET graduates being self-employed. Unlike the VET graduates, the chi-square for the Hosmer and Lemeshow Test of the goodness of fit for non-VET graduates suggests the model was well fitting the data as $p = 0.130$ [($p > 0.05$) Table 2.7]. The Cox and Snell R^2 and the Nagelkerke R^2 were 0.608 and 0.842 respectively (Table 2.7), indicating that the predictor variables entered in the model altogether accounted for between 60.8 % and 84.2% of the observed variance to the chances of non-VET graduates being self-employed. Age, experience in business, marital status, easy administrative procedures, entrepreneurship training, access to finance and physical facilities had significant effects on chances of non-VET graduates being self-employed. Other predictor variables (as shown in Table 2.7) did not have significant effect, given $p > 0.05$.

Experience in business having the highest Wald statistic test of 19.87 (Table 2.7) imply that experience in business had the highest contribution to self-employment among non-VET graduates. The predicted self-employment indicated a $p = 0.000$ and an Exp (B) coefficient of 4.798 (Table 2.7), indicating that experience in business was a biggest contributor to self-employment and that for a unit increase in business experience (1 year), the odds of being in self-employment among non-VET graduates increased by 4.798 times. The finding corresponds to those of VET graduates and to results of some related previous studies by Levie *et al.* (2009),

Block and Sandner (2009), Packham *et al.* (2010), Lange *et al.* (2011), and Dvoulety (2018) who established that experience in business was a necessary individual characteristic variable which influenced on self-employment among men and women. Therefore, experience in business is an important attribute for both VET and non-VET graduates being in self-employment.

Based on these results, it is argued that VET and non-VET graduates with prior business experiences from family business or elsewhere are more likely to enter into self-employment activities than those without previous experience. Moreover, there are high chances of being self-employed for VET and non-VET graduates with appropriate attachment through apprenticeship in various sectors of the economy before they involve in self-employment activities in the labour market.

Likewise, age of business owner among non-VET graduates was another significant factor with a very strong contribution to predicting non-VET graduates' self-employment. Age had statistically significant effect at $p = 0.001$ on chances for non-VET graduates being self-employed, with a Wald statistic = 11.30 and an Exp (B) value = 1.226 (Table 2.7). Wald statistic of 11.30 shows that age contributed highly to predicting non-VET graduates' self-employment. Moreover, the results indicate that, when a non-VET age increased by 1 unit (1 year), the odds of being in self-employment increased by 1.226, implying that non-VET graduates were 1.226 more likely to be self-employed in business. The findings on age, for both VET and non-VET graduates agree with the current evidence for the inverted U-shaped association between age and self-employment, with the starting point depending on the country to country and year of analysis has a turning point at the age of 40 years as pointed out by Dvoulety (2018). The decreasing association for age with self-employment above 40 years can be explained by lower physical and mental capabilities associated with aging.

Access to financial support was also found to contribute significantly to chances for non-VET graduates being self-employed. The results indicated a Wald statistic test of 12.26, $p = 0.000$ and Exp (B) = 7.099 (Table 2.7). The findings showed that access to financial support was a statistically significant contributor to self-employment, and the B-value imply that having access to financial support increased chances of self-employment among non-VET graduates by 7.099 more times compared to having no

access to financial support. Thus, the findings imply that the odds of financial support accessed in the financial market, increased the odds of being in self-employment by 7.099 times. However, the findings indicated that the majority of the respondents (74.3% VET and 72.4% non-VET respectively) reported to have accessed start-up capital from personal savings while family members support was said at 16.7% VET graduates and by 16.3% non-VET graduates. Other 9% VET and 11.3% non-VET got their start-up capital from formal sources such as banks and microfinance institutions.

Furthermore, one of the KIs in Arusha reported that

> *"majority of graduates fail to access financial support from formal financial institutions due to the fact that they lack collateral for loan, high-interest rate on loans and fear from failure to repay back the loan and interest*".

The findings partly explain the reasons why majority for both VET and non-VET graduates financed their businesses from their own and by getting family support instead of using formal sources such as microfinance institutions and banks.

Marital status had a significant influence on predicting self-employment among non-VET graduates as indicated by a Wald statistic of 7.10, a p = 0.008 and an Exp (B) of 9.310 (Table 2.7), implying that if a non-VET graduate was married, the odds of being self-employed were 9.310 times as the odds of non-VET graduates who were single, widowed or divorced. This is partly because a spouse may provide support necessary for family business success, and having children relates to higher family expenditures, necessitating higher income. It was pointed out by Simoes *et al.,* (2016) that the tendency of becoming self-employed is higher for married individuals and those having children because of the requirements to meet various financial needs for the family.

Entrepreneurship training for non-VET graduates had a Wald statistic of 7.05 (Table 2.7), indicates that it was among factors which had high effect on chances of self-employment, albeit its effect was negative (B = -2.60). The model produced statistically significant results at p = 0.008, and an Exp (B) value of 0.075 (Table 2.7), indicating that the odds of entrepreneurship training contribution to towards self-employment was 0.075 times less likely when entrepreneurship training courses were lower among non-VET graduates as the odds when entrepreneurship training

were high among them. The findings imply that non-VET graduates who did not attend entrepreneurship training during their studies are 0.075 less likely to enter into self-employment than VET graduates who attended entrepreneurship training. Similar findings by (Gibcus *et al*., 2012; VETA *et al.,* 2013; Mangasin, 2015) showed that the majority of graduates who had studied entrepreneurship courses have higher chances of being self-employed than other graduates without such training. VETA *et al*. (2013), for instance, argue that entrepreneurship education and training is a necessary tool for self-employment but not sufficient if not supported or linked to other factors such as support of capital and linkage with employers, industries and other business development services. Thus, the findings imply that entrepreneurship alone is not a sufficient factor to ensure self-employment among both VET and non-VET graduates. Therefore, there is a need for a combination of more than one factor as well as co-operation among different actors to ensure successful self-employment in the labour market among graduates.

Other factors with significant contribution to self-employment among non-VET graduates but with lesser effect included availability of facilities and easy start-up procedures with Wald statistics of 5.106 and 4.921, respectively (Table 2.7). The results were statistically significant at p = 0.024 and Exp (B) = 0.042 for availability of facilities and p = 0.027 and Exp (B) = 0.212 for easy start-up procedures (Table 2.7). The findings for easy availability of facilities with an Exp (B) value of 0.042 indicate that the odds of contribution to towards self-employment were 0.042 times less likely when facilities such as various tools and infrastructures necessary for doing a particular business were less available than when the same were readily available among non-VET graduates. Moreover, the findings for easy start-up procedures with an Exp (B) value of 0.212 (Table 2.7), imply that the odds of self-employment were 0.212 less likely if procedures for start-up were highly strict rather than when the same procedures were less strict. The findings imply that availability of facilities and ease with which both VET and non-VET graduates can start a business are necessary variables that induce graduates to enter into self-employment activities in the labour market.

2.4.4 Needs and Economic Theory of Entrepreneurship

Based on self-employment factors findings, there were seven factors which significantly contributed to self-employment among VET and non-VET graduates in totality. Among the factors only four factors were found to significantly influence on self-employment among VET graduates which were experience in business, age of business owner, entrepreneurship training and access to start-up capital. In contrast to VET graduates, among non-VET graduates seven factors (three factors in addition to factors identified among VET graduates) were found to have highly influenced on self-employment. The three additional factors were marital status, easy start-up procedures and availability of facilities. The respective Cox and Snell R^2 and the Nagelkerke R^2; which were 0.608 and 0.842 respectively for non-VET graduates and 0.579 and 0.817 respectively for VET graduates; indicate that among both VET and non-VET graduates the variables used to predict chances of self-employment accounted for 57.9% to 84.2% of the observed variation in chances of self-employment. This implies that the majority of the VET and non-VET graduates appreciate being self-employed in the current businesses. Thus, their attitude on work, business risk and decision making autonomy in their business is favourable in line with Douglas and Shepherd's (2000) Economic Theory of Entrepreneurship.

2.5 Conclusions and Recommendations

From the factor analysis results, the study concludes that eleven factors including start-up procedures, wanted more money, elaborative teaching method, availability of markets, family business experience, better work conditions, availability of the physical facility, entrepreneurship training, formal education, low start-up capital and access to capital are major factors that influenced on self-employment among VET and non-VET graduates in the study areas. It is recommended that interventions targeting at improving graduates' self-employability in the study areas should focus on promoting the identified factors in order to enable graduates embark on self-employment.

Based on further analysis on selected socio-economic factors, it is concluded that age, experience in business, entrepreneurship training and access to capital are the main factors influencing on self-employment among both categories of graduates in the study area. In addition, it is concluded that marital status, easy start-up procedures and availability of physical facilities are additional factors influencing on

self-employment among non-VET graduates in the study area. Based on further analysis of selected socio-economic variables, it has been established that some of the self-employment determining factors such as age and marital status cannot be altered. Thus, nothing or little can be done on them in order to improve. The study recommends the following:

i. Since experience in business has potential for improving self-employment among both VET and non-VET graduates, the ministry responsible for Labour, Industries and Trade; in collaboration with the Ministry of Education Science and Technology; should work together closely with various employers in both public and private sectors to ensure that apprenticeship programmes are availed to the graduates in order to provide needed experience for self-employment activities among the graduates. Moreover, internship programmes should be established as mandatory to all graduates in the VET and general education system before graduates acquire the intended qualification. Such measures will help graduates' in raising motivation and attitude on self-employment as a career alternatives to paid employment.

ii. In addition, improvement should be made on existing financial system which will provide room for VET and non-VET graduates' access to financial services necessary for funding self-employment activities. This can be done by changing the existing lending policies of the financial institutions so that their loans can be easily accessed by all categories of graduates.

iii. Strategies should be directed at improving an enabling environment with regard to business start-up for general education graduates and improvement on necessary infrastructure facilities that promote self-employment in the labour market. Given a continuous increase in unemployment among general education graduates, improvement on the factors will promote more general education graduates to choose self-employment as a career choice in their life time rather than considering wage employment alone.

iv. Policy interventions should focus further by emphasizing on entrepreneurship education training at all levels of the education system to enhance self-employability among graduates at different levels of schooling for both vocational education and other general education systems.

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CHAPTER THREE

3.0 FIRMS' COMPETITIVE STRATEGIES AND PROFITABILITY AMONG SELF-EMPLOYED VOCATIONAL AND NON-VOCATIONAL GRADUATES IN ARUSHA AND DAR ES SALAAM CITIES, TANZANIA

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3.1 Abstract

Implementing one or more competitive strategies promises higher profitability for small firms. Despite the importance of competitive strategies for firms' profitability, it remains unclear whether or not self-employed VET and non-VET graduates adopt strategies to achieve higher profitability. The study on which this manuscript is based determined influence of competitive strategies on firm profitability among vocational and non-vocational graduates. The study adapted a descriptive cross-sectional survey design with a sample of 384 respondents. Quantitative data were analysed using financial ratio analysis, independent samples t-test, factor analysis, and multiple linear regression. Qualitative data were analysed through constant comparison content analysis approach. Ratio analysis results indicated that VET graduates exhibited numerically higher profitability than non-VET graduates due to effectiveness in managing production costs. Independent samples t-test results showed a significant difference in gross profit and in net earnings between the two groups ($p < 0.05$). Findings on competitive strategies indicated that cost-leadership and differentiation strategies significantly influenced on profitability among both VET and non-VET graduates business ($p < 0.05$). Based on the ratio analysis results, it is concluded that VET graduates' performance is better than that of non-VET graduates. Thus, emphasis should be directed on managing product prices and costs to mitigate their effects on profitability. It is concluded that profitability between VET and non-VET graduates differs as a result of poor management of product pricing and production costs among non-VET. Therefore, it is suggested that efforts in improving competitive price setting and costs control are necessary in achieving optimal profitability among non-VET graduates. The study further concludes that implementing both strategies enhances profitability performance among VET and

non-VET graduates. It is recommended that interventions targeting at improving firm profitability should be directed at strengthening both cost-leadership and differentiation strategies among VET and non-VET graduates to improve their profitability levels.

Keywords: Competitive strategy, profitability performance, vocational graduates, non-vocational graduates.

3.2 Introduction

In a growing global competitive pressure, firms' strategies are crucial in shaping their decision-making processes (Owolabi and Obida, 2012; Drahokoupil, 2014). Previous studies argue that firms' competitive strategies are highly linked with profitability performance (Kang and Montoya, 2014; Chatzoglou *et al.,* 2018). A study by Bayraktar *et al. (*2017) on Spanish manufacturing firms confirmed existence of association between firms' strategies and profitability performance. Thus, firms need to constantly improve their strategies to keep pace with continuous changes in their external environment in order to achieve their planned profitability levels (Rothaermel, 2017). Debates regarding firms' competitive strategies and profitability have prevailed among Micro, Small and Medium Enterprises (MSMEs) in many of the developed countries (Spanos *et al.,* 2004). It is argued that each business has strategies different from its competitors' strategies, which are important antecedents of firms' profitability (Gupta *et al.,* 2010; Toledo *et al.,* 2010; Uçmak and Arslan, 2012).

According to Porter (1980), for a firm to guarantee long-term profitability it must select between one or more strategies (differentiation or cost-leadership strategy). On one hand, when a firm is using the differentiation strategy, its focus is on providing unique products or services by putting emphasis on making exceptional and superior products or services to distinguish its products or services from its rivals through innovation activities (Allen and Helms, 2016). Therefore, a business that employs the differentiation strategy requires investing in expertise, specified equipment, and highly knowledgeable employees to differentiate its products from those of its rivals (Widuri and Sutanto, 2018). The strategy is expected to improve the firm's profitability through higher profit margin generated by selling its products to customers (Henandez-Perlines *et al.,* 2016). In addition, the strategy gives the firm's

ability to offer premium price that compensates the cost of differentiating, resulting in higher profit margin (Allen and Helms, 2016). High profit margin not only helps the firm survive in an unexpected decline in economic or business but also achieve certain financial goals to meet the investment needs (Wu, Gao, and Gu, 2015).

On the other hand, firms implementing the cost-leadership strategy put more attention on attaining competitive advantage by lowering costs in the industry (Hoskission, Ireland and Hitt, 2011). It is argued that in order to realise a low-cost strategy, the firm needs to have low-cost strategy, low-cost production and employees committed to the low-cost strategy (Malburg, 2007). For effective cost-leadership strategy, a firm must have a large market share (Hoskinsson *et al.,* 2011). Firms can achieve the cost-leadership strategy in many areas such as bulk manufacturing, bulk delivery, economies of scale, know-how, product or service design, input costs, full capacity deployment of assets, and access to raw materials (Acquaah, 2011; Banker, Mashruwala, and Tripathy, 2014). As a low cost-leadership, the firm can make a barriers against new market entrants who would need large amounts of funds to enter the market (Hyatt, 2008). The cost-leadership strategy has disadvantages in that it makes very little consumer loyalty and if the firm decreases price too much, it may lose revenues (Kanyagia, 2015).

In Sub-Saharan African (SSA) countries, competitive strategies and profitability emerged as a result of economic transformations that were adapted by many of the developing countries economies' in the past two decades (Amoako-Gyampah and Acquaah, 2008). The economic policies in developing economies have removed protective barriers, adopted free trade policies, created market friendly institutions and assimilated their economies with the international markets and, thus, increasing domestic market competition (Acquaah and Yasi-Ardekani, 2008). These circumstances have led to increased business transaction costs, business risks and competitions by exposing consumers to a wide range of choices, thereby requiring businesses to respond using different strategies in achieving higher profitability (London and Hart, 2004; Ingenbleek *et al.,* 2013). The need to focus on product quality, cost reduction and efficiency improvement is therefore a deliberate priority among MSMEs in developing countries' economies (Acquaah and Yasi-Ardekani, 2008).

In Tanzania, like in many other developing economies, competition among firms emerged after the government adopted market liberalization policies, which, among other things, involved considerable reduction of the government's role in doing business (Kanaan, 2000; URT, 2003). Moreover, the government embarked on privatization of state owned businesses and allowed participation of private entrepreneurs to start their own firms in the economy (Mkubwa *et al.,* 2008; Diao *et al.,* 2020). The economic liberalization policies increased exposure of domestic firms that were formally protected to competition arising from the international businesses. This now make domestic firms face momentous competition in both local and international business environment (Mkubwa *et al.,* 2008). Thus, it is essential for domestic firms to develop viable competitive strategies in their pursuit to become competitive and profitable in the liberalized market environment (Anand *et al.,* 2006).

Studies indicate that linking firms' competitive strategies with profitability measures provides essential information regarding their ability to generate profit, increase the value of invested funds and at the same time be able to repay their maturing obligations as they fall due (Tabari *et al.,* 2013; Dahmen and Rodriguez, 2014; Myšková and Hájek, 2017). According to the competitive advantage viewpoint, positive outcomes arise when a firm places itself properly in a market based on its analysis of opportunities and threats in the competitive environment (Li *et al.,* 2009). Porter (1985) argues that among the competitive advantages, a differentiation situation is attained when customers consistently perceive a firms' offerings as exceptional in the market, whereas a cost-leadership situation arises when a firm becomes a low-cost producer in an industry. Studies support the debate that low-cost and differentiation strategies lead to better profitability performance (Voola *et al.,* 2004; Allen & Helms, 2006; Granados *et al.,* 2019; Diao *et al.,* 2020). Given the importance of competitive strategies in enhancing firms' profitability in the majority of the developed countries economies, implementing at least one or more of the strategies among VET and non-VET graduates would increase the chances for improving businesses' profit levels and thus contribute to a country's economic development and self-employment creation in the country.

Understanding the firm's profitability measures requires basic knowledge of financial statements such as statement of financial position and statement of

comprehensive income (Dahmen and Rodriguez, 2014). Elements of financial statements such as sales level, cost of sales and expenses are important inputs in assessing the firms' profitability and thus their relationship with competitive strategies based on a number of methods of financial analysis (Ross *et al.,* 2019). Ratio analysis is one among powerful tools for financial analysis used in assessing the firms' profitability based on product/service pricing and cost control strategies (Pandey, 2010). However, evaluating firms using ratios requires comparison with some standards which may include: past ratios from past financial statements of the same business, and competitors' ratios of some selected similar businesses at some point in time (Pandey, 2010). Industrial ratios of firms to which a firm belongs and projected ratios from projected financial statements of the same firm are also used for comparative purposes (Myšková and Hájek, 2017). Ratios are claimed to be the window into business financial statements and provide understanding of firm profitability on what financial ratios are depicting regardless of the businesses' sizes or years in business (Berman *et al.,* 2008). Ratios help to summarise large quantities of financial data in order to make qualitative judgement about the firm's profitability and financial performance. Ratio analysis eliminates problems involved in comparing business firms of different sizes as it divides out pieces of financial numbers in percentages, multiples or times period for comparison purpose (Ross *et al.,* 2019).

The role of financial analysis in evaluating the financial strength of businesses and their profitability strategies has enticed considerable attention in recent studies (for instance, Kotane and Kuzmna-Merlino, 2012; Brendea, 2014; Kubenka, 2016). Firms, which evaluate their competitive strategies, profitability and returns are more likely to perform better than firms which do not do so (Dahmen and Rodríguez, 2014). However, financial figures alone lack informative value in assessing firms' profitability (Hitz, 2007). Moreover, it has been claimed that bias resulting from subjectivity of the narrative assessment of the firm's strategies impair profitability evaluation among businesses. Therefore, financial data are usually combined with the narrative part of the financial analysis to provide a highly accurate evaluation of the firm's competitive strategies and profitability needed for managerial decision-making (Achim *et al.,* 2016; Deaconu *et al.,* 2016). Thus, this manuscript adapted a combination of both ratios and narrative aspects in order to provide better insights in

assessing businesses' profitability among VET and non-VET graduates as a benchmark against comparison for success or failure of one firm against the other.

From the factors identified to be constraining survival and profitability performance of MSMEs in the preceding paragraph, it is argued that there is a need for graduates to focus on a coherent competitive strategic orientation aimed at improving business profitability for the businesses they own. Therefore, gaining insight into the strategies used by self-employed graduates in attaining their level of profitability was inevitable and contributes to literature regarding firms' strategies and profitability performance among small businesses in developing economies. Thus, this manuscript aimed at assessing competitive strategies that influence on profitability performance among VET and non-VET graduates in Arusha and Dar es Salaam cities, Tanzania. The objectives of this manuscript were to: determine firms' profitability variables, compare firms' profitability variables and analyse competitive strategies influencing on firms' profitability among VET and non-VET graduates in the study areas. Based on the objectives, it was hypothesised that competitive strategies have no significant influence on firms' profitability between VET and non-VET graduates in the study areas.

3.3 Methodology

3.3.1 The study area

The research on which this manuscript is based was conducted in Dar es Salaam and Arusha cities. The two cities were chosen for they differ in many aspects, such as population size, individuals' income levels, economic activities as well as human development between regions among others (UNDP, URT and ESRF, 2018). Moreover, Dar es Salaam is the largest city with oldest VET centres and Arusha city follows Dar es Salaam, among other cities, in terms of social services and public infrastructure as well as vocational institutions investments (VETA, 2010; Wenban-Smith, 2015 in Andreasen *et al.*, 2017). Dar es Salaam on one hand has highest record of VET centres standing at 75 VET centres by 2015. Arusha, on the other hand had 52 VET centres by 2015, more than other major cities in Tanzania (URT, 2016). The assumption was that there were more self-employed graduates in the two cities than other cities in Tanzania.

3.3.2 Research design, sampling procedures and sample size

The study adopted a cross-sectional research design since it enables collection of data more or less at the same time, and examination of variables once at a single point in time (Bryman and Bell, 2011). Moreover, it allowed determination of relations between competitive strategy and profitability performance among graduates' businesses. The study population involved VET graduates and non-VET graduates with different skills who were self-employed in Arusha and Dar es Salaam cities. Unit of analysis was an individual owner of a business under self-employment. The VET graduates were vocational education alumni (treated), and non-VET graduates (control) were those without vocational education training certification.

The choice of the two groups was justified in terms of fairly balanced characteristics such as age, types of business activities, business locations and formal education, which were determined before piloting of the research study. A total of 384 respondents on which this manuscript is based were involved in this study. The respondents were distributed into two equal sizes based on maximum variability that $p = 0.5$ and $q = 0.5$ according to Cochran, (1977) presented in the methodology section of chapter one. Therefore, a total of 384 respondents were involved in the study, whereby, one half (192) of the respondents were VET graduates and the other half (192) were non-VET graduates. Cochran (1977) argues that the formula is appropriate in arriving at an adequate sample size if the population is infinite and its degree of variability is not known.

3.3.3 Data collection

Snowball sampling procedure was employed to collect data from individual graduates in Arusha and Dar es Salaam cities for interview. The snowball sampling technique was used in finding and recruiting "hidden populations." The procedure enabled to access respondents who were not easily accessible to the researcher through other sampling strategies (Babbie and Mouton, 2001). Nonetheless, snowball sampling procedure suffers some critiques such as non-generalizable results due to lack of sampling frame (Morgan, 2008 cited by Kirchherr and Charles, 2018), lack of sample diversity and under representation of respondents in the population (Shaghaghi *et al.*, 2011). However, several studies refute the criticisms and some scholars highly regard it. For instance, Creswell (2005) and Noy (2009) argue that the intent of research is not only to generalise results to a population but also to

develop an in-depth investigation of a central phenomenon, thereby produce a unique type of social knowledge. Therefore, for the research on which this manuscript is based, it was conceptualised that competitive strategies have influence on profitability among self-employed graduates in the two cities in order to have a better understanding of self-employment situation and their competitive strategies in achieving higher profitability among self-employed graduates.

In overcoming some of the weaknesses identified in this work, the study used three key methodological approaches recommended to reduce the weaknesses (Creswell, 2005; Kirchherr and Charles, 2018). Among the methods, a key contact list of respondents was obtained from the Directorate of Labour Market Planning and Development (DLMPD) Chang'ombe Dar es Salaam, colleges and schools which served as the seeds for snowball sampling method. The seeds sample sufficiently varied in terms of business categories whereby nine different businesses were included in the pool of seeds obtained from the respective institutions to solve the diversity and under representation problems. Moreover, a face-to-face interview were conducted for it is claimed by many scholars that they generate trust required to gain referrals and decrease sampling bias (Noy, 2009; Sadler *et al.*, 2010; Shaghaghi *et al.*, 2011).

Quantitative data were collected by using a survey approach with a structured questionnaire for each business. From the total sample of 384 respondents, the population of Arusha (1 694 310) and of Dar es Salaam (4 364 541) as per Tanzania national census 2012 (URT, 2013), were used to find proportions of respondents who were determined to be approximately 28% equivalent to 106 respondents from Arusha and 72% equivalent to 278 respondents from Dar es Salaam. The first respondent from each of the two cities was obtained through referral and recommendations provided by the representative of the DLMPD at VETA Chang'ombe, Dar es Salaam, Colleges and Schools.

Qualitative data were collected using Key Informant Interviews (KIIs) whereby a total of four KIIs were held. The key informants (technical and administrative personnel) were selected based on their knowledge of vocational education and non-vocational graduates' employment status. For the VET institutions that were involved, College Principals, Heads of Academic Departments and representatives of

the DLMPD at VETA Head Office Dar es Salaam were interviewed. Qualitative and quantitative methods of data collection complemented each other and thus increased the overall validity of the study findings through verification of respondents' answers, checking responses uniformity of one method against the other and within methods, triangulation as recommended by Casey and Murphy (2009). The qualitative approach allowed for an in-depth probing and yielded detailed information (Saunders *et al.,* 2009).

3.3.4 Data processing and analysis

In determination of variables affecting profitability, profitability ratio analysis was used to evaluate business performance in terms of gross profit margin, cost of goods sold (COGS), operating expenses, net profit margin and return on capital employed (ROCE). The overall profitability ratio analysis involved appropriate selection of the ratios and their calculations for the reporting period, based on the formulas and description of the ratios provided in Table 3.1.

Table 3. 1: Profitability performance ratios

Ratio	Formula	Description
Gross profit margin	$\frac{\text{Sales - Costs of goods sold}}{\text{Sales}}$	A metric measure which reflects the efficiency with which owners produce and sell each unit of a product or service.
Costs of goods sold	$\frac{\text{Costs of goods sold}}{\text{Sales}}$	Provides sales information which have been consumed by the costs of production .
Operating expenses	$\frac{\text{Operating expenses}}{\text{Sales}}$	Provides information on the amount of sales consumed by operating costs.
Net profit margin	$\frac{\text{Net earnings}}{\text{Sales}}$	Provides information on business profitability.
Return on capital employed	$\frac{\text{Net earnings}}{\text{Capital employed}}$	Provides information on earnings achieved for each unit of capital employed in the business.

Source: Adapted and modified from Pandey (2010)

To determine whether or not there was any difference in profitability variables among VET and non-VET graduates, an independent samples t-test was conducted to test the hypothesis that profitability variables (revenue, cost of goods sold, gross profit, expenses and net profit) between VET and non-VET did not differ significantly. The test was appropriate as the two groups were different in terms of one having VET qualification, while the other did not have such qualification prior to getting into self-employment. The effect size statistics (Eta squared and Cohen's D) was employed to provide a clue of the extent of the differences between the two groups. Eta squared values range from 0 to 1 and represents a proportion of variance

(Pallant, 2011). The interpretation of eta squared value was made using the guidelines proposed by Cohen (1992) that 0.01 equals to small; 0.06 equals to moderate and 0.14 is equivalent to large effect.

$$\text{Eta squared} = \frac{t}{t \; + (n_1 + n_2 - 2)} \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.1)$$

Where:

t^2 = t-test score

n_1 = VET graduates sample size (treated group)

n_2 = non-VET graduates sample size (control group)

Lastly, in analysing influence of competitive strategies on profitability, three variables were examined: firm profitability, differentiation and cost-leadership strategies. Profitability encompass earnings attained by a firm over a specific period of time (Mendoza-Ramirez and Toledo-Lopez., 2014). Thus, in this manuscript, profitability was measured in terms of net earnings attained by each category of self-employed graduates for the year ended 2017.

Differentiation strategy for both categories of graduates was measured on a 5-point index summated scale from one, not important to five, very important. Cost-leadership strategy for both categories of graduates was measured in terms of respective businesses' product price, production costs and operational costs. Among the competitive strategies, differentiation strategy in the study was used to measure actions taken by each category of business owner with regard to perception on offering unique and different products as well as services. Then cost-leadership strategy was measured by actions taken to reduce products/services costs and offer lesser selling prices than rivals with the overall aim of improving the firms' profitability.

Factor analysis was employed to assess whether or not the differentiation strategic practices would load as expected into Porter's (1980, 1985) generic strategies. By using principal component analysis and Kaiser-Meyer-Olkin (KMO) normalization with a varimax rotation, constructs validity was assessed for both categories of graduates' businesses. The results indicated a KMO = 0.836 with a significant Bartlett's test of sphericity (p = 0.000) for VET and a KMO = 0.737 with a significant Bartlett's test of sphericity (p = 0.000) for non-VET graduates (Table

3.2). The result for VET graduates explained 60.49% of the variance with an Eigen value of 3.02 but 55.34% of the variance with an Eigen value of 2.77 among non-VET graduates (Table 2.2). The results of factor analysis presented in Table 3.2 were found to conceptually correspond with Porter's (1980, 1985) generic strategy.

Table 3. 2: Construct reliability and validity analysis

Differentiation strategies	VET graduates	Differentiation strategies	Non-VET graduates
Better customer service	0.871	Improved advertising	0.847
Innovation marketing	0.852	Better customer service	0.843
Upgrading of products	0.696	Upgrading of products	0.785
New product offering	0.534	Innovation marketing	0.772
Improved advertising	0.403	New product offering	0.760
Cronbach's Alpha	0.786	Cronbach's Alpha	0.862
Kaiser-Meyer-Olkin	0.836	Kaiser-Meyer-Olkin	0.727
Bartlett's test	0.000	Bartlett's test	0.000
Variance explained	60.487	Variance explained	55.338

Note: The variables loadings for both cases were greater than 0.50 and the Alpha values were greater than 0.60 which are considered reasonable.

In determining influence of the competitive strategies on firms' profitability, a multiple regression model was adapted since the dependent variables were continuous. The model assumptions, among others, included sample size adequacy, normality, linearity, outliers and multicollinearity (see Pallant, 2011). Sampling adequacy was tested using Tabachnick and Fidell's (2007) formula for minimum samples size given by 50 + 8 (m) where "m" is the number of variables and at least there should be 20 responses per variables. Therefore, with 3 independent variables for each category of business, the minimum sample size [50 + 8 (3)] = 74 was needed. The study used a sample with 359 respondents in total after adjusting for outliers.

Variables were checked for normality using the Kolmogorov-Smirnov (K-S) test for normality; they all indicated significant p values ($p < 0.05$) with a positive skewed distribution. Except for profitability performance for VET graduates, which was transformed using a square root function, all other variables were transformed using a base ten logarithm function as recommended by Field (2018) for transforming positively skewed variables to normal distributions. After transformation, all the variables were checked for normality using the same K-S test; all indicated insignificant p values ($p > 0.05$). All independent variables were checked for correlation among themselves to assess whether they met acceptable level of multicollinearity ($r \leq 0.80$), as recommended by Field (2018). Moreover, multicollinearity was checked during data analysis by computing Variance Inflation

Factors (VIFs) and tolerance levels (Table 3.5). In both cases, product price indicated a strong correlation with the production costs variable, and thus, one variable (production cost) was removed from the model. The remaining independent variables were all within the acceptable multicollinearity range. Interpretation of regression results was based on group statistics including Beta coefficients, t-values, R square values, adjusted R square values, F statistics and significance (p-values).

The multiple regression formula employed is given as:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + .e \quad \text{..} \quad (3.2)$$

Y = earnings attained by each category of graduate

a = intercept of the equation

$b_1 \ldots b_3$ = regression coefficients

x_1 = product price variable

x_2 = operational cost variable

x_3 = differentiation variables

3.4 Results and Discussion

3.4.1 Profitability measures among VET and non-VET graduates

In determining business profitability variables among businesses owned by VET and non-VET graduates, ratio analysis was employed, while in comparing profitability performance between the two groups inferentially, an independent samples t-test was used. Lastly, multiple linear regression analysis was employed in identifying competitive strategies variables, which had significant influence on profitability among graduates. The results are as detailed in the next sub-sections.

3.4.2 Profitability variables comparison using ratio analysis among graduates

Profitability variables that were compared included sales revenue, cost of goods sold, gross profit margin, operating business expenses, and capital employed in businesses. The respective ratios presented in Table 3.3 were all computed with respect to sales.

Table 3. 3: Profitability and ratio analysis between VET and non-VET graduates

Variable/Ratio	VET (n = 192)		Non-VET (n = 192)	
	Mean (TZS)	Ratio (%)	Mean (TZS)	Ratio (%)
Sales/revenue	10 479 093.8		9 798 908.9	
Costs of goods sold	5 048 026.0	48.2	5 461 526.0	55.7
Gross profit margin	5 431 067.7	51.8	4 335 299.5	44.2
Business expenses	1 958 368.9	18.7	1 782 921.9	18.2
Net earnings	3 075 800.9	29.4	2 278 268.2	23.3
Return on capital employed	4 676 776.0	65.8	4 272 270.8	53.3

Results on profitability variables analysis using ratios assessed ability of the businesses to generate gross profit margin, control of production including operational costs, earnings level attained and asset utilization capacity relative to firms' revenues. The findings presented in Table 3.3 indicate that VET graduates achieved a higher gross profit margin ratio of 51.8% as compared to 44.2% attained by non-VET graduates. The relatively high gross profit margin for VET graduates indicates that they were able to produce products and services at a relatively low cost as shown by the costs of goods sold ratio of 48.2% as compared to 55.7% observed for non-VET graduates (Table 3.3). The relatively high profit margin for VET graduates in comparison to non-VET graduates indicates efficiency with which VET graduates produced each unit of product and service sold in the market in comparison to their counterparts. Although there could be other factors contributing to such situation, but VET skills and entrepreneurship training integrated in the VET system could be among reasons that led to lower production costs, improvement in product as well as service quality. Thus, there was a relatively higher gross profit margin for goods and services produced by VET graduates than non-VET graduates.

The operating expenses ratio provides a yardstick of a business operating efficiency. The results in Table 3.3 indicate that 18.7% and 18.2% of sales were consumed by operating expenses for VET and non-VET graduates respectively. Non-VET graduates were slightly better off in management of business operating expenses than VET graduates. Generally, both types of firms were able to efficiently manage business expenses well and thus, they were able to remain with net earnings necessary for their survival in the market. Furthermore, net profit/earnings ratio establishes a relationship between profit as well as sales and indicates management's efficiency in production, administration and selling of the products or services. The results presented in Table 3.3 indicate that 29.4% of each shilling sales by VET

graduates were turned into net profit in comparison to 23.3% of each shilling sales made by non-VET graduates.

Given a small difference in operation expenses (0.5%) in favour of non-VET compared to a difference in production costs (7.5%) in favour of VET graduates, the net effect favours VET graduates as indicated by higher net profit per cent of each shilling of sales. The results imply that VET graduates are in a better condition to withstand adverse economic situations in case of falling selling prices, rising costs of production or declining demand for products or services in the market than their counterparts. Similarly, VET graduates can make better use of favourable economic conditions, such as rising selling prices, falling costs of production or increasing demand for products or services because they would enable them to increase profit level at a higher rate than non-VET graduates with relatively lower profit margin ratios.

The return on capital employed ratio (ROCE) shows how much profit is generated from each shilling of capital employed in the business. Results in Table 3.3 indicate that VET graduates generate 65.8% profit for each shilling invested in their business while non-VET graduates generated 53.3% of profit for each shilling of capital employed in their businesses. This implies that VET graduates were more efficient in utilising capital at their disposal than non-VET graduates. Such pattern probably could be attributed to vocational skills and entrepreneurship training integrated in the VET curricula, which enabled them to utilise fully and efficiently the less assets that they owned in generating more revenues and thus, realise profits for their businesses.

Findings from this study shed some light on the role of vocational education and training towards wealth creation as well as poverty reduction as Tanzania continues to implement the industrialisation agenda indicated by the relatively higher mean net income among VET graduates than non-VET graduates. Moreover, technical skills acquired by VET graduates are paramount in transforming various sectors of the economy in rural and urban areas by either being employed in the formal sector in various industries or by way of self-employment in various sectors of the economy based on their various skills. This is due to VET technical training and skills acquired which enhanced better production techniques. According to Cedefop (2011), they lead to higher returns among VET than those of non-VET graduates for countries

with well-established VET and apprenticeship systems. Provided results for self-employed VET graduates were better than those of non-VET graduates, it implies that the VET systems in the two cities are fairly well established to warrant higher returns as informed by Cedefop (2011).

3.4.3 Net profit variables comparison among VET and non-VET graduates

In order to test the hypothesis that mean net profits do not differ significantly between VET and non-VET graduates, an independent samples t-test was performed. Moreover, for variables, which affect net profits, other independent samples t-tests were conducted on means for sales revenue, costs of goods sold, gross profit margin and business operating expenses to determine any differences in means of those variables between the two groups of respondents and effects of those variables on business net profits for businesses owned by VET and non-VET graduates. As indicated in Table 3.4, VET graduates reported numerically slightly higher means for net profit margin, gross profit margin, sales revenue and operating expenses but lower mean for costs of goods sold than non-VET graduates. A confidence test score for the variables was conducted between VET and non-VET graduates who were conducting different types of businesses in Arusha and Dar es Salaam cities. Table 3.4 presents independent samples t-test results between the two groups.

Table 3. 4: Independent samples t-test results on profitability variables

Variable	Category of graduates	n	Log of mean profitability variable	Log of Standard deviation	Levine's test for equality of variance		t-test for equality of means		
					F	Sig	t	df	sig
Sales	VET	185	6.794	0.375	0.293	0.588	1.67	367	0.096
	Non-VET	184	6.727	0.396					
Cost of goods sold	VET	185	6.386	0.479	0.035	0.851	-0.539	369	0.590
	Non-VET	186	6.412	0.471					
Gross profit	VET	188	6.542	0.349	0.655	0.419	2.888	373	0.004*
	Non-VET	187	6.434	0.373					
Expenses	VET	186	6.055	0.477	1.199	0.274	1.235	370	0.218
	Non-VET	186	5.993	0.499					
Net profit	VET	183	6.275	0.344	2.631	0.106	2.857	369	0.005*
	Non-VET	183	6.169	0.374					
Return on Capital Employed	VET	186	6.285	0.350	0.427	0.514	2.307	370	0.022*
	Non-VET	186	6.129	0.364					

* Significantly different at the 5% level of significance

Since the VET and non-VET graduates' distributions were positively skewed, a base ten logarithm function was used to transform the variables as recommended by Field (2018). The resulting distributions were sufficiently normal for the purpose of conducting t-test with the skewness and kurtosis falling in the acceptable range, i.e.

skew < |2.0| and kurtosis < |9.0| (Schemider *et al.*, 2010). In addition, the assumption of homogeneity variance was not violated; the Levine's F test, F (369) = 2.631, p = 0.106 for net earnings and other variables used in computation of net profit as indicated in Table 3.4 show that the variances of the two populations were approximately equal; and thus, the standard t-test was appropriate. Results of independent samples t-test was associated with a significant effect on net profit margin t (369) = 2.857, p = 0.005. Thus, VET graduates had higher business earnings (n = 183, M = 6.275, SD = 0.334) in comparison to business earnings observed among non-VET graduates [(n = 183, M = 6.169, SD = 0.374) Table 3.4]. However, Cohen's d was estimated at 0.022 indicating that the group means differed by 0.022 standard deviations, which is considered a small effect size based on Cohen's (1992) guidelines.

The independent samples t-test results for variables, which were used in computation of net profit indicated that there were no significant differences in means for sales revenue, cost of goods sold and business operating expenses between VET and non-VET graduates as indicated in Table 3.4. However, results of independent samples t-test on gross profit margin indicated a significant difference, t (373) = 2.888, p = 0.004 (Table 3.4), which implies that the mean gross profit margins for VET graduates (n = 188, M = 6.542, SD = 0.349) was significantly higher than the mean gross profit margin observed from non-VET graduates (n =187, M = 6.434, SD = 0.373). The results provide more information that observed differences in profitability were partly due to higher gross profit margins attained by VET graduates in comparison to gross profit margin attained by non-VET graduates.

Further, independent samples t-test results on ROCE showed a significant difference, t (370) = 2.307, p = 0.022 (Table 3.4), implying that, the mean ROCE for VET graduates (n = 186, M = 6.285, SD = 0.350) was significantly higher than the mean ROCE observed from non-VET graduates (n =186, M = 6.129, SD = 0.364). Based on these results, the null hypothesis is rejected because there is enough evidence that mean net profits for VET differed significantly from the mean net profits for non-VET graduates.

3.4.4 Relationships between competitive strategies and firms' profitability

To determine relationships between differentiation and cost-leadership strategies' variables and profitability among businesses owned by VET and non-VET graduates, multiple linear regression analysis was employed. Among the independent variables, product pricing was highly correlated with production cost beyond the acceptable correlation of 0.80 (Table 3.5). Thus, production variable was removed from the list of variables for multiple regression analysis. Results in Table 3.5 show that businesses owned by the graduates had an R = 0.676 (67.6%), an R^2 = 0.457 (45.7%), an adjusted R^2 = 0.452 (45.2%) and a p = 0.000. The results show that the overall fit of the models was statistically significant at (p = 0.000). It means that the model had enough explanatory power to predict influence of competitive strategies on profitability performance for businesses owned by VET and non-VET graduates. The coefficient of determination (R^2 = 0.452) imply that the variables entered into the model accounted for 45.2% of competitive strategies influence on firms' profitability and the remaining influence was due to other factors not included in the model.

Table 3. 5: Influence of Competitive Strategies on Profitability Performance

Independent Variables	**Unstandardized Coefficients**		**Standardized Coefficients**			**Collinearity Statistics**	
VET graduates	β	S.E	β	t	Sig.	VIF	Tolerance
Constant	2.320	0.240		9.669	0.000		
Product price	0.524	0.050	0.579	10.441	0.000	2.008	0.498
Operation costs	0.085	0.040	0.118	2.132	0.034	2.008	0.498
Differentiation	0.077	0.028	0.106	2.714	0.007	1.000	1.000

a. Dependent variable = firm profit; R = 0.676; adjusted R^2 = 0.452; ANOVA: MD = 6.239; F =99.567; p = 0.000

The multiple linear regression results showed that the combination of both cost-leadership (product pricing, and operational costs) and differentiation scale (existing products upgrade, new product offering, improved advertising, innovation marketing and customer service) strategies were important factors that contributed favourably and significantly to graduates' firms' profitability performance at ($p < 0.05$). Product competitive pricing showed the highest influence on firm profitability performance (β = 0.579), followed by operational costs (β = 0.118) and differentiation strategy scale (β = 0.106). The findings imply that, as both categories of graduates increased product price by one unit, the business profitability increased by 0.579 units while a unit increase in brand differentiation scale increased the firm's profitability performance by 0.106 unit if the respective other predictor variables were held constant. However, decrease of one unit of operational expenses resulted in a 0.118

decrease in the firm's profitability performance. Thus, achieving optimal firm's profitability performance requires striking a balance between individual strategic practices and the required profitability levels by the VET graduates' businesses.

Generally, this section examines influence of firms' competitive strategies on profitability. A number of notable issues provide evidence of the influence of competitive strategies (cost-leadership and brand differentiation) on profitability performance. Both categories of businesses, on one hand, indicated to place more emphasis on cost-leadership strategy by managing product pricing and operational costs in achieving the desired level of profitability. As indicated by findings in Tables 3.5, product pricing strategy indicated a strong link with firms' profitability. It is not surprisingly that graduates strived to use low cost operational facilities and low cost labour in order to reduce operating costs, while charging competitive prices to ensure their products were sold to the final consumers.

The findings are consistent with narration provided by a key informant who was a VET student on practical training at a welding workshop at Chang'ombe in Dar es Salaam City, who pointed out that:

> *"all times of my practical training programme at the workshop, despite working from morning to the evening, I am not paid anything by the owner. Rather, it is covered in the VET training fee structure paid by my parents during the whole period of my practical training..."* (VET student-Chang'ombe, March, 2018).

Previous studies (for example Allen and Helms, 2006; Amoako-Gyampah and Acquaah, 2008; Li *et al.,* 2009; Granados *et al.,* 2019) reported similar findings that one or more of the cost-leadership strategic practices was found to influence firms' performance in terms of sales, production and profitability growth.

The Firm's competitive strategy in relation to brand differentiation strategy showed a significant influence on firms' profitability among firms owned by the graduates. The probable reasons for this could be related to the fact that both VET and non-VET considers product differentiation an important aspects for their products to get sold in the market. Aspects related to upgrade of existing products quality, new products offering given the market demand, ensuring the product is known to customers, and customer services, are among important aspects of differentiation strategy which

influence firms profitability. It is important also to note that, for both graduates, since product upgrade and quality are among aspects of differentiation strategies, obtaining quality certifications from authorities such as the Tanzania Bureau of Standards (TBS) or other available standards is paramount for profitability performance. This is expected to make their products more attractive to final consumers if consistent product quality are maintained. This is expected to differentiate them better compared to other firms without such certification. This is expected to create brand royalty among customers and therefore repeated purchase, which is expected to further increase business profitability performance.

3.4.5 Theoretical results

The study results indicated that, as expected from the Porter's (1980, 1985) theory of competitive strategy, strong association existed between competitive strategies and firms' profitability for both categories of graduates' businesses. Both cost-leadership and differentiation strategies influenced on profitability for firms owned by VET and non-VET graduates. Among the cost-leadership strategies, product price was observed to have high influence on profitability followed by business operational costs. Differentiation strategy had the lowest contribution to profitability, possibly because among the graduates, non-VET graduates lack of entrepreneurship training while VET graduates acquire aspects of differentiation strategies and integrate them in their businesses compared to non-VET with little knowledge in such area.

3.5 Conclusions and Recommendations

Based on ratio analysis results, it is concluded that firms owned by VET graduates' perform better than firms owned by non-VET graduates in terms of profitability variables, except for operational costs where non-VET graduates are slightly better in managing operational costs than VET graduates. Therefore, it is recommended that an interventions targeting at improving firms' profitability of graduates' businesses should concentrate more on improving variables that yield maximum firms' profitability for each category of graduates' businesses.

Provided that the VET graduates' gross profit and net profit are significantly higher than those of non-VET graduates, it is suggested that VET graduates are able to manage better product prices and control the associated production costs than non-VET graduates. Therefore, it is recommended that efforts to improve setting

competitive product prices and controlling production as well as operational costs among VET graduates should be enhanced. They can be done through conducting some basic marketing research in the market to compare with similar prices and costs offered by competitors in order to arrive at a balance between prices and costs that lead to optimal profitability among them.

It is further concluded that graduates implement both cost-leadership and differentiation strategies in influencing their firms' profitability levels. Thus, it is recommended that, since maximum profitability for both VET and non-VET graduates is derived by implementing both cost-leadership and differentiation strategies. Therefore, more efforts should be invested in ensuring necessary requirements for setting up competitive prices and driving down costs in all areas of their business operations are improved. In addition, for both graduates should manage differentiation strategy variables, such as ensuring better product quality and marketing related activities among others, building appropriate capabilities in respect of these areas need priority consideration. Product quality stakeholders such as the TBS should also take charge by provision of product quality certification of graduates' products, an aspect expected to differentiate better than those firms without such certification.

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CHAPTER FOUR

4.0 ASSET CAPITALISATION AND BUSINESS PERFORMANCE: COMPARISON BETWEEN SELF-EMPLOYED VOCATIONAL AND NON-VOCATIONAL GRADUATES IN ARUSHA AND DAR ES SALAAM CITIES, TANZANIA

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4.1 Abstract

Asset capitalisation plays an important role in business because it provides means for revenue generation. Despite the importance of asset capitalisation, studies show doubts on whether or not such capitalisation contributes to performance of firms owned by self-employed Vocational and non-Vocational graduates. As a reaction to the doubts, in this manuscript, performance of businesses owned by the two groups is determined, compared in terms of revenue and net worth, and effect of assets capitalisation on revenue is analysed. The manuscript adapted a cross-sectional design in whereby 384 respondents were interviewed. Descriptive statistics, independent sample t-test and multiple linear regression were used to analyse data. Descriptive statistics results indicated that Vocational graduates' performance was numerically higher than that among non-vocational graduates. However, independent sample t-test results indicated an F (382) value of 0.579 and a p-value of 0.563 for revenue and F (382) = 0.801, p = 0.422 for net worth. It implies that the observed differences in revenue and net worth were insignificant between the two groups. Multiple linear regression results indicated that values of property, plant and equipment ($\beta = 0.500$, $p = 0.000$), business total assets ($\beta = 0.090$, $p = 0.046$), years of experience in business ($\beta = 0.379$, $p = 0.000$) and education level of business owner ($\beta = -0.065$, $p = 0.025$) had significant influence on revenue. These results lead to the conclude that financial performance between firms owned by VET and Non-VET graduates are almost the same. It is further concluded that both tangible and intangible assets (experience in business) positively affect revenue generation among both VET and Non-VET graduates. Therefore, it is recommended that tangible assets and experience in business should be given high priority by the graduates for revenue generation, among other factors. Moreover, any intervention

targeting at improving business performance should be directed in financing capital assets of the graduates' businesses in order to improve productivity and lead to more revenue generation.

Keywords: Asset capitalisation, business performance, self-employment, vocational, non-vocational graduates

4.2 Introduction

The global economic problems experienced in recent years and with the increasing world population have led to failure by many countries to absorb the increasing demand for wage employment in the labour market (Junankar, 2011; Choudhry *et al.*, 2012; Palaskasy *et al.*, 2015). Specifically, youth unemployment has become one of the major policy challenges facing many nations across the globe in improving economic situations in their respective countries (ILO, 2015). Youth unemployment and poverty not only affect the economic growth potential of a country but can also create conditions for social unrest and cause a negative influence on the countries' socio-political stability (IOM, 2009; Maduka, 2015; Hicks *et al.*, 2016). Moreover, increasing intensities of unemployment decrease prospects for getting paid employment among graduates. As a result, the majority of graduates who fail to secure appropriate salaried employment in the labour market resort to undertake self-employment activities (Hughes, 2006; Dawson *et al.*, 2009; Kautonen *et al.*, 2010).

Self-employment in business Micro, Small, or Medium Enterprises (MSMEs) plays an important function in reducing poverty and unemployment in the majority of developing nations in the world (Islam *et al.*, 2011; Okpara, 2011; Wekesa *et al.*, 2016). Self-employment in business is linked to job and wealth creation and thus, poverty reduction among poor and disadvantaged communities in developing countries (Sagire, 2017). Several studies have reported that Vocational Education and Training (VET) plays a major role in reducing unemployment and improved business performance in comparison to general education system, because it imparts hands on technical education and skills relevant for self-employment to artisans as well as entrepreneurs (Sabates *et al.*, 2012; Agrawal, 2013; DeJaeghere, 2013). The VET system was intended to prepare its graduates to have passions for a vocation or a specialist career and so it is directly linked to a nation's productivity in various sectors of the economy (Nkebukwa and Luambano, 2018). Therefore, it is argued

that VET can reduce the unemployment challenge, which is one of the most pressing socio-economic problems facing developing countries today, through self-employment in various activities in the economy (Hicks *et al.*, 2016).

Performance of businesses owned by self-employed individuals has been given a crucial and significant attention by many international as well as government institutions in the emerging economies as a strategy to achieve sustainable economic development and poverty reduction (Ihua, 2009; URT, 2012). In Tanzania, more than 850,000 graduates enters the labour market annually, but the formal sector can only absorb 50,000 to 60,000 of the graduates per year (LO/FTF, 2018). The low absorption rate of graduates in the formal sector raises unemployment condition and thus, forces a large number of the graduates to opt for self-employment in the informal sector as an alternative with the majority of them being males, while the number of female graduates is very limited (Estrin and Mickiewicz, 2009; Klapper and Parker, 2010).

In Tanzania, it is estimated that about 95% of the informal sector businesses are Micro, Small and Medium Enterprises (MSMEs) and have contributed to the Gross Domestic Product (GDP) growth from 27% in 2010 to 35% in 2016 (URT, 2012; Tanzaniainvest, 2019). It is approximated that there are more than three million MSMEs in the country, employing more than five million individuals (ESRF, 2016). While a large proportion of the businesses operate in the informal sector, the estimated size of the informal economy as a per cent of GDP decreased from 62.5% in 1991 to 39.7% in 2010, employing 62.5% of yearly urban labour force, which is higher than the estimated 8.5% by the formal sector (ESRF, 2016).

Despite the increasing contribution of the MSMEs to the country's GDP, the majority of them [(66.4%) URT, 2012] are excluded from access to finance, which is essential for business asset capitalisation and working capital purposes, both in urban and rural areas. Asset capitalisation is investment or expenditure on long term assets used in business for the purpose of generating revenue (Shaffril and Uli, 2010). It is argued that business performance is an important factor in order to gain competitive advantage and superior productivity (Shaffril and Uli, 2010). Without superior performance, businesses cannot survive (Sulaiman *et al.*, 2015). Herciu and Ogrean (2008) argue that business performance is influenced by an optimal combination of

assets, both tangible and intangible. Tangible capital includes current assets (inventories, receivables, cash and cash equivalents) and non-current assets (property, plant and equipment), which may include land, buildings, equipment, automobiles and furniture (Mawih, 2014).

Intangible capital (IC) refers to human capital, software, consumer networks, rights related to intangible property, research and development, process technology, business and owner preparation (Cooper *et al.*, 1994; Matarneh, 2014). Intangible capital has been defined as things that can be formalized, captured and exploited to produce higher value assets. In a similar way, Edvinsson and Malone,1997; OECD, 2008; Osinski *et al*,. 2017 define IC as knowledge that can be converted into value. Therefore, small businesses with huge amounts of these resources are in a better position to survive environmental shocks and have better performance than those without such resources (Osinski *et al*,. 2017).

For a business to achieve a desired performance level, it needs tangible assets appropriately combined with human capital to convert raw materials into finished goods or services (Mawih, 2014). Business performance can be captured by output rates, amount of revenues, reduction in operational costs used to achieve target levels of earnings by using a given level of assets well combined with human capital over a given period of time (Coleman, 2007; Shaffril and Uli, 2010). Net profits are the standard measures of a business's ability to generate revenues in excess of operational costs (Okafor, 2012). Such achievement is very essential for continued existence and growth of a small business (Rodriques *et al.*, 2003; Fatoki, 2011). Human capital comprises various factors, including education, relevant business experience and skills (Brixy and Hessels, 2010; Okafor, 2012). Also, it includes factors such as family support, and direct presence of the owner(s)/partners in the business (Aderemi *et al.*, 2008; Salia, 2015; Adjei *et al.*, 2016; Hillar, 2017). In fact, the owner-manager's education level and that of employees have significant effects on the firm's survival and growth (Coleman, 2007; Bashir *et al.*, 2011; Okafor, 2012).

Several authors have discussed that asset capitalisation has a positive influence on small business performance (Shaffril and Uli, 2010; Sulaiman *et al.*, 2015; Wakesa *et al.*, 2016). Fabling and Grime (2007) argued that appropriately combined business

assets have strong relationships with success rate of businesses and their earnings levels. In order to achieve desired earnings, a business needs to create and gain competitive advantages in regard to business competitors (Barney and Arikan, 2001). Competitive advantage is associated with how a business utilizes its resources within the business and in the market (Barney, 2002). Within the business assets, utilization refers to maximum usage of assets to produce appropriate products and services in the industry in which the business operates, while in the market, resource utilization refers to marketing strategies used to get items or services produced and sold to customers (Fabling and Grime, 2007).

Literature indicate that besides the contribution of VET to self-employment and better business performance, such as improved productivity, business profitability, and more economic growth for countries at large (Cedefop, 2013), VET has proved to have a number of non-economic benefits. They include greater job satisfaction for individuals, lower absenteeism for employed graduates and low crime rate in societies (Lochner, 2010). Despite the growing economic and social significance of VET elsewhere in the world (Acemoglu and Pischke, 1999; Heckman, 2000; Ryan, 2002; Carneiro *et al.,* 2010; Cedefop, 2011), studies in Tanzania mainly have focused on women participation in vocational studies, vocational graduates' tracer studies and survey of employers' with regard to employability and performance of individual graduates in wage employment in different sectors of the economy (VETA, 2010; VETA, Enclude, Cinop and Nuffic, 2013; Loge, 2017). Cedefop (2013) argue that, from a policy viewpoint, it is useful to know the different types of benefits brought about by VET and general education. However, lack of adequate studies and relevant data in the majority of the countries poses a challenge. Therefore, a study on which this manuscript is based, compare how various assets employed in businesses owned by VET and non-VET graduates has potential to increase business financial performance in terms of revenue and business net worthiness between the graduates, was necessary. Moreover, some businesses operated by self-employed graduates have been reported not to perform well in terms of revenue and earnings (Shitundu, 2003; Machin and Vignoles, 2005; Woessmann, 2008; VETA, 2010; Haji, 2015). In view of this situation, it is questionable whether or not investment in assets for small businesses in the country contributes

significantly to better business financial performance of self-employed VET and non-VET graduates.

Thus, the objectives of this manuscript were to determine performance of businesses owned by graduates, to compare business performance in terms of revenue and net worth, and to analyse asset capitalisation and selected socio-demographic variables' effects on revenue generation among self-employed VET and non-VET graduates in the study areas. Based on the objectives, it was hypothesised that tangible and intangible assets do not have a significant impact on revenue generation among VET and non-VET graduates in the study areas. Therefore, the scope of this manuscript is confined to performance comparison between VET and non-VET graduates and how assets capitalisation and socio-demographic factors as inputs influence on revenues as outputs for businesses owned by VET and non-VET graduates in the study areas.

4.3 Methodology

4.3.1 The study area

The study on which this manuscript is based was conducted in Dar es Salaam and Arusha cities. The two cities were selected for they diverge in many facets, such as population size, individuals' income levels, economic activities as well as human development between regions among others (UNDP, URT and ESRF, 2018). Moreover, Dar es Salaam is the major city where the first VET centres was established and Arusha city follows Dar es Salaam, among other cities, in terms of social services and public infrastructure as well as vocational institutions investments (VETA, 2010; Wenban-Smith, 2015 cited in Andreasen *et al.*, 2017). Dar es Salaam on one hand has highest record of VET centres standing at 75 VET centres by 2015. Arusha, on the other hand had 52 VET centres by 2015, more than other major cities in Tanzania (URT, 2016). The implication or assumption here is that the larger the number of VET institutions the more self-employed graduates in the cities in comparison to other cities in Tanzania.

4.3.2 Research design, sampling procedure and sample size

The study employed a cross-sectional research design since it facilitates collection of data more or less simultaneously, and examination of variables once at a single point in time, and it facilitated to determination of relations among business assets capitalization, socio-demographic factors and performance indicators (see Bryman

and Bell, 2011). The study population included VET graduates and non-VET graduates with different skills who were self-employed in Arusha and Dar es Salaam cities. The unit of analysis was an individual owner of a business under self-employment. The VET graduates were vocational education alumni (treated) and non-VET graduates (control) were those without any formal vocational education training. The choice of the two groups was justified in terms of fairly balanced characteristics such as age, types of business activities, business locations and formal education which were determined during piloting of the research study. A total of 384 respondents on which this manuscript is based were involved in this study. The respondents were distributed into two equal sizes and based on maximum variability that p was equivalent to 0.5 and q was equivalent to 0.5 according to Cochran, (1977). Therefore, one half (192) of respondents were VET graduates and the other half (192) of the respondents were non-VET graduates. Cochran (1977) argues that the formula is appropriate in arriving at an adequate sample size if the population is infinite and its degree of variability is unknown.

4.3.3 Data collection

Snowball sampling was employed to collect data from individual graduates in Arusha and Dar es Salaam cities for interview. The snowball sampling technique was used in finding and recruiting "hidden populations." Thus, they were respondents who were not easily accessible to the researcher through other sampling strategies (Babbie and Mouton, 2001). Nevertheless, snowball sampling method suffers a number of critiques; such as non-generalizable results due to lack of sampling frame (Morgan, 2008 cited by Kirchherr and Charles, 2018), lack of sample diversity and under representation of respondents in the population (Shaghaghi *et al.,* 2011). However, several studies refute the criticisms submitted by some scholars regard to snowballing sampling method. For instance, Noy (2009) and Creswell (2005) argue that the intent of research is not only to generalise results to a population but also to develop in-depth investigation of a central phenomenon, thereby producing a unique type of social knowledge.

In overcoming some of the identified criticisms, the study used three key methodological approaches recommended to reduce the observed weaknesses (Creswell, 2005; Kirchherr and Charles, 2018). Among the methods, contact lists of some key self-employed graduates were obtained from the Directorate of Labour

Market Planning and Development (DLMPD), Colleges and from Schools, which served as the seeds for the snowball sampling procedure that was used. The seeds sample was sufficiently variable in terms of business categories whereby nine different businesses were included in the pool of seeds obtained from the respective institutions to solve the diversity and under representation problem. Moreover, a face-to-face interview was conducted as it is claimed by many scholars, that it generates trust required to gain referrals and reduce sampling bias (Noy, 2009; Sadler *et al.*, 2010; Shaghaghi *et al.*, 2011).

Quantitative data were collected by using a survey approach with a structured questionnaire for each business. From the total sample of 384 respondents, the populations of Arusha (1 694 310) and Dar es Salaam (4 364 541) as per Tanzania national census of 2012 (URT, 2013), were used to find proportions of Arusha respondents which were determined to be approximately 28% equivalent to 106 respondents and 72% equivalent to 278 respondents from Dar es Salaam. The first respondent from each of the two cities was obtained through referral and recommendations provided by a representative of the DLMPD at VETA Chang'ombe, Dar es Salaam.

Qualitative data were collected using Key Informant Interviews (KIIs) whereby a total of five KIIs were held. The key informants (technical and administrative personnel) were selected based on their knowledge of vocational education and graduates' employment status. For the VET institutions that were involved, retired VETA Director General, College Principals, Heads of Academic Departments and representatives of the DLMPD at VETA Head Office Dar es Salaam were interviewed. Qualitative and quantitative methods of data collection complemented each other. Thus, they increased the overall validity of the study findings through verification of respondents' answers, checking responses uniformity of one method against the other and within methods triangulation as recommended by Casey and Murphy (2009). Qualitative research approach allowed for in-depth probing and yielded detailed information (Saunders *et al.*, 2009). Qualitative data, recorded in notebooks, were transcribed, categorised, coded and thereafter, grouped into themes in relation to the objective of the study.

4.3.4 Data processing and analysis

The qualitative data were analysed using constant comparison technique by restricting qualitative data to the theory as proposed by Kolb (2012). For quantitative data analysis, an independent samples t-test was used to compare whether or not there was any differences in performance in terms of revenues and net worth between VET and non-VET graduates. In order to test the hypothesis that business assets and social demographic factors do not have a significant impact on revenue generation among VET and non-VET graduates, a multiple linear regression was employed. The analysis was appropriate since the dependent variable was measured at the scale level. Accordingly, the model was adapted because the variables were used to meet the basic assumptions that all predictor variables were quantitative or dummy, and the outcome variables were quantitative, continuous and unbounded (Field, 2018). The assumptions of the model, among others, included sample size adequacy, linearity, normality, outliers and multicollinearity (Pallant, 2011). The sampling adequacy assumption was tested using Tabachnick and Fidell (2007) formula according to which the minimum sample size is given by 50 + 8 (m) where "m" is the number of variables and at least there should be 20 responses per variable. Thus, with eight independent variables in the model, the minimum sample size [50 + 8(8)], equal to 114, was needed. For this analysis, the study used a sample of 359 which was over and above the minimum recommended number. A total of 25 outlier variables were identified and removed from the sample of 384 respondents through obtaining the standardised residual values, and none of them had a value above 3.3 or less than -3.3 as recommended by Tabachnick and Fidell (2007). Thus, there were no outliers for the remaining variables used in the multiple linear regression model.

Normality check on variables that were entered in the multiple linear regression model was tested by using the Kolmogorov-Smirnov test of normality. The test is used when a sample is greater than 50 cases, and variables that are checked for normality are said to have normal distributions if the test is non-significant ($p > 0.05$) and vice versa (Field, 2018). The p-values for values of property plant and equipment, initial capital financing, age of business owner and education were greater than 0.05, indicating that the variables were normally distributed. However, the p-values for revenue, total business assets and experience in business were all less than 0.05, indicating that the variables were not normally distributed. Since the

variables were positively skewed, base ten logarithm function was used to transform them as it is recommended by Field (2018) for transforming positively skewed variables to normal distributions.

After transformation of the variables, they were checked again for normality using the same test (Kolmogorov-Smirnov) and all of them had insignificant p-values ($p > 0.05$) indicating that they had normal distributions. All independent variables were checked for correlation among themselves to achieve an acceptable tolerance level of multicollinearity effect (r-value > 0.80 (Field, 2018). Multicollinearity was further checked during data analysis by computing Variance Inflation Factors (VIFs), tolerance levels (Table 4.7) and inter-correlation among all the independent variables (Table 4.1). A VIF factor value of not more than 10 and a tolerance level of greater than 0.1 indicate absence of strong relationships between independent variables [no multicollinearity) Landau and Everitt, 2004]. Thus, the results in Table 4.1 and Table 4.7 confirm absence of multicollinearity. The interpretation of regression analysis was based on group statistics (means and standard deviation), Pearson's correlations, Beta Coefficients, t-values, R-square value, adjusted R-square values, F statistics and significance (p-values).

Table 4. 1: Variables correlation matrix

	X1	**X2**	**X3**	**X4**	**X5**	**X6**	**X7**	**X8**
X1		0.595	-0.018	0.585	-0.009	0.008	0.102	0.020
X2			0.043	0.529	0.076	0.106	0.051	0.058
X3				-0.004	0.191	0.144	0.062	0.213
X4					0.000	0.009	0.143	-0.039
X5						0.014	-0.104	0.415
X6							-0.050	0.060
X7								-0.059
X8								

The multiple regression formula and variable description (Table: 4.2) was given by:

$$Qit = \alpha_0 + \alpha_1 PPE(x_1) + \alpha_2 TBA(x_2) + \alpha_3 ICFIN(x_3) + \alpha_4 EXP(x_4) + \alpha_5 AGE(x_5) + \alpha_6 BOS(x_6) + \alpha_7 EDU(x_7) + \alpha_8 MAR(x_8) + \varepsilon \quad (4.1)$$

Where,

Qit = Total predicted revenue attained by VET and non-VET graduates,

α_0 = the value of revenue attained when all of the independent variables (X_1 through X_8) are equal to zero,

α_1 to α_8 = estimated regression coefficients (Change in outcome variable resulting from a unit change in predictor variables),

x_1 to x_8 = predictor/independent variables entered into the model, and

ε = Error term which represents a proportion of the variance in the dependent variable unexplained by the regression equation.

Table 4. 2: Description of the model variables and measurement levels

Variables	Variable definition and unit of measure used	Level of measurement
Qit	Total predicted revenue (shillings)	Ratio
PPE (X_1)	Property, plant and equipment (Tanzania shillings)	Ratio
TBA(X_2)	Total business assets (Tanzania shillings)	Ratio
ICFIN(X_3)	Initial capital financing (Tanzania shillings)	Ratio
EXP (X_4)	Owner experience in business (Number of years)	Ratio
AGE (X_5)	Age of business owner (years)	Ratio
BOS (X_6)	Business owner sex (being a male (1) or female (0) biologically)	Dummy
EDU (X_7)	Business owner years of schooling (years)	Ratio
MAR (X_8)	Marital status (1 = Married; 0 = Otherwise)	Dummy

4.4 Results and Discussion

4.4.1 Socio-demographic variables of the respondents

Socio-demographic variables of respondents in the study included age, sex and marital status, education level and household size. Results on them are presented in Tables 4.3 and 4.5 and discussed from sub-sections 4.4.1 to 4.4.3.

Table 4. 3: Respondents' Age, Sex and Marital Status

Variable	Category	VET Graduates		Non-VET Graduates	
		n = 192	Per cent	n = 192	Per cent
Age	Young 18 - 35	125	65.1	113	58.9
	Middle 36 - 60	62	32.3	77	40.1
	Old 61 - 68	5	2.6	2	1.0
Sex	Male	136	70.8	130	67.7
	Female	56	29.2	62	32.3
Marital status	Single	67	34.9	73	38.0
	Married	120	62.5	113	58.9
	Divorced	1	0.5	5	2.6
	Widowed	4	2.1	1	0.5

4.4.1.1 Sex and marital status of respondents

Findings showed that, 70.8% of the VET graduates were males and 29.2% were females while 67.7% of non-VET graduates were male and 32.3% were females. The findings indicated that the number of males VET graduates involved in self-employment were almost equal to that of male non-VET graduates. Similarly, it was observed for the female VET graduates in comparison to non-VET counterparts. The results showed that there was a limited number of female graduates for both groups participating self-employment in business activities in the study area. Previous

studies (for instance, Estrin and Mickiewicz, 2009; Klapper and Parker, 2010) have asserted that men dominate self-employment activities not only in developing countries but also in developed countries. The results on marital status indicated that 62.5% of the self-employed VET and 58.9% of self-employed non-VET graduates were married, followed by those who were single 34.9% and 38% for self-employed VET and non-VET graduates, respectively. A very low percentage was observed for those who were divorced and widowed self-employed VET and non-VET graduates as indicated in Table 4.3. This implies that majority of the self-employed individuals have family responsibilities, and hence, they work hard to ensure that their businesses yield more income to be able to take care of their families. Previous studies (for example, Aderemi *et al.,* 2008; Salia, 2015; Hillar *et al.,* 2017) argue that being married has considerable positive influence on the business earnings level. Presence of married couples among VET and non-VET graduates in the study area was likely to influence on better business performance than business owners who were single, widowed or divorced. This could be due to the fact that, different from single, widowed and divorced business owners, married couples support each other financially, psychologically and socially to ensure business ventures are successful (Adjei *et al.,* 2016).

4.4.1.2 Age of respondents

Assessment of respondents' age indicated that the majority of the respondents were in the 18 to 35 years age group, which accounted for 65.1% for VET and 58.9% for non-VET graduates, indicating that most of the self-employed business owners were of productive age, active to participate in economic activities (URT, 2014). Those in the 36 to 60 years age group accounted for 32.3% for VET and 40.1% for non-VET graduates, and the remaining age group between 61 and 68 were observed in few for both VET and non-VET as indicated in Table 4.3. Thus, the results indicates that young and middle aged respondents (18 to 35 years and 36 to 60 years, respectively) were more involved in business firm activities. Rasheed (2002) asserts that the level of active participation in economic activities tends to increase with the optimum age group and starts to drop with increase in age.

Moreover, the strength and direction of relationship between age and business performance was assessed by computing a Pearson's product moment correlation coefficient Table 4.4.

Table 4. 4: Relationship between Age and Business Performance Variables

Variable	Correlation Coefficient (r)	p-value
Revenue	0.250	0.000
Net profit	0.171	0.001
Net worth	0.212	0.000

Results indicated that age with revenues (r = 0.250, p = 0.000), age with net profit (r = 0.171, p = 0.001) and age with business net worth (r = 0.212, p = 0.000) were significantly positively correlated (Table 4.4). These findings are in line with findings which were reported by Shaffril and Uli (2010) and Salia (2015), albeit, the findings with regard to net worth are in contrast with those of Salia (2015). Findings from these studies indicate that experienced people have better business performance due to connections with customers, suppliers and long accumulated knowledge on the activities conducted, which is similar to what was found in this study. The correlation coefficients indicated low positive relationships between revenues, net worth, and net profit in relation to age (Table 4.4). These findings show that although the association was significant between age and business performance indicators, there is a low positive relationship between age and the selected performance indicators (Table 4.4).

4.4.1.3 Education level and household size

Education level and household size findings as presented in Table 4.5 revealed that 34.9% and 50.0% of the self-employed VET and non-VET graduates, respectively, from the study area had primary education; 62.5% of VET and 44.3% of non-VET had ordinary level secondary education; and 2.6% of VET and 5.7% of non-VET had college or higher education respectively (Table 4.5).

Table 4. 5: Education and household size of respondents

Variable	VET (n = 192)		Non-VET (n = 192)	
Education	Frequency	Per cent	Frequency	Per cent
Primary	67	34.9	96	50.0
Secondary	120	62.5	85	44.3
Higher	5	2.6	11	5.7
Total	192	100	192	100
Number of household members active in business				
1-2	171	89.1	175	91.2
3-4	13	6.7	9	4.6
5-7	8	4.2	8	4.1
Total	192	100	192	100
Household with members not active in business	89	46.4	85	44.3

The implication of these results is that the VET and non-VET graduates were literate enough to operate and manage the businesses in which they were engaged. It was also expected that more self-employed business owners with higher education level might perform better than those with low formal education. A study by Brixy and Hessels (2010) indicated that skills and education level relevant to the occupation had a positive influence on business performance.

The findings on household size indicated that 46.4% of VET graduate households had at least one to nine members who were not active in business activities, while 44.3% of non-VET graduates households had at least one to six members who were not active in business (Table 4.5). Further results showed that households, which consisted of one to two members accounted for 89.1 % among VET graduates and 91.2% among non-VET graduates, while those which had three to four members accounted for 6.7% among VET graduates and 4.6% among non-VET graduates. Also, households consisting of five to seven members accounted for 4.2% and 4.1% among VET and non-VET graduates respectively. The results show that a large proportion of the businesses owned by VET and non-VET engage one to two family member(s) in business activities, indicating that the majority of the businesses owned by VET and non-VET graduates were in the category of micro enterprises with capital investment up to five million (Table 4.5). Further results indicated that five to seven persons were engaged in business owned by both VET and non-VET graduates meaning that the businesses were in the category of small enterprises with capital investment above five million but not exceeding 200 million (URT, 2003) as shown in Table 4.5. Household size has implication for family labour supply, which reduces operational costs, and hence improves earnings level. However, for the study on which this manuscript is based (Table 4.5), indicate that a large proportion of family members (46.4% VET and 44.3% non-VET) were not involved in business activities, probably due to being in the non-working age, which implies that substantial business revenue was spent to take care of such group of family members. A study by Adjei *et al.* (2016) indicated that family members have a positive influence on performance and thus, can reduce business labour cost of production and/ or service provision.

4.4.2 Revenue and net worth comparison among VET and non-VET

In order to determine and compare performance between VET and non-VET graduates, two performance indicators were employed namely, business revenue and net worth. The two indicators, revenue and net worth, are closely related in that the latter, in terms of assets, is used in generating revenue. The latter, after reduction of production and operating expenses, yields net incomes, which, in turn, increases the business net worthiness if revenues are higher than total expenses and vice versa (Pandey, 2010). An independent samples t-test was conducted to determine existence of differences in mean revenue scores and mean net worth scores between VET and non-VET graduates. A confidence test score of revenue and net worth was conducted between VET and non-VET graduates who were conducting different types of businesses in Arusha and Dar es Salaam cities. Table 4.6 presents means for revenue and net worth for the two groups and independent samples t-test results.

Table 4. 6: Independent Sample t-test on Revenue and Business Net Worth

Variable	Group	Mean (TZS)	Mean difference	Levine's test For equality of variance		t-test for equality of means		
				F	Sig	t	df	Sig
Revenue	VET	10,479,094	-680,185	0.036	0.849	0.579	382	0.563
	Non-VET	9,798,909						
Net Worth	VET	4,676,776	-404,505	0.939	0.333	0.800	382	0.422
	Non-VET	4,272,271						

The results in Table 4.6 indicate that being a VET graduate was associated with numerically higher mean revenue and mean net worth in comparison to being a non-VET graduate. However, the observed differences were not significant ($p > 0.05$), probably the reasons being that the Tanzania VET system is still less developed and needs more infrastructure and technological improvement in comparison to some of the developed economies countries. For instance, findings by VETA (2010) established that inadequate relevant and realistic practical training, lack of systematic and firm partnership with industries in training are among the inhibiting factors to achieve necessary VET competencies for the vocational education systems in Tanzania. This was confirmed through an interview with one of the VET colleges Principals in Arusha who said that,

> *"The Tanzanian VET system is less advanced than neighbouring country of Kenya due to low technological investment, language problems amongst students and facilities for practical training programmes which are*

> *inadequate. For instance, VET graduates in the hotel industry from Kenya are doing well in the market in comparison to graduates from Tanzania, partly due to language barrier and little of exposure to the industry"* (College Principal Arusha – April, 2018).

Moreover, during an interview with the Registrar of Students-VETA College in Dar es Salaam on 17th March, 2018 he said that,

> "*Despite the effort by the government funding vocational education in Tanzania, there are still budgetary constraints that inhibit full investment in various VET planned projects such as construction of more VET centres in various districts, human resources training and acquisition of training facilities".*

Similar results were revealed in Dar es Salaam where an auto mechanics self-employed VET graduates said that,

> *"I cannot accept to service a modern Toyota Land Cruiser engine, which is very complicated compared to an engine I was trained in at Vocational Training Institution. Moreover, if any part gets damaged in the process of repair, I cannot afford to buy and replace it because modern Toyota car spare parts are very expensive"* (Self-employed VET graduate at Kipawa Dar es Salaam-March, 2018).

The quotations imply that the Tanzania VET system still needs more improvement to achieve higher returns for its graduates as experienced from other countries. There is a need for additional funding sources (as narrated by the Registrar of Students at VETA Chang'ombe) apart from the current government funding through Skills Development Levy (SDL) collected from various private employers by the Tanzania Revenue Authority (TRA) under the Vocational Education Training Act (1994) and Income Tax Act (2004).

To test the hypothesis that there is no significant difference in revenue and net worth of VET graduates' and non-VET graduates' businesses, an independent samples t-test was performed. The revenue and net worth of VET graduates and non-VET graduates were sufficiently normal for the purpose of conducting the t-test (skew < |2.0| and kurtosis < |9.0| (Schmider *et al.*, 2010). Additionally, the assumption of homogeneity variance was not violated as indicated by the Levine's test results in

Table 4.6, which shows that variances of the two populations were approximately equal and, thus, the standard t-test was proper. The results of the independent samples t-test were not significant: t (382) = 0.579, p = 0.563 and t (382) = 0.80, p = 0.422 for revenue and net worth, respectively (Table 4.6). This implies that there were no statistically significant differences in revenue and net worth of VET graduates' and non-VET graduates' businesses (VET n = 192, M =10 479 094, and non-VET n =192, M = 9 798 909). Similarly, there were no statistically significant differences in the observed means respectively for net worth (n =192, M = 4 676 776) and (n = 192, M = 4 272 271) for VET and non-VET respectively as indicated in Table 4.6. Previous studies (for example, Woessmann, 2008; VETA, 2010; Haji, 2015) found similar results that self-employed VET graduates owned businesses that do not differ significantly from those of non-VET graduates in terms of business financial performance. Based on these results, the null hypothesis was not rejected because there was little evidence that mean revenue and net worth differed significantly between VET and non-VET graduates in the study areas. As it has been reported by a VETA tracer study (VETA, 2010) among the issues inhibiting achievement of necessary competencies for the vocational graduates to perform better in the labour market include unrealistic practical training and lack of systematic firm partnership for apprenticeship training in industries.

4.4.3 Effect of assets capitalisation and socio-demographic factors on revenue

Multiple linear regression analysis was done to determine the best linear combination of business property, plant and equipment', business total assets and initial capital financing, on one hand. On the other hand, the study sought to determine socio-demographic factors as indicated by owner experience in business, age, sex, number of years of schooling and marital status for predicting annual revenue levels as indicated in Table 4.7.

Table 4. 7: Effects of Assets and Socio-demographic Factors on Revenue

Independent variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	S. E	B			VIF	Tolerance
(Constant)	4.206	0.314		13.393	0.000		
Property, Plant and Equipment	0.000	0.000	0.500	10.741	0.000	2.679	0.373
Total business assets	0.100	0.050	0.090	2.007	0.046	2.496	0.401
Initial capital finance	0.000	0.000	0.028	0.950	0.343	1.095	0.913
Experience in business	0.302	0.029	0.379	10.558	0.000	1.591	0.628
Age of business owner	-0.001	0.001	-0.026	-0.810	0.419	1.252	0.799
Business owner sex	-0.022	0.023	-0.028	-0.949	0.343	1.048	0.954
Education level	-0.010	0.004	-0.065	-2.247	0.025	1.047	0.955
Marital status	0.016	0.024	0.021	0.651	0.515	1.246	0.802

a. Dependent variable: revenue, R = 0.847; adjusted R^2 = 0.711; ANOVA: MD = 4.481; F(8,350) = 110.862, p = 0.000

The results in Table 4.7 show that the model had R = 0.847 (84.7%); R^2 = 0.717 (71.7%), adjusted R^2 = 0.711 (71.1%) and $p < 0.05$ (Table 4.7). The overall model fit was statistically significant [($p < 0.05$) Table 4.7], which implies that the model had enough explanatory power to predict the effect of asset capitalisation and socio-demographic factors on the level of revenues attained by VET and non-VET graduates in the study areas. The coefficient of determination (R^2 = 0.717) means that the asset capitalisation and social demographic factors entered in the model accounted for 71.7% (Table 4.7) of the predicted revenues and the rest was contributed by other factors which were not covered by the study (see Field, 2018). The β-coefficient values indicate the relationship between revenue and each predictor variable (Field, 2018). If the value is positive, it indicates a positive relationship between the predictor variable and revenue, whereas a negative coefficient represents a negative relationship (Field, 2018).

Among the predictor variables, property, plant and equipment values, total business assets values, experience in business and education level as indicated by number of years of schooling were found to significantly influence on revenue ($p < 0.05$), while initial capital financing, age, sex and marital status of business owners were not significant towards influencing on revenue between VET and non-VET graduates [($p > 0.05$) Table 4.7]. However, among the significant variables, total business assets, property, plant and equipment and experience in business had the highest standardised coefficients (Table 4.7). It means that they largely contributed to

explain the revenue level when the variance explained by all other factors in the model were controlled (see Pallant, 2011). On the aspect of property, plant and equipment, results showed a positive significant influence ($\beta = 0.500$, $p \leq 0.001$) on revenue (Table 4.7), indicating that each shilling invested in property, plant and equipment in the business, with all other predictor variables being held constant, caused an increase of shilling 0.500 in revenue to businesses owned by self-employed VET and non-VET graduates in study areas. The findings imply that a business owner who has invested more in additional property, plant and equipment in the business, produced more goods or service, and thus attained higher revenue. The findings support those from previous studies which established that in today's competitive business environment, it is a prerequisite to manage assets effectively and efficiently in order to get maximum return on investment (see, Jooste and Page, 2014; Mawih, 2014).

Experience of the owner in business showed positive significant influence ($\beta = 0.379$; $p \leq 0.001$) on revenue (Table 4.7), indicating that a unit increase in owners experience in business (number of years) led to 0.379 unit increase in revenue if effects of all other predictors were held constant (Table 4.7). This can be explained by the fact that long-time experience in business is likely to provide VET and no-VET graduates with advantages of having more contacts with customers, suppliers and other business associated aspects (see Rauch and Frese, 2000, Salia, 2015) that would lead to improved business performance through revenue growth. This finding was supported by one non-VET self-employed graduate in carpentry business at Keko in Dar es Salaam who said that,

> "*I have been in business for more than ten years, and as time goes on, I learn from past mistakes. Thus, I improve products quality and increase my customer base from new customers as well as referrals from existing customers, aspect, which improve my revenue level*" (Self-employed non-VET graduate at Keko – March, 2018).

Total business assets was one among results that showed positive significant influence [($\beta = 0.090$; $p = 0.046$) Table 4.7], indicating that a unit increase in total business assets led to 0.090 unit increase in revenue if the effect of all other predictors were held constant. The findings imply that the more the total assets were employed in business, the more the revenue was realised and vice versa. Previously

accumulated business earnings, if re-invested in the business by acquiring more assets, they are expected to create additional revenue, thereby improving business performance over time.

Education level of business owner had a negative significant influence [(β = -0.065; p = 0.025) Table 4.7] on revenue given that all other predictors were held constant. The results imply that a unit increase in education level was found to decrease revenue by 0.065 units. This calls for more investment in education system to improve its negative effects on revenue among self-employed graduates. However, this findings contradict with those by Brixy and Hessels (2010), which indicate that education level relevant to the occupation has a positive influence on business performance. The probable reason for this could be that their skills and knowledge mismatch with the current demands of the labour market among self-employed graduates in the study areas.

Initial capital financing had a positive and insignificant influence (β = 0.028; p > 0.05) on revenue (Table 4.7). The results indicated that a unit of initial capital used to finance a business increased revenue by 0.028 unit, given all other predictor variables were held constant. The findings imply that if business owners put more start-up capital into their businesses they are able to generate higher revenue from the businesses.

The analysis of business owner age produced a negative and insignificant influence (β = -0.026; p > 0.05) on revenue, implying that a unit increase in owner's age was able to decrease revenue by 0.026 unit if the effect of all other predictor variables was held constant (Table 4.7). The results imply that as individuals get older, they become less productive in terms of labour ability, which is critical for self-employment activities in generating additional revenue.

Business owner's sex showed a negative and insignificant influence (β = -0.028; p > 0.05) on revenue (Table 4.7). Owner's sex being a male (1) was associated with a decrease in revenue by 0.028 units if the effect of all other predictors were held constant. This implies that business owners being male decreased revenue by 0.028 unit compared to business owners being female.

Marital status of business owner produced a positive and insignificant influence (β = 0.021; $p > 0.05$) on revenue, meaning that being married (1) was associated with increase in revenue by 0.021 unit if the effects of all other predictor variables were held constant (Table 4.7). The findings indicated that married individuals' revenue increased by 0.021 units compared to individuals who were unmarried. This implies that, as individuals get married and operate businesses, their businesses revenue levels increase, probably due to labour contribution by partners and support by each other, whether morally or financially as compared to individuals who are unmarried.

4.4.4 Theoretical results

Base on the findings, the theoretical claim stated by Brixy and Hessels (2010) that human skills obtained through education and experience in one's life time are what develop an intuition for successful business are positively related with the empirical findings of this paper with regard to business experience and negatively related with regard to education level. Business owner's experience proved to be one of the key factors that influenced on revenue, consistent with what was theorised by Brixy and Hessels (2010). However, education level disagreed with what was theorised by Brixy and Hessels (2010). Findings indicated decrease in revenue for a unit increase in level increase in education. Moreover, despite the fact that the theory was proved to be relevant in terms of intangible assets (Human Capital), there is a need for the theory to incorporate tangible capital such as property, plant and equipment and total assets of businesses, which were also proved to have positive significant influence on revenue. Thus, from the findings, it is proposed to include tangible capital combined together with intangible capital because the two are inseparable for a business venture to attain desired revenue level. Therefore, VET graduates should consider the contribution of both tangible and intangible assets in revenue generation for their businesses as a new model of revenue generation in business.

Moreover, several studies have reported contribution of VET to reduction of unemployment and improved business performance in comparison to general education system in the majority of developed countries in Europe (see Agrawal, 2013, DeJaeghere, 2013 and Sabates *et al.*, 2012). In Tanzania, there have been limited studies related to performance comparison between VET and general education graduates. As noted by Cedefop (2013) that from a policy point of view, it was useful to know various benefits brought about by VET and general education.

However, lack of adequate studies and relevant data in the majority of countries pose a challenge. Thus, this manuscript provides empirical evidence comparison between VET and non-VET graduates business performance. In due regard, the manuscript reports that there were no significant differences in performance for the selected performance indicators between VET and non-VET graduates. Weaknesses pointed out by VETA (2010) and some key informants in the study provide insights as to reasons self-employed VET graduates were not performing well in comparison to self-employed non-VET graduates as evidenced in some of the developed economies countries in Europe (Agrawal, 2013).

4.5 Conclusions and Recommendations

Provided that means for revenue and net worth of businesses undertaken by VET and non-VET graduates were not statistically significant, it is concluded that the current VET system in Tanzania is unable to make self-employed graduates perform better than graduates who went through the general education qualification system. Therefore, it is recommended that the central government, through the Ministry of Education Science and Technology, should consider improving provision of Vocational Education and Training in the country. That can be done by improving budgetary allocation to VET training institutions in order for the graduates to realise full potentials envisaged in the VET system. Moreover, the central government, through the Ministry of Education Science and Technology, should consider more investment in modern training facilities for the VET training institutions to cope with the ever changing technological environment in order to match with the current labour market requirements.

Further results indicated that tangible business assets, business net worth and experiences in business played an important roles to revenue levels achieved by both VET and non-VET graduates. It is concluded that tangible assets, combined with relevant business experiences, are the major determinants of revenue generation among firms owned by self-employed graduates. Therefore, it is recommended that graduates in both categories should invest more effectively in business assets and utilize such resources to produce more goods and services for them to attain higher revenue as well as remain competitive in the market. Moreover, they should use their experience in business to explore further about customers' demands and preferences

in order to match goods or service offered with customer needs as well as generate additional revenue.

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CHAPTER FIVE

5.0 ASSETS OWNED AND LIVELIHOOD SUSTAINABILITY AMONG SELF-EMPLOYED VOCATIONAL AND NON-VOCATIONAL GRADUATES IN ARUSHA AND DAR ES SALAAM CITIES, TANZANIA

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5.1 Abstract

Assets owned by self-employed graduates provide a basis for livelihoods sustainability and play an important role in poverty reduction, but access to such assets for self-employment is a major challenge among majority of the graduates. Thus, this manuscript aimed to determine levels of such assets and compare assets owned and their contribution to livelihoods sustainability attainment between vocational and non-vocational graduates. The study on which this manuscript is based adapted a descriptive cross-sectional survey design with a sample of 384 respondents. Quantitative data were analysed using descriptive statistics, a livelihoods asset ownership index and a Mann-Whitney U-test, while qualitative data were analysed through constant comparison content analysis approach. Findings showed that a larger proportions of both categories of graduates had low assets ownership level, followed by those in the higher assets ownership level. Mann-Whitney U-test results indicated insignificant differences in assets ownership between the two groups of graduates. Provided that there are many graduates with lower levels livelihoods assets, it suggests that these graduates are not able to sustain their livelihoods due to limited assets. It is further concluded that both categories of graduates have few chances to make positive and sustainable livelihood outcomes. It is recommended that self-employed graduates with low assets level should consider diversifying their livelihood activities so as to improve their livelihoods assets levels. That can be done by formation of self-help microfinance institutions such as Savings and Credit Co-operative Societies from which they can access credit for financing acquisition of livelihoods assets. It is further recommended that graduates should leverage their strength observed on human capital and physical capital to improve other types of capital that would promote productive self-employment activities for

better chances to make sustainable livelihoods outcomes. They should also consider accessing available government and other local financing schemes for livelihoods assets acquisition.

Keywords: Assets, livelihood, sustainability, self-employment, vocational graduates, non-vocational graduates.

5.2 Introduction

Livelihood assets provide a basis for livelihoods among self-employed graduates and they play an important role in poverty reduction in both rural and urban areas (Cho *et al.,* 2016; Kibiria *et al.,* 2018). Livelihood assets offer chances for creation of new jobs as alternative livelihood opportunities for the majority of the labour force in countries where significant and growing unemployment has become a major economic problem (Wakesa *et al.,* 2016). Globally, about 55% of workforce livelihoods depend on self-employment and nearly three-quarters of them are likely to be working for day-to-day survival in their livelihood endeavours (Gindling and Newhouse, 2014). A Large proportion of self-employed individuals live in poor or vulnerable households (Cho *et al.,* 2016).

In Sub-Saharan Africa (SSA), for instance, close to 80% of the self-employed live in poor or vulnerable households compared to only about 20% in either Europe and Central Asia or Latin America and the Caribbean (Gindling and Newhouse, 2014). East Africa follows a similar trend like the other SSA countries whereby more than 60% of the people's livelihoods depend on self-employment mainly, in the informal sector (AUC and OECD, 2018). In Tanzania, self-employment has a reasonable contribution to the Gross Domestic Product (GDP) growth, for example from 27% in 2010 to 35% in 2016 (Tanzania invest, 2019).

With the increasing number of anticipated workforces in vulnerable employment, livelihood assets ownership is crucial among self-employed graduates (Masud *et al.,* 2016; Mumuni and Oladele, 2016). Therefore, livelihood assets ownership are seemingly important among self-employed graduates for attainment of sustainable livelihoods, economic development and poverty reduction as put in the sustainable development goals [SDGs (ILO, 2017)].

Literature shows that livelihood assets have a significant impact on livelihood options and income in the framework of sustainable livelihoods (Perz, 2005; Su and Shang, 2012; Lindberg, 2012; Ma *et al.*, 2018). The ability to generate income necessary for achieving sustainable livelihoods among self-employed graduates depends on access to assets or livelihood capital employed in their businesses (Sun *et al.*, 2016; Hua *et al.*, 2017; Xu, 2018; Li *et al.*, 2020). It means that sustainable livelihoods are attained through access to an array of capital items (natural, economic, human, social and physical capital) which are combined in the pursuit of different livelihood strategies (Casaburi *et al.*, 2012; Chen *et al.*, 2013; Masud *et al.*,2016; Li *et al.*, 2020). For example, Biggs *et al.* (2014) as well as Hidalgo (2019) argue that households with little livelihood assets and are living in poorly established environments are highly vulnerable to adverse effects of shocks and are less likely to achieve better livelihood outcomes. Thus, lack of livelihood assets is claimed to be both a symptom and a cause of poverty among vulnerable self-employed individuals (Dorward *et al.*, 2002, Chen *et al.*, 2013). As a result, poor households which lack access to such assets fail to take up economic activities with higher returns (Ellis, 2000; Babulo *et al.*, 2008; Samsudin and Kamaruddin, 2013).

However, despite growing significance of livelihood assets for income generation, poverty reduction and sustainable livelihoods; studies indicate that livelihood assets ownership among the majority of the self-employed individuals have not improved (VETA, 2010; Scoones, 2015; Gugelev, 2018). For example, Ayuma (2009) and VETA (2019) argue that self-employment among majority of individuals is constrained by inadequate entrepreneurship skills, and shortage of financial capital and physical capital needed for self-employment activities. In addition, it has been claimed that almost half of all individuals in developing countries are still in vulnerable forms of self-employment, and almost four out of five individuals in developing countries are in this form of self-employment (Gugelev, 2018). Furthermore, the number of people in vulnerable employment globally, is expected to grow by 11 million per year from 2018 onwards and therefore, making it a challenge to realise high quality livelihood, goal of poverty eradication as spelt out in the (SDGs), particularly SGD 1. The SDG 1 envisages to end poverty in all of its forms by 2030 (URT, 2000; Kamaruddin and Shamsudin, 2014; ILO, 2017).

These conditions pose a challenge as to the specific dynamics that contribute to assets ownership and livelihoods sustainability among self-employment graduates. Moreover, addressing the challenges faced by VET and non-VET graduates helps to inform various policies and legal frameworks established by the government with the aim of improving self-employment situations. Such policies include Small and Medium Enterprise Policy (2003); National Employment Policy (2008); the Technical Education and Training Policy (1996); and the Vocational Education Training Authority Act (1994). Also recently, Micro, Small and Medium Enterprises (MSMEs) have been integrated in the Industrial Development Strategy (IDS) for the years 2016/2017 through 2020/2021 whereby they have been given a special role for Tanzania Industrialization Agenda (URT, 2016a). In due regard, understanding how VET and non-VET graduates employ a range of livelihood assets and activities as they seek to sustain and improve their wellbeing was necessary.

In this manuscript, activities in which self-employment graduates were engaged include nine businesses, which, according to VETA (2010), were mostly preferred by graduates for self-employment. They include the following: carpentry, textile and clothing, motor vehicle mechanics, motor vehicle electrical wiring, electrical installation, secretarial services and computer application, construction, food preparation, and welding and fabrication. Based on the activities that graduates were engaged in, this manuscript aimed at comparing livelihood assets ownership among VET and non-VET graduates in Arusha and Dar es Salaam cities, Tanzania. Specific objectives of the study included to determine levels of livelihood assets among the two groups and to compare them as to determine whether they contribute to livelihood sustainability between the groups in the study areas. Accordingly, it was hypothesised that there was no significant difference in possession of livelihoods assets and livelihoods sustainability attainment between VET and non-VET graduates.

5.3 Methodology

5.3.1 The study area

The manuscript was based on a study which was conducted in Dar es Salaam and Arusha cities. The selection of cities was based on the fact that they differ in many aspects, such as population size, individuals' income levels, commercial activities as well as human development between regions among others (UNDP, URT and ESRF,

2018). Moreover, Dar es Salaam is the major city where the first VET centres was established and Arusha city follows Dar es Salaam, among other cities, in terms of social services and public infrastructure as well as vocational institutions investments (VETA, 2010; Wenban-Smith, 2015 cited in Andreasen *et al.,* 2017). Dar es Salaam on one hand has highest record of VET centres standing at 75 VET centres by 2015. Arusha, on the other hand had 52 VET centres by 2015, more than other major cities in Tanzania (URT, 2016b). The implication or assumption here is that the larger the number of VET institutions the more self-employed graduates in the cities in comparison to other cities in Tanzania.

5.3.2 Research design and sample size

The study adapted a cross-sectional research design because it facilitates collection of data more or less simultaneously and examination of variables once at a single point in time. Likewise, it enabled comparison of the levels of livelihood assets ownership among self-employed VET and non-VET graduates (see Bryman and Bell, 2011). The study population included VET graduates and non-VET graduates with different skills who were self-employed in Arusha and Dar es Salaam cities. The unit of analysis was an individual owner of a business under self-employment. The VET graduates were vocational education alumni (treated), while non-VET graduates (control) were those without any formal vocational education training.

The choice of the two groups was justified in terms of fairly balanced characteristics such as age, types of business activities, business locations and formal education, which were determined during piloting of the study. A total of 384 respondents were involved in the study on which this manuscript is based. The respondents were distributed into two equal sizes based on maximum variability whereby p equals to 0.5 of the total respondents were VET graduates and q equals to 0.5 of the total respondents were non-VET graduates (see Cochran, 1977). Therefore, the one half (192) of the respondents were VET graduates and the other half (192) of the respondents were non-VET graduates. Cochran (1977) argues that the formula is appropriate in arriving at an adequate sample size if the population is infinite and its degree of variability is not known.

5.3.3 Sampling procedures and data collection methods

Snowball sampling was employed to collect data from individual graduates in Arusha and Dar es Salaam cities for interview. The snowball sampling technique was used in finding and recruiting "hidden populations." Thus, respondents who were not easily accessible to the researcher through other sampling strategies were selected based on sampling procedure (see Babbie and Mouton, 2001). Nevertheless, snowball sampling method suffers some critiques such as the claim that it leads one to get non generalizable results due to lack of sampling frame (Morgan, 2008 cited by Kirchherr and Charles, 2018), lack of sample diversity and under-representation of respondents in the population (Shaghaghi *et al.*, 2011), several studies refute those criticisms; some scholars regard it. For instance, Creswell (2005) and Noy (2009) argue that the intent of research is not only to generalise results to a population but also to develop an in-depth investigation of a central phenomenon, thereby produce a unique type of social knowledge.

In overcoming some of the weaknesses already identified, the study used three key methodological approaches recommended to reduce the weaknesses (see Creswell, 2005; Kirchherr and Charles, 2018). Among the methods, a list of key respondents was obtained from the Directorate of Labour Market Planning and Development (DLMPD), Colleges and Schools which served as the seeds for snowball sampling method. The seeds sample were sufficiently varied in terms of business categories whereby nine different businesses were included in the pool of seeds obtained from the respective institutions to solve the diversity and under representation problem. Moreover, a face-to-face interview was conducted because it is claimed by many scholar, it generates trust required to gain referrals and reduce sampling bias (Noy, 2009; Sadler *et al.*, 2010; Shaghaghi *et al.*, 2011).

Quantitative data were collected by using a survey approach with a structured questionnaire for each business. From the total sample of 384 respondents, the population of Arusha (1 694 310) and of Dar es Salaam (4 364 541) as per Tanzania national census of 2012 (URT, 2013) were used to find proportions of respondents. They yielded approximately 28% equivalent to 106 respondents from Arusha and 72% equivalent to 278 respondents from Dar es Salaam. The first respondents from

each of the two cities was obtained through referral and recommendations provided by a representatives of the DLMPD at VETA, Chang'ombe Dar es Salaam.

Qualitative data were collected using Key Informant Interviews (KIIs) whereby a total of four KIIs were held. The key informants were selected based on their knowledge of vocational education and graduates' employment status. For the VET institutions that were involved, retired VETA Director General, College Principals, Heads of Academic Departments and representatives of the DLMPD at VETA Head Office in Dar es Salaam, were interviewed. Qualitative and quantitative methods of data collection complemented each other. Thus, they increased the overall validity of the study findings through verification of respondents answers, checking responses uniformity of one method against the other and within methods triangulation as recommended by Casey and Murphy (2009). Qualitative research approach allowed for an in-depth probing and yielded detailed information (Saunders *et al.,* 2009). Qualitative data, recorded in notebooks, were transcribed, categorised, coded and thereafter grouped into themes in relation to the objectives of the study.

5.3.4 Data processing and analysis

Data analysis was based on both quantitative and qualitative livelihood information on assets ownership indicators customised from the Sustainable Livelihoods Framework (DFID, 2001) as presented in Table 5.1.

Table 5. 1: List of indicators for livelihood assets

Human assets	Financial assets	Natural assets	Social assets	Physical assets
Access to education	Cash earned from business activities	Ownership of land	Position in the society	Communication equipment's
Working experience	Cash earned from non-business	Ownership livestock	Community activities	Housing characteristics
Skills training attended	Cash (grant) received	Food from environment	Involvement in political activities	Access to water sources
	Savings amount		Group economic activities	Transport facility
				Household assets

Source: Customised and modified from DFID (2001) and Ibrahim *et al.,* (2018)

Qualitative data were recorded in notebooks then transcribed, categorised, coded and thereafter grouped into themes in relation to the objectives of the study. The data were analysed using a constant comparison technique by comparing occurrences of the assets ownership livelihood information applicable to each category and restricted data to the theory as proposed by Kolb (2012).

Quantitative data were analysed using descriptive statistics of livelihoods assets indicators to get a better understanding of categories and levels of livelihoods assets owned by self-employed graduates. The indicators were weighted then summated into total scores to determine the maximum and minimum scores. Thereafter, grouping of scores in the index was centred on the computed median of 0.55 and 0.48 from ordinal data for VET and non-VET respectively, as cut-off points. For ordinal data, median is recommended as the best measure of central tendency compared to other measures (Manikandan, 2011). The indices were categorised into levels (Table 5.2) to disentangle different assets endowment among self-employed graduates, which gives rise to disparities in livelihoods asset ownership among them and thus, affects their ability to endure livelihoods shocks and sustain their livelihoods divergently (Rapsomanikis, 2015). Similarly, Fratkin (2013) observed that self-employed graduates with different wealth levels may have a different understanding with regard to livelihood vulnerability and risks, which have a consequence on livelihood sustenance.

Table 5. 2: Levels of livelihood assets owned by VET and non-VET graduates

Index value VET	Index value non-VET	Index category	Level of livelihood asset ownership
0.10 – 0.54	0.10-0.47	Low	Low livelihood assets ownership
0.55	0.48	Moderate	Moderate livelihood assets ownership
0.56 – 1.0	0.49-1.0	High	High livelihood assets ownership

Source: Customised from Li *et al.* (2020)

In comparing the five livelihood assets ownership between the two groups, the study employed a Livelihood Assets Ownership Index (LAOI) adapted from Li *et al.* (2020) whereby an individual assets livelihood index was computed using the following formula:

$$f = \sum_{j=1}^{n} \omega_j \chi_j \quad \text{.....(5.1)}$$

Where: f represents individual livelihood assets index value ($0 < f < 1$); n represents the n^{th} indicator of criteria on j (j = 1, 2, 3…); ω_j represents the weight of each indicator; and χ_j represents the mean value of each indicator. Subsequently, the composite livelihood assets ownership index was derived as follows:

$$S = \omega_1 x_{pa} + \omega_2 x_{na} + \omega_3 x_{fa} + \omega_4 x_{sa} + \omega_5 x_{ha} \quad \text{.....(5.2)}$$

Where: S represents the livelihood assets ownership index; $\omega_{1,\ 2...5}$ represent the weights for the five livelihood assets categories; x_{pa}, x_{na}, x_{fa}, x_{sa} and x_{ha} represent

combined indicators values for physical, natural, financial, social and human assets respectively. Moreover, a Mann-Whitney U-test was conducted to test the hypothesis that possession of livelihood assets (natural, physical, financial, human and social) between VET and Non-VET graduates does not differ significantly. Use of the Mann-Whitney U-test was justified as the distribution for the two groups were non-normal with fairly balanced characteristics between the two groups such as age, types of activities, business locations and formal education level, among others. However, the two groups were different in terms of one having VET qualification (treated group) while the non-VET (control group), did not possess such qualifications prior to getting into self-employment.

5.4 Results and Discussion

5.4.1 Categories and levels of livelihood assets owned by graduates

Livelihoods among self-employed VET and non-VET graduates are dependent on strength in terms of assets or capital assets holdings, which they endeavour to convert into positive livelihood outcomes. Results in Table 5.3 present five categories of assets or capital items upon which livelihoods among both categories of graduates are built, namely human capital, social capital, natural capital, physical capital and financial capital. Findings in Table 5.4 are about levels of livelihood assets ownership among VET and non-VET graduates.

Table 5. 3: Livelihood assets categories owned by VET and non-VET graduates

Livelihood Assets	VET Graduates					Non-VET Graduates				
	Frequency		%		Index	Frequency		%		Index
	Yes	No	Yes	No	value	Yes	No	Yes	No	value
Human assets										
Attendance of formal education	192	0	100.0	0.0	1.00	192	0	100.0	0.0	1.00
Working experience	192	0	100.0	0.0	1.00	192	0	100.0	0.0	1.00
Skills training attended	192	0	100.0	0.0	1.00	34	158	17.7	82.3	0.18
Financial assets										
Business income	192	0	100.0	0.0	1.00	100	0	100.0	0.0	1.00
Income from non-business activities	30	162	15.6	84.4	0.16	23	169	12.0	88.0	0.12
Grant beneficiary	11	181	5.7	84.3	0.06	8	184	4.2	95.8	0.04
Savings amount	180	12	93.8	6.3	0.94	175	17	91.1	8.9	0.91
Physical assets										
Housing characteristics	65	127	33.9	66.1	0.34	54	138	28.1	71.9	0.28
Access to tap water sources	149	43	77.6	22.4	0.78	138	54	71.9	28.1	0.72
Household assets	192	0	100.0	0.0	0.52	192	0	100.0	0.0	0.48
Ownership of means of transport	81	111	42.2	57.8	0.13	63	129	32.8	67.2	0.09
Communication equipment's	192	0	100.0	0.0	0.76	190	2	99.0	1.0	0.64
Natural assets										
Ownership of land	84	108	43.8	56.3	0.44	69	123	35.9	64.1	0.36
Ownership livestock	82	110	42.7	57.3	0.43	86	106	44.8	55.2	0.46
Food resources from environment	60	132	31.3	68.8	0.31	89	103	46.4	53.6	0.45
Social assets										
Position in the society or organisation	30	162	15.6	84.4	0.16	27	165	14.1	85.9	0.14
Involvement in community activities	62	130	32.3	67.7	0.32	56	136	29.2	70.8	0.29
Involvement in political activities	117	75	60.9	39.1	0.61	109	83	56.8	43.2	0.57
Involvement in economic groups	25	167	13.0	87.0	0.13	16	176	8.3	91.7	0.08

5.4.1.1 Human assets

Findings on human assets (Table 5.3) revealed that both categories of graduates had at least attended formal education ranging from primary education to college or university level. Among the VET graduates, 36.5% had primary education; 59.9% had secondary education; and only 3.6% had University or College education. The results for non-VET graduates indicated that 50% had primary education; 44.3% had secondary education; and only 5.7% had either college or university education. The results for skills training showed that all 100% of VET graduates were better in business related skills training compared than 18% of non-VET graduates who had such skills. The implication from the results is that both categories of graduates were literate enough to properly manage their businesses to attain positive livelihood outcomes expected from education levels they had. In addition, it was expected that more educated graduates would be at a higher level of livelihood outcomes than graduates with low formal education level. A study by Casaburi *et al.* (2012) established that education level has positive association with livelihood outcomes.

Results for business experience for both categories of graduates indicated that each graduate had experience in business for at least one or more years since establishment of their businesses. The findings for VET graduates with one to five years' experience were 55.7% while those with more than five years were 44.3% with a mean of 6.27 years in business. The results for non-VET graduates indicated that respondents who had one to five years' experience were 60.9% while those with more than five years' experience were 39.1% with a mean of 6.06 years in business. Self-employed graduates' experience in business is an essential factor in determining firms' profitability and the levels of livelihood outcomes because it may lead to better decision-making skills attained over time. About this, one male self-employed non-VET graduate from Majengo Arusha said that,

> *"I have been in self-employment for 8 years now (2018). I will continue with this business because it encompasses the only means that gives a living to me and my family … I am a form four leaver but through long-term practice in welding and metal fabrication business, I am able to produce quality products that satisfy my customers' needs"* (Interview, Majengo Arusha, 20 April, 2018).

The quote establishes that despite the fact the non-VET graduates had no formal training skills related to the businesses, it was evident that through long-term experience and practices, they were able to manage well their businesses and achieve good livelihood outcomes from self-employment activities. However, it was important for self-employed non-VET graduates to further up-grade their skills and knowledge. All can be possible through the Recognition of Prior Learning Assessment (RPLA) organised by VETA in order to fill skills and knowledge gap and acquire recognised certification. Such measures would improve business image and qualify their businesses for quality certification from institutions such as Tanzania Bureau of Standards (TBS). Findings on skills training related to business activities indicated that only 18% of non-VET graduates had acquired formal skills and knowledge in the course of operating their businesses, which is relatively on the low side. This was probably one among causes of numerically lower livelihood assets ownership among non-VET graduates in comparison to VET graduates.

5.4.1.2 Financial assets

Findings on financial assets (Table 5.3) indicated that the main source of livelihoods among graduates was income from business, which accounted for all 100% among both VET and non-VET graduates, followed by income from non-business activities that accounted for 15.6% and 12% of the income among VET and non-VET graduates, respectively. The average gross income from business per annum among VET graduates stood at Tanzania shilling (Tshs. 5 382 916.67 (USD 2 316.15),[3] while the total expenditure averaged at Tshs. 2 374 016.80 (USD 1 021.49) per annum with mean net earnings of Tshs. 3 008 899.87 (USD 1 294.66) per annum. Results for non-VET graduates indicated gross income from business of Tshs. 4 499 882.81 (USD 1 936.20) per annum and the total expenditure was TZS 2 206 494.79 (USD 949.41) per annum with mean net earnings of Tshs. 2 293 388.02 (USD 986.80) per annum. Also, it was found that the savings level among VET graduates stood at 93.8%, slightly higher than the observed savings level of 91.1% for non-VET graduates.

[3]The exchange rate for one United States Dollar was equivalent to Tanzanian Shillings (TZS) 2,324.08 as at 13th August, 2020

Generally, financial assets ownership levels among VET graduates were numerically higher than those among non-VET graduates. As seen in the human assets ownership, VET graduates possessed more skills and experiences related to business activities being operated than non-VET graduates, which probably is one among reasons for their slightly better financial asset ownership level than their counterparts. Previous scholars (for example, Sun *et al.*, 2018; Xu, 2016) argue, that among all livelihood assets, financial assets provide the most important of all stimuli in facilitating improvement of other livelihood assets and thus, sustainability of livelihoods among vulnerable groups ensues. However, the high dependence on a single source of income from business for both groups reduced the ability to increase levels of other livelihood assets ownership, and thus leading to inability to withstand livelihood shocks as well as stresses due to limited financial assets. The reason provided by one female VET graduate at Mwenge in Dar es Salaam was as follows:

> *"I do not have other sources of income apart from my food vending business because the current business keeps me busy when I wake up in the morning to purchase the day food items requirements for breakfast, lunch and up to dinner in the evening. Then the cycle continues like that. This poses a challenge to operate other activities and I cannot leave the management of the business to someone else because I may lose the capital invested in the business"* (Interviewee, Mwenge Dar es Salaam, 9 April 2018).

The quotation shows concern of some self-employed graduates that diversification into other business ventures was limited due to the fact that they have to concentrate on a single activity in order to control and manage their businesses to avoid losing their investments. Moreover, inadequate amounts of capital among self-employed graduates limits the possibility of diversification into other business ventures. Thus, such status inhibits assets ownership levels among self-employed graduates in the study areas. This is demonstrated by the composite index scores (Table 5.5), which are slightly below the median of 0.55 for (VET) and 0.48 for (non-VET) on most of the livelihood assets among VET and non-VET graduates.

5.4.1.3 Physical assets

Physical assets are facilities needed by VET and non-VET graduates like transportation facilities, good housing, safe drinking water, household assets,

communication equipment, medical facilities, schools, and market places, among others, in accomplishment of their day to day activities (Samsudin and Kamaruddin, 2013). Findings indicated that both categories of graduates at least owned one or more of the household assets such as beds, cooking facilities and communication facilities such as television set and mobile phones, among others (Table 5.3). However, VET graduates had slightly higher physical assets ownership in terms of living houses (33.9%), access to clean and safe water (77.6%), ownership of communication equipment (100%) and means of transport (42.2%) For non-VET graduates, those who owned those assets were similarly distributed as follows: 28.1%, 71.9%, 99%, and 32.8% respectively (Table 5.3).

Notwithstanding the observed success in ownership of communication facilities, access to safe and clean water among both categories of graduates, the average index for accumulation of physical capital among both self-employed graduates was still below the expected median levels (Table 5.2 and Table 5.5). However, the observed difference in physical capital accumulation and ownership between the two groups was relatively small. The results imply that since the majority of both categories of self-employed graduates were unable to own basic livelihood assets such as house and ownership of means of transport facilities, they were categorised into low physical assets ownership level. Findings from this study contradict what was observed by Kamaruddin and Shamsudin, (2014) in Malaysia who reported that despite the respondents having low incomes with some of them even below the poverty line, the majority were able to meet most of the basic needs. Such needs included houses, household furniture, transport means possession, access to water and electrical energy.

5.4.1.4 Natural assets

Natural assets, as indicated in Table 5.3, constitute a wide variation of natural resources from intangible public goods such as atmosphere and biodiversity to divisible assets used in production of goods such as trees and land, among other assets, which are used to derive livelihoods among individuals (Yang *et al.,* 2018). It was found that 43.8% of the VET graduates owned plots or land for house construction or agricultural activities compared to 35.9% observed among non-VET graduates. In terms of livestock ownership and consumption of food resources from the environment, non-VET graduates had better ownership and use of these resources

at 44.8% and 46.4% compared to 42.7% and 31.3% respectively which was observed among VET graduates.

Findings indicated that, on average, the natural capital items for both categories of self-employed graduates were the lowest, ranging from 31.3% to 44.9% as compared to other livelihood assets. However, results with regard to natural capital ownership among non-VET were slightly better than those among VET graduates. Natural capital ownership was relatively low probably due to the fact that the study was conducted in two cities where natural capital is less abundant due to competitive demand for such resources as a result of high population compared to rural areas where such resources are less competitive while they are abundantly available. A study by Kamaruddin and Shamsudin (2014) in Malaysia noted similar results whereby the average natural assets ownership among household groups was found to be the lowest compared to other livelihood assets. Thus, the study recommended that any entrepreneurial activities that ought to be established by the groups were recommended not to be based on natural assets, rather on activities such as food vending, telecommunications, retailing, sewing and crafts, which did not need such resources. However, self-employed graduates with access to natural resources in the two cities may employ such resources to improve the levels of their livelihood outcomes to cope with livelihood shocks and stress.

5.4.1.5 Social assets

To increase individuals' capability among VET and non-VET graduates, social assets represent social resources which provide prospects to the self-employed graduates through social relations and interactions like ties, links and connections that provide equal shared benefits to both parties in social relations. Findings in Table 5.3 indicate that VET graduates' involvement in political activities (60.9%), participation in community activities (32.3%), holding various positions in society (15.6%) and participation in various group economic activities (13%) were slightly higher than involvement in political activities (56.8%), community activities (29.2%), position holding in the society (14.1%) and participation in group economic activities (8.3%) observed among non-VET graduates. Results showed that both categories of graduates were aware and more participating in political activities than in other social related activities. The findings imply that political activities, among other

activities, provide bonds and social cohesion among different supporters of various political parties in the study areas.

5.4.1.6 Levels of livelihood assets ownership among self-employed graduates

Based on the five types of assets presented in Table 5.3, the levels of assets ownership among self-employed VET and non-VET graduates were categorised in terms of low, moderate and high as presented in Table 5. 4.

Table 5. 4: Levels of livelihood assets owned by VET and non-VET graduates

Levels of livelihood assets ownership	VET graduates		Non-VET graduates		Combined	
	Frequency	%	Frequency	%	Frequency	%
Low livelihood assets ownership	93	48.4	98	51.0	191	49.7
Moderates livelihood assets ownership	8	4.2	5	2.6	13	3.4
High livelihood assets ownership	91	47.4	89	46.4	180	46.9

Results in Table 5.4 show that low assets ownership category for both VET and non-VET had slightly more respondents than those in the high category with 48.4% and 51% for VET and non-VET respectively. It implies that self-employed graduates in this category did not make sufficient incomes from their businesses to enable them tolerate unforeseen livelihood shocks and stresses in future. As observed by Li *et al.* (2020), low incomes generation from businesses constrain individuals from increasing production scales and acquisition of other livelihood assets necessary for livelihood diversification required to cover up livelihood shocks and stresses in future.

In addition, it was found that some self-employed graduates were categorised into high levels of assets ownership (47.4% and 46.4% VET and non-VET, respectively). This shows that self-employed graduates with high levels of assets ownership had better chances to endure livelihood shocks and stresses. Thus, they were able to address household needs since they had better abilities from self-employment activities. However, findings indicated that VET graduates were better in terms of assets ownership than non-VET graduates and thus, they had better chances to sustain livelihood shocks and stresses. About this, one of the key informants at Kitunda in Dar es Salaam said that,

> *"As long as most of the small business income sources are sporadic, it is important for self-employed graduates to diversify into other income generating activities such as financial services (M-Pesa, Tigo-Pesa) and*

motorcycle business to smoothen income in situations when main business activities are not generating adequate income" (Key informant, Kitunda Dar es Salaam, 10th April 2018).

The quotation is in line with the Sustainable Livelihood Approach (SLA), which requires that broadening of livelihood strategies would guarantee better livelihood outcomes (DFID, 2001; Krantz, 2001; GLOPP, 2008) thereby increase chances for livelihood sustainability among self-employed graduates.

5.4.2 Livelihood assets ownership comparison among graduates

Based on selected livelihood assets indicators presented on Table 5.1, scores for each category of indicators were computed. Thereafter, a composite index for each category of livelihood assets was developed. Table 5.5 presents livelihood assets owned by VET and non-VET graduates based on composite index values.

Table 5. 5: Livelihood assets owned by self-employed graduates

Asset category	VET graduates	Non-VET graduates
	Assets Composite Indices	Assets Composite Indices
Human assets	1.00	0.73
Financial assets	0.53	0.52
Physical assets	0.51	0.44
Natural assets	0.39	0.42
Social assets	0.39	0.27

Among the five livelihood assets as presented in Table 5.5 show that, human capital provided the highest index value of 1.0 for VET graduates compared to an index value of 0.73 observed from non-VET graduates. This implies that VET graduates were better-off in terms of human capital achievement in comparison to their non-VET counterparts. Thus, human capital in terms of formal education, experience in self-employment and skills training related to the business being operated supports other livelihood assets ownership among both categories of graduates. Similarly, a slightly higher index value was observed in respect of financial assets at 0.54, physical assets at 0.51 among VET graduates compared to financial assets index value of 0.52 and physical assets index value of 0.44 observed from non-VET graduates (Table 5.5). Social assets indicated the lowest index value for both graduate categories with a slightly higher index value of 0.30 among VET graduates than an index value of 0.27 observed among non-VET graduates. However, scores on livelihood assets ownership index were slightly higher for natural assets at 0.42

among non-VET graduates in comparison with 0.39 observed for VET graduates indicating that non-VET graduates were better-off in utilization of natural assets at their disposal than VET graduates (Table 5.5).

Based on the findings, it is evident that self-employment in business has clearly promoted livelihood capitals and livelihood assets portfolio allocation among VET and non-VET graduates. In due regard human capital, financial capital and physical capital indicated the highest livelihood assets ownership levels among both categories of graduates. Human assets ownership levels showed that both categories of graduates had at least attended formal education. Majority of them had completed primary, secondary, and college or university education before engaging in self-employment. Moreover, majority of the graduates had gained considerable business experience after being self-employed. However, lower training on skills was observed among non-VET than VET graduates.

Results with regard to financial capital indicated promising prospects for both categories of graduates as their livelihoods mainly depended on income derived from their businesses. With the majority of the graduates having some amount of savings at home, microfinance institutions or bank, it implies that the graduates' ability to sustain their livelihoods and thus, ability to adequately respond to harmful shocks or threats as they emerge is high. The observed promising financial assets ownership among graduates is expected to increase production scales, and develop infrastructures that would further help them in achieving livelihood diversification. This was reflected in the level of physical assets owned mainly, acquired as a result of income derived from business activities. Moreover, since majority of the graduates were able to access safe and clean water, acquire communication equipment such as television sets, mobile phones, among others, it is evident that the level of financial assets was adequate to achieve livelihood outcomes and higher chances of livelihood sustainability. Also, they were able to acquire household assets such as beds, refrigerators, cooking pots and construct their own houses as results of being in self-employment. A study by Su and Shang (2012) indicate that financial assets enable and motivate improvement of other assets and thus, contribute to the general improvement of livelihood level among vulnerable groups.

For further comparison of livelihood assets owned by VET and non-VET graduates was done using a Mann-Whitney U test to test hypothesis that possession of livelihood assets (natural, physical, financial, human and social) among VET and Non-VET Graduates does not differ significantly. As shown in Table 5.6, VET graduates reported numerically higher means ranks for all livelihood assets except natural assets in comparison with non-VET graduates. Table 5.6 presents Mann-Whitney U-test results between the two groups.

Table 5. 6: Mann-Whitney U-test on livelihood assets

Asset	Group	N	Mean Rank	Sum of Ranks	Median (Md)	Mann-Whitney U	Sig. (p-value)	Z-Score	Cohen 's D
Natural	VET	192	185.88	35 688	1.00	17 160	0.219	- 1.229	
	Non-VET	192	199.13	38 232	1.00				
Physical	VET	192	215.70	41 415	13.00	13 977	0.000*	-4.110	0.044
	Non-VET	192	169.30	32 505	11.00				
Financial	VET	192	198.86	38 182	2.00	17 210	0.132	-1.508	
	Non-VET	192	186.14	35 738	2.00				
Human	VET	192	271.50	52 128	3.00	3 264	0.000*	-16.363	0.697
	Non-VET	192	113.50	21 792	2.00				
Social	VET	192	200.59	38 513	1.00	16 879	0.123	-1.540	
	Non-VET	192	184.41	35 407	1.00				

*significant at p = 0.001

Results of Mann-Whitney U-test were associated with a significant effect on human and physical assets (U = 13 977, Z = -4.110, p = 000) and (U = 3 264, Z = -16.363, p = 0.000) respectively (Table 5.6). Thus, VET graduates were better endowed with human related assets (Md = 13.00, n = 192) and physical assets (Md = 3.00, n = 192) in comparison to human and physical assets owned by non-VET graduates (Md = 11.00, n = 192) and (Md = 2.0, n = 192), respectively (Table 5.6). Subsequently, effect size statistics (Eta squared and Cohen's D) were calculated to give a clue on the extent of differences between the compared groups (VET and non-VET graduates). Eta squared ranged from 0 to 1 and represented the proportion of variance (Pallant, 2011). The interpretation of eta squared value was made using guidelines proposed by Cohen (1992) that 0.01 = small; 0.06 = moderate; 0.14 = large effect.

The Cohen's D for human assets was estimated at 0.697 (Table 5.6), indicating that the group means ranks differed by 0.697 standard deviations, which is considered a large effect size based on Cohen's (1992) guidelines while the Cohen's D for physical assets was estimated at 0.044 indicating a small effect size (Table 5.6). The results provide more information that, among the livelihood assets, human and

physical assets owned by self-employed graduates differed significantly while the observed differences among other livelihood assets were insignificant. Based on these results, the null hypothesis cannot be accepted in respect of human and physical capital as there is enough evidence that means between the two livelihood assets differed significantly between VET and non-VET graduates.

5.4.3 Theoretical results

The study results in Table 5.6 showed that out of the five livelihoods assets analysed, physical assets and human assets were found to be significant different ($p < 0.001$) and thus contributing to the observed difference in such assets ownership between the two groups of respondents. The plausible reason is the fact that VET graduates had better skills and knowledge related to human assets. Therefore, activities being operated acquired through vocational training in comparison to non-VET without such skills and knowledge. However, since more than half of the livelihoods assets were not significant, the null hypothesis that possession of livelihood assets (natural, physical, financial, human and social) and thus, livelihoods outcomes attainment between VET and non-VET graduates do not differ, cannot be rejected. This is due to the fact that more than half of livelihoods assets indicated insignificant difference between the two categories of self-employed graduates. Consequently, the theoretical claim that people with more capital assets ownership have better chances to convert their strengths at their disposal into positive livelihood outcomes than those without such assets (DFID, 2001; GLOPP, 2008), as drawn from the SLA, do not hold true for VET and non-VET graduates in the study areas. It means that there are not big differences in livelihoods assets owned by VET and non-VET graduates. Therefore, there was not much difference in livelihood outcomes attainment between self-employed VET and non-VET graduates in the study areas.

5.5 Conclusions and Recommendations

Access to livelihood assets among self-employed graduates is one among the most important factors that induce them into self-employment, and for many, the only alternative, which provides the basis for their livelihoods. As long as the majority of the self-employed graduates were categorised into low assets ownership level, it is concluded that the majority of the self-employed graduates are unable to endure livelihood shocks and stresses due to limited assets level. It is recommended that self-employed graduates with low assets level should consider more diversified

assets portfolio holding in order to improve their livelihood assets levels. That can be done by formation of self-help microfinance institutions such as Savings and Credit Cooperative Societies from which they can access credits for financing acquisition of livelihood assets to employ in the business activities. As a complementary intervention, local government authorities and other development partners advocating for self-employment should prioritize in their development agendas, to support VET and non-VET graduates on capital assets necessary for improving their livelihood assets base. Thus, such measures would increase chances for sustainable livelihoods among self-employed individuals.

On the basis of the finding that there was no difference in livelihoods capital assets ownership between VET and non-VET graduates, it is concluded that both categories of graduates have few chances to make positive and sustainable livelihood outcomes. Therefore, it is recommended that both categories graduates should leverage their strengths observed on human and physical capitals in order to improve other capitals that would promote productive self-employment activities for better livelihood outcomes in future. Also, they should consider accessing available government and other local financing schemes to fund livelihoods assets acquisition for self-employment activities. Moreover, the government should establish seed capital for financing both self-employed VET and non-VET in terms of physical assets such as plant and machinery as a means for improving productivity among graduates' businesses.

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CHAPTER SIX

6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Major Results and Conclusions

6.1.1 Determinants of self-employment among VET and non-VET graduates

Determinants of self-employment among self-employed VET and non-VET graduates are discussed in chapter two to address the first objective of the thesis. The chapter identified determinants of self-employment and analysed them to assess those significant influence on self-employment among VET and non-VET graduates in the study areas. Factor analysis and binary logistic regression model were used to identify and then analyse pertinent factors influencing on self-employment in the study areas among the graduates.

Factor analysis results indicated that 11 factors with Eigen values of one and above out of 30 factors were retained for further analysis. The factors included easy start-up procedures, wanted more money, elaborative teaching methods, availability of markets, family business experience, better working conditions, availability of physical facilities, entrepreneurship training, formal education, low start-up capital and access to capital. The identified factors together with selected social demographic variables were analysed using binary logistic regression. The results indicated that age, experience in business, entrepreneurship training and access to financial capital significantly influenced on chances of self-employment among VET graduates and accounted for 57.9% to 81.7% of the observed variance in self-employment. Results for non-VET graduates indicated that age, experience in business, marital status, easy administrative procedure to start business, entrepreneurship training, access to finance and availability of physical facilities significantly influenced chances of self-employment among them and altogether which accounted from 60.8% to 84.2% of the observed variance in self-employment.

Based on the findings, it is concluded that four factors age, experience in business, entrepreneurship training and access to capital; are the main factors that influence on self-employment among both graduates categories, while marital status, easy administrative procedures and availability of physical facilities in addition are main factors influencing on self-employment among non-VET graduates. In reference to the theoretical results, it is concluded that since a large proportion of the self-employment factors influence self-employment, the majority of graduates

appreciated being in self-employment and their attitude on work, business risks and decision-making autonomy is higher in line with the economic theory of entrepreneurship.

6.1.2 Firms' competitive strategies and profitability between VET and non-VET graduates

Firms' competitive strategies and profitability performance among self-employed VET and non-VET graduates are discussed in chapter three to address the second objective of the thesis. The chapter determined and compared profitability variables between VET and non-VET graduates. Moreover, it analysed competitive strategies' influence on firms profitability performance.

The results on comparison of profitability variables using ratios analysis indicated that VET graduates' business profitability ratios were numerically higher than ratios observed from non-VET graduates' businesses. Independent samples t-test results indicated significant differences in profitability performance in terms of gross profit and net profit margin between the two groups. Multiple regression model results indicated that, among the competitive strategies, cost-leadership (price and operational costs) significantly influenced on firm profitability for both categories of graduates' businesses while differentiation strategy influenced on profitability among firms owned by VET graduates only. It is concluded that, in numerical terms, profitability performance is higher among VET than non-VET graduates. It is also concluded that, inferentially, profitability attained by VET graduates was higher than that of non-VET graduates. It is further concluded that, in attaining profitability performance level, VET graduates implemented both cost-leadership and differentiation strategies while non-VET graduates implemented cost-leadership strategy alone.

6.1.3 Asset capitalisation and business performance comparison between self-employed VET and non-VET graduates

Asset capitalisation and business performance comparison between VET and non-VET graduates are discussed in chapter four to address the third objective of the thesis. The chapter compared business performance in terms of revenue and net worth. Then it analysed assets capitalisation and socio-demographic variables effects on revenue generation among self-employed VET and non-VET graduates. The

results showed that VET graduates were associated with numerically higher means values for revenue and net worth than non-VET graduates. However, independent samples t-test results indicated an insignificant difference in means for revenue and net worth between VET and non-VET graduates. Therefore, the null hypothesis stated in the introduction section that means for revenue and net worth between VET and non-VET graduates were not significant different was not rejected. Multiple linear regression analysis results showed that among the assets and socio-demographic factors with significant effects on firms revenue included property, plant and equipment, total business assets, experience in business and education level indicated by number of schooling years. The fact is that physical assets and socio-demographic factors related to human capital contribute to improving revenues among firms owned by VET and non-VET graduates. Therefore, it is concluded that both tangible and intangible related assets are important in revenue generation among firms owned by VET and non-VET graduates in the study areas.

6.1.4 Assets and livelihoods sustainability between self-employed VET and non-VET graduates

Assets and livelihoods sustainability between self-employed VET and non-VET graduates in the study area are reported in chapter five, which covers the fourth objective of this thesis. The chapter determined levels of livelihood assets and compared livelihoods assets owned in terms of how they were used in attainment of livelihood sustainability between VET and non-VET graduates in the study areas.

Results showed that the majority of both VET and non-VET graduates were categorized into low level of livelihood assets ownership, followed by those in the higher level of livelihood assets ownership, with few in the moderate level of livelihood assets ownership. On the comparing of livelihoods assets ownership index (LAOI), results indicated that, with exception of natural assets, VET graduates' livelihood assets ownership index was relatively higher than those of non-VET graduates. Further comparison on the livelihoods assets ownership index using an independent samples t-test results indicated that among five livelihoods assets only human and physical assets were statistically significant ($p = 0.001$). Since a large proportion of the livelihoods assets indicated insignificant results in terms of livelihoods assets ownership index, the null hypothesis, which stated that there was no difference in possession of livelihood assets (natural, physical, financial, human

and social) among VET and non-VET graduates was not rejected. Based on these findings, it is concluded that the majority of the self-employed VET and non-VET graduates in the study areas are categorized into low level of livelihoods assets ownership. This implies that VET and non-VET graduates have almost the same chances with regard to livelihoods outcomes attainment in the study areas.

6.1.5 Summary of theoretical results

The theory of needs for achievement and economic theory of entrepreneurship have been extensively used to explain why individuals choose self-employment rather than other forms of employment. Results in this study indicated that variables which mainly influenced on self-employment among VET graduates included age, experience in business, entrepreneurship training and access to finance. Self-employment factors among non-VET graduates included age, experience in business, marital status, easy administrative procedures, entrepreneurship training, access to finance and availability of physical facilities. The fact that majority of the firms were at young age by the end of December 2017, it indicates that many graduates are choosing self-employment over recent years. Therefore, with the stated results, the theoretical claim that individuals choose self-employment as a result of high needs for achievement and utility maximization was observed to be practically true. The aforementioned variables being the major variables that contribute to self-employment among them.

Further, results from this study indicated that a combination of cost-leadership (product pricing and operational costs) and differentiation strategy (existing products upgrade, new product offering, improved advertising, innovation marketing and customer service) were important factors contributing to firms' profitability. However, differentiation strategy was observed to significantly influence profitability performance among VET graduates but its influence on profitability among non-VET graduates was insignificant. Since strong association existed between one or both of the competitive strategies among the graduates, it is true that the theoretical claim that for a firm to guarantee long-term profitability it must select between one or more strategies on which it should focus in order to attain its planned profitability performance holds true among self-employed VET and non-VET graduates in the study areas.

The null hypothesis stated, in the introduction section, that there was no significant difference in performance of businesses owned by self-employed VET and non-VET graduates in the study areas was not rejected. This is due to the fact that none of the selected performance variables contributed significantly to improving firms performance. Similarly, the theory of human capital was tested in this thesis by examining the extent to which asset capitalisation influenced on business performance between self-employed vocational and non-vocational education graduates in the study areas. In the context of this study, both tangible assets (property, plant and equipment, total business assets, and initial capital financing) and intangible human capital (education level, business experience, sex, age and marital status) capital were factors considered to influence on business performance. Results in chapter four, Table 4.7 show that property, plant and equipment, and total business assets of the tangible assets and education level and business experience among intangible assets significantly influenced on revenue generation among graduates. However, education level negatively impacted on revenue which was indicated by a negative beta coefficient. It is concluded that other than experience in business, intangible human capital has little contribution to revenue generation among graduates. Also, it is concluded that tangible capital items plays significant roles in revenue generation among VET and non-VET graduates in the study area. Thus, the study proposes inclusion of tangible capital in the human capital theory as two types of capital are inseparable for firms to attain target revenue levels.

Based on the results presented in Table 5.4 in chapter five of the thesis, it is indicated that a high proportion of both graduates were categorised into low level of livelihoods assets ownership followed by those in the higher level with few in the moderate category level, those in the low level category do not make sufficient income to attain sustainable livelihoods to tolerate unforeseen shocks and stresses. Similarly, the null hypothesis, which was stated in the introduction section of chapter five that possession of livelihoods assets between VET and non-VET graduates do not significant differ is not rejected. The fact is that many of the livelihoods assets variables do not significantly differ between VET and non-VET graduates in the study areas. In due regard, the theoretical claim that people with more assets ownership have better chances to convert their strength at their disposal than those without such assets does not hold true for VET and non-VET graduates in the study

areas. Since there is no difference in livelihoods assets possession between VET and non-VET graduates, there are low chances for making positive and sustainable livelihoods outcomes among them.

6.2 Recommendations

6.2.1 Addressing determinants of self-employment among graduates

Interventions to address factors influencing self-employment among graduates should be directed at factors that can be altered and get improved to enhance self-employment activities in the study areas. Therefore, since experience in business has potential to improve self-employment activities, it is recommended that apprenticeships programmes among graduates should be strengthened to allow students both in VET and non-VET training institutions with adequate time in various industries to acquire the needed experiences. It can be done by establishing mandatory apprenticeship programmes in the country to enable students acquire such experiences. In tackling this, VET training institutions, Ministry responsible for Labour, Youth, Employment and Persons with Disability, Ministry of Industries, Trade and Investment in collaboration with the Ministry of Education, Science and Technology and various employers both in public and private sectors should agree on the mode of apprenticeship programmes and propose to the relevant authorities to enact laws and regulations to govern the conduct of such programmes.

Since business start-ups are obtained through various government institutions mandated with various roles for business establishment, it is recommended that government institutions with such roles, including Business Registration and Licensing Agency (BRELA), Tanzania Revenue Authorities (TRA) and Local Government Authorities (LGAs) should expand their services to reach students in their respective universities, colleges and schools to provide education related to business start-up processes. It can be done by slotting training sessions in the final years students time tables for provision of such basic knowledge in areas related to business registration processes, taxation issues, business licenses and/or available physical facilities for doing business.

Given the growing unemployment situation and the important role of personal finance in financing start-ups, it is recommended that parents and other relatives should change their mind-sets by financing graduates to start-up their own businesses

instead of waiting for paid employment vacancies. Moreover, as part of the government and other development partners efforts to support job creation among graduates, it is recommended that the government and other development partners should back-up graduates self-employment activities by providing seed funding combined with additional support services. Such support services could be business planning, coaching and small grants to secure livelihoods among an increasing number of unemployed graduates. All are expected to partially overcome funding constraints associated with the start-up phase and stimulate self-employment as well as entrepreneurial activities in the economy. Moreover, it is recommended that there should be further emphasis on entrepreneurship training among students in the course of their studies. This is expected to increase their urge on self-employment.

6.2.2 Addressing competitive strategies and profitability among graduates

To address the competitive strategies and profitability among graduates, it is recommended that efforts by each category of graduates should be placed on enhancing higher profitability returns by improving variables, which affect profitability among them. For VET graduates, it can be done by running down operational costs, which were found slightly higher than those among non-VET graduates in the study areas. In order for non-VET graduates to keep pace with their counterparts, they can improve profitability level by adjusting product price to match with price charged by VET graduates while at the same time reducing production costs, which are relatively on the higher side than that of VET graduates. In addition, it is recommended that, to attain higher profitability, VET graduates should implement both cost-leadership and differentiation strategy. They can be done by improving on competitive price setting and managing operational costs to attain cost-leadership strategy and put more emphasis on product quality and unique products/services, which distinguish firms offering from others to attain product differentiation. Non-VET graduates are urged to implement cost-leadership with main efforts to manage product pricing and operational costs.

6.2.3 Addressing capitalization and business performance among graduates

Since there was no significant difference in performance between VET and non-VET graduates, the VET system in Tanzania has not yet met the expected output envisaged from the system. Therefore, it is recommended that the central government, through the Ministry of Education, Science and Technology, should

consider improving provision of Vocational Education and Training in the country in order to attain the expected output of the system. It can be done by improving budgetary allocation making necessary investment in modern training facilities and improving human resources for the VET training institutions to cope with the ever changing technological environment that match with the current labour market requirements. Such measures will ensure that graduates will realise full potentials of the VET system and thus, be competitive in the labour market in comparison to graduates without VET skills. Since tangible business assets, business net worth and experiences in business played an important roles to levels of revenue achieved by both VET and non-VET graduates. It is recommended that both VET and non-VET graduates should invest more effectively in business assets and utilize such resources to produce more goods and services for them to attain higher revenue and remain competitive in the market. Moreover, they should use their experience in business to explore more about customers' demand and preferences in order to match their products/services with customers' needs and generate more revenue.

6.2.4 Addressing livelihoods assets and sustainability among graduates

It is recommended that self-employed graduates with low assets level should consider more diversified assets portfolio holding in order to improve their livelihood assets levels. That can be done by formation of self-help microfinance institutions such as Savings and Credit Cooperative Societies (SACCOS) from which they can access credits for financing acquisition of livelihood assets to employ in the business activities. It is further recommended that complementary interventions by local government authorities and other development stakeholders advocating for self-employment among graduates should prioritize, in their development agendas, supporting VET and non-VET graduates on capital assets necessary for improving their livelihood assets base. In so doing, they will increasing the chances of sustainable livelihood outcomes among self-employed individuals. Accordingly, it is recommended that both categories graduates should leverage their strength observed on human capital and physical capital in order to improve other capital items that would promote productive self-employment activities for better livelihood outcomes in future. In addition, they should consider accessing existing government and other local financing schemes for MSMEs to finance livelihoods assets acquisition for self-employment activities.

6.3 Contribution of the Research

Self-employment in business has much potential for reducing unemployment and poverty among both VET and non-VET graduates. However, studies debate whether firms owned by self-employed VET graduates have better chances to attain higher performance than those owned by non-VET graduates. Factors influencing self-employment among graduates, competitive strategies employed in attaining performance level, assets capitalized in achieving the performance level and livelihood assets used in generating sustainable livelihoods outcomes were not adequately explored in the study areas. This study was conducted in Arusha and Dar es Salaam cities, Tanzania, to contribute to this knowledge gap. The study findings provided an affirmation that self-employment can reduce the escalating unemployment problem and poverty reduction since many of the self-employed graduates livelihoods mainly, depended on self-employment income. In addition, findings provided new insights to the literature on livelihood assets ownership and their implication to attaining sustainable livelihoods outcomes among self-employed graduates. This was done by creation of livelihood Assets Ownership Index (LAOI), which was used to compare livelihoods outcomes attainment between the groups.

In terms of methodological approach, the study provided an alternative method for determining sustainable livelihoods outcomes based on livelihoods assets owned by the constructed index. Accordingly, the study constructed seven tailored statements in relation to effects of vocational education training among self-employed graduates in the study areas. Moreover, the study added to the existing empirical literature that, in numerical terms, performance of firms owned by self-employed VET graduates was slightly higher than that of non-VET graduates. However, inferentially, the results indicated that the difference in performance between the two groups was not significant to claim that graduates from the VET system are better than those from the general education system.

In terms of theoretical contribution, the theoretical claim that individuals' choose self-employment as a result of high needs for achievement and utility maximization was proved to be true among VET and non-VET graduates. Moreover, Porter theory which advocate that selecting between one or more strategies on which to focus for higher profitability attainment was found to hold true among self-employed VET and non-VET graduates in the study areas. From the Human Capital Theory perspective,

which advocates for the role of intangible capital on firms performance, the study also proved that tangible assets are important in the context of self-employed graduates firms' performance in the labour market. However, the theoretical claim that people with more assets ownership have better chances to convert their strength at their disposal than those without such assets did not hold true for VET and non-VET graduates in the study area.

6.4 Suggested Areas for Further Studies

Self-employment has been mentioned to play an important role in reducing unemployment and poverty among the majority of individuals in both urban and rural areas in many of the developing nations. Successful self-employment among graduates depends on many factors including access to finance or capital, livelihood assets, competitive strategies, type of business and business location, among others. This study was confined to Arusha and Dar es Salaam cities, in Tanzania but it did not cover other major cities with graduates operating similar businesses due to financial and time constraints. Therefore, the same topic can be studied in other cities in Tanzania to get a better understanding of the same topic in other related major cities in Tanzania or elsewhere in the international environment.

The role of new technologies in vocational education teaching and learning and its implications for performance of firms owned by self-employed graduates was intended to be analysed in this study. However, to narrow down the study, this idea was dropped. Therefore, it is suggested that use of new technologies in teaching and learning and their implications on performance of firms owned by self-employed graduates in the labour market be studied. Moreover, among the four competitive strategies only two strategies were tested in this thesis (cost-leadership and differentiation strategies). It is recommended that the remaining strategies (cost focus and differentiation focus strategies) can be studied to target particular segment within a given market.

APPENDICES

Appendix 1: A copy of the questionnaire used for research

A: INTERVIEWER'S INTRODUCTION

Dear respondents,

I, ...……., am a PhD student from Moshi Co-operative University. I am conducting a study on **Effects of Vocational Education Training on Business Performance among Self-employed Vocational Education Training and non-Vocational Education Training graduates in Arusha and Dar es Salaam Cities, Tanzania**. I would like to assure you that confidentiality will be maintained throughout the study (No identification such as participant's name will appear in this study), and your honest answers to questions that will be asked are important for the results of this study. Therefore, I request for your kind cooperation and to respond to all questions for the completion of this study. For more information please contact me through the following contacts:

Email address: nmwakilema92@gmail.com mobile: +255754372586

B: Questionnaire identification

S/No	Item	Response
1.	Date of interview	
2.	Name of interviewer	
3.	Name of respondents (optional)	
4.	Type of business (VET or Non-VET)	
5.	Ward name	
6.	City	

C: BUSINESS OWNER PERSONAL INFORMATION/CHARACTERISTICS

Please provide responses to each question. For questions with multiple answers, put a cycle to the response number of your choice (s) from the list of choices given; for other questions fill in your responses in the spaces provided.

1. Household composition, including yourself ***(Write the information in the table below)***

Business owner characteristics	P_1 Household head	P_2 Spouse	P_3 Dependant	P_4 Dependant	P_5 Dependant	P_6 Dependant	P_7 Dependant	P_8 Dependant
Age								
Sex								
Number of household who are involved in business activities								
Number of household who are not active in the business activities								
Years of schooling								
Highest Education level other than VET (***See codes R_1***)								
Highest VET Education (***See codes R_2***)								
Marital status (***See codes R_3***)								
a) Main source of income (***Circle only one. See codes R_4)***								
b) Other sources of income apart from the current business ***(Put 1= if Yes; 0 = if No)***								
c) Which is your business specialisation among the following businesses?(***Circle only one. See codes R_5)***								
d) For how long have you been doing the main business? (Since when?)								

Codes for highest education level other than VET R_1
1. Primary
2. Secondary
3. Tertiary education
4. College/ University education
5. Others (***specify***) ……

Codes for business specialization R_5
1. Carpentry
2. Textile and clothing/tailoring
3. Motor vehicle mechanics
4. Electrical installation
5. Secretarial services and computer application
6. Construction (masonry)
7. Food preparation
8. Welding and fabrication

Codes for highest VET education R_2
1. CBET level I
2. CBET level II
3. CBET level III
4. Trade Test level grade 3
5. Trade Test level grade 2
6. Trade Test level grade 1
7. NABE stage I
8. NABE stage II
9. NABE stage III
10. Others (***specify***) ……..

Codes for marital status R_3
C_1= Married
C_2= Single
C_3=Divorced
C_4=Widowed

Codes for main source of income R_4
1. Self-employment in business
2. Remittance
3. Old age pension
4. Agricultural activities
5. Others (***Specify***)……

D: FACTORS INFLUENCING SELF-EMPLOYMENT AMONG VET AND NON-VET GRADUATES

2. What were the major reasons for you to be self-employed in the current business?

Factors which contributed to self-employment	Rank the factors in order of their contribution to self-employment (See Codes R_1 below)	Statements for reasons for self-employment (pull or push factors)	Put Yes = 1 or No = 0 if you agree/disagree respectively statement	If yes briefly explain for each statement
Educational factors		1. Accessed VET skills		
		2. Accessed Entrepreneurship courses/training		
		3. Accessed formal education other than VET		
		4. Employees with VET training		
		5. Course contents are tailored to the labour market demand for self-employment		
		6. Accessed practical training		
		7. Well established curricula		
		8. Accessed new methods of teaching		
Financial factors		1. Accessed financial support		
		2. Start-up cost was low		
		3. Opportunity arose – capital, space, equipment available		
		4. Availability of other sources of income		
		5. Financial independence / a change		
		6. Wanted more money		
Legal factors		1. Conducive business registration process		
		2. Easy administrative procedures to start a business		
		3. Reformed tax registration system		
		4. Well establish legal infrastructure for business operations		
		5. Low taxes for small businesses		
		6. Easily accessed business license		
Infrastructural factors		1. Conducive environment for self-employment		
		2. Good business location		
		3. Availability of physical facilities		
		4. Availability of financial resources		
		5. Availability of markets/demand		
		6. Availability of successful self-employed individuals for emulation		
		7. Nature of the occupation		
Socio-cultural factors		1. Availability of media advertising about benefits of self-employment		
		2. Strengthened self-employment culture		
		3. Strengthened counselling on self-employment		
		4. Family business background		
		5. Joined the family business		
		6. Made redundant		
		7. No jobs available		
		8. Family commitments		
		9. Wanted better conditions of work		

Codes R1: 0 = not important at all; 1 = of little important; 2 = of average importance; 3 = very important; 4 = absolutely essential

3 In the table below give information on the source of capital for the main business you initiated

Capital provider	Amount contributed in TZS	Year obtained
Family		
Friends		
SACCOS		
VICOBA		
Microfinance		
Bank		
Others(***specify***)		

4 Including the main business, list all other income generating activities you have initiated and how you got the idea to start the activity.

Type of activity *(manufacturing, processing, trade/business)*	**When did you start the activity**	**How did you get the idea to start the activity**	**Output/Qty got per wk, month, year *(specify units)****	**Unit price of output**	**Total amount got in TZS**

***Enumerators to specify the standard units of quantity and also record the time frame e.g. 200kg or 68 litres/ per month**

5. Complete the table indicating type of skills acquired and if you have been using the skill or not ***(for the main business indicated in the codes below)***

Skills acquired ***(Refer codes R_1 below)***	Where Skill obtained ***(Refer codes R_2)***	Do you use the skill **1.=Yes 0 =No**	If **Yes**, how long have you used the skill (years)	If **Yes** what benefits have you realised for using the skill? ***(Enumerators to clearly specify both quantitative and qualitative benefits)***	If **No** give reasons for not using the skill ***(Refer codes R_3 below)***

Codes for type of skills acquired R_1

1. Carpentry skills
2. Textile and clothing/tailoring skills
3. Motor vehicle mechanics skills
4. Electrical installation skills
5. Secretarial services and computer application skills
6. Construction (masonry) skills
7. Food preparation skills
8. Welding and fabrication skills

Codes for where skills acquired R_2

1. Primary education
2. Secondary School
3. University/College
4. VETA
5. VETA registered centres
6. Private institute
7. NGO

Codes for not using the acquired skills R_3

1. High costs to start the business
2. Business is not profitable
3. Was discouraged from using the skill
4. High labour requirement
5. Inputs are expensive
6. Do not know where to get the inputs
7. Inputs not regularly available
8. Inadequate training
9. Others ***(specify)***

6. Complete the table below by putting yes if you agree with the statement and no if you disagree with the statement and give a brief explanation in the column provided for each answer.

S/N	Statements	Put Yes = 1 or No = 0 if you agree/disagree respectively for statement	If yes or no briefly explain for each statement
1	I stick to my plans even if others discourage me		
2	I prefer taking leading role in most situation		
3	My business encounter many problems in its operations		
4	My business is registered with BRELA		
5	My business is registered with TRA		
6	I am comfortable with the tax charged by TRA		
7	My business would perform better if administrative barriers are removed		
8	My business has business licence from the local authority		
9	I pay all relevant levy to the local authority		
10	I always draft financial projections of income and expenditure for the business		
11	I am comfortable with my business location		
12	I have employed VET graduates in my business		

7. Do you face any operational problems with your business?

1. = Yes
0. = No

8. If yes, would you name problems/barriers you think are hindering business operations?

1.....
2.....
3.....
4.....

9. In the table below provide information on business employees and their related costs

Category of employee	Number	Amount paid in TZS (per day, week, month, year)	Annual employee costs TZS
VET graduate			
Non-VET graduate			
Family members			
Casual labourer			
Others (mention)			

10 In the table below provide information on how you ensure your products are sold to your customers

Marketing channel used	**Amount paid in TZS (per day, week, month, year)**	**Annual marketing costs TZS**
Radio		
Television		
Social media(instagram, watts up, face book etc.)		
Personal selling		
Others(***mention***)		

E: FACTORS CONTRIBUTING TO PERFORMANCE OF BUSINESSES OWNED BY SELF-EMPLOYED VET AND NON-VET GRADUATES

11. In the following table you are required to indicate your response to each of the statements to single out factors that contributes to business performance among VET and non-VET graduates by ticking in appropriate cells against each statement (***Question for VETA graduates and non-VETA graduates)***

SD=strongly disagree, D= disagree, N=Neither, A=agree, SA=strongly agree		**1**	**2**	**3**	**4**	**5**
Factor	Variables	SD	D	N	A	SA
Educational Factors	1. Without VET skills my business would not be performing well					
	2. Entrepreneurship training contributed to better business performance of my business					
	3. Education skills other than VET did not contribute to good performance					
	4. Well trained employees do not have any contribution to success of my business					
	5. Education skills increased customer demand to my products/services					
	6. Practical training increased my skills in the current business					
	7. Methods of teaching did not contribute to business performance					
	8. Educational curricula did not contribute to business performance					
Financial factors	1. I managed to accessed financial support for the success of my business					
	2. Start-up cost for my business was low					
	3. Opportunity that arose – (capital, space, equipment available) enhanced better performance of my business					
	4. I would manage life even if other sources of income were not available					
	5. I would be financial independent even if the current business was not available					
	6. My business gives me more money					
Legal factors	1. I started the business due to conducive business registration process					
	2. Encountered difficult administrative procedures to start the business					
	3. Tax registration system are not well reformed					
	4. Well establish legal infrastructure for business operations					
	5. Low taxes for small businesses					
	6. It was very difficult to get business license from local authority					
Infrastructural factors	1. There is a conducive environment for my business to perform better					
	2. My business does not earn much income due to poor location					
	3. Availability of facilities and financial resources encouraged to start the current business					
	4. I encounter difficulties in marketing of business service/products					
	5. Costs to market my products/services are relatively low					
	6. Availability of successful self-employed individuals emulated me to perform better					
Socio-cultural factors	1. Availability of media advertising enhanced my business performance					
	2. Strengthened self-employment culture in the community enhanced better performance for my business					
	3. Undeveloped counselling culture on business impacts performance					
	4. My age do not have any contribution to business performance					
	5. My marital status contributed to better performance of my business					
	6. My business does not perform well due to poor business background					

12 In the table below give information regarding contribution of the following to business performance

Business Performance variable	Put **Yes = 1 or No = 0** if you agree/disagree respectively for each statement	If **yes or no** briefly explain for each statement
Staff		
Do you have the right team in your business?		
Is your team well balanced with skills, knowledge and experience required to reach your goal?		
Does the team have appropriate knowledge and experience?		
Leadership/Empowerment		
Do you think your team is well led to ensure better performance?		
Do you listen appropriately to all customers, employees and suppliers and adjust according to their inputs?		
Is your team motivated to perform activities assigned to them?		
Assets/Resources		
Does your business have appropriate assets to do the job expected to reach target?		
Do the assets perform well as expected?		
Do you have appropriate resources to manage the team/business effectively?		
Differentiation strategies (Systems/processes)		
Does your process deliver better products/service cycle time to customers?		
Does your process deliver better quality products/service to customers		
Does your process deliver improved advertising to customers		
Does your process offer new products to customers?		
Does your process upgrade products/services over time to customers		
Does your process deliver innovative marketing to customers than competitors?		

13. In the following table you are required to indicate your response to each of the statements which affect performance of businesses owned by self-employed VET and non-VET graduates by putting in appropriate response in the cells against each statement (***Question for VETA graduates and non-VETA graduates)***

Factor	Variables	Response
Educational Factors	Attained relevant VET skills for the current business (1 = attended; 0 = not attended)	
	Accessed to entrepreneurship courses (1= accessed; 0= not accessed)	
	Attained formal education other than VET (primary education = 1; secondary education = 2; tertiary education = 3)	
	Employees with VET training (number of employees in place)	
	Course contents tailored to the labour market demand for self-employment (1= tailored; 0 = not tailored)	
	Enhanced practical training (number of practical sessions per month)	
	Well established curricula and new methods of teaching (1 = well established; 0 = not well established)	
Financial and legal factors	Accessed financial support (1= accessed; 0=not accessed)	
	Accessed borrowing facilities (1= accessed; 0 = not accessed)	
	Low costs of starting and opening new businesses (1 = low cost; 0 = not low)	
	Conducive business registration process (1 = conducive; 0 = not conducive)	
	Removing administrative barriers for business operation (1= no administrative barrier; 0 = existence of administrative barriers)	
	Reformed tax registration system (1 = well reformed tax system; 0 = not well reformed tax system)	
	Availability of the necessary financial and legal infrastructure (1 = agree; 0 = unrelated)	
	Income from other sources per month measured in TZS (1 = good income from sources; 0 = no good income from other sources)	
Infrastructural factors	Conducive environment for self-employment (1= agree; 0 = unrelated)	
	Business location (distance in km from city centre)	
	Accessed facilities and financial resources for start-up a new business (1= accessed; 0 = not accessed)	
	Accessed marketing facilities for service/products (1 = accessed; 0 = not accessed)	
	Emulated the business from successful self-employed individuals (1= emulated business; 0 = not emulated business)	
Socio-cultural factors	Heard the benefits of self-employment from media advertisement (1= heard benefits; 0 = not heard benefits)	
	Strengthened self-employment culture in the community (1= well strengthened; 0 = not well strengthened)	
	Developed and strengthened counselling on self-employment (1= well developed; 0 = not well developed)	
	Age of business owners (number of years attained)	
	Marital status of business owner (1 = Married; 0 = not married)	
	Family business background (1 = Good family business background; 0 = no family business background)	

F: COMPARISON OF BUSINESS PERFORMANCE BETWEEN VET AND NON-VET GRADUATES

Planed sales, earnings and net worth information

14. Kindly provide estimate data on the following items regarding business activities carried out ***(Enumerators should ensure the planning period is from January to December each year and if business items are per day, week, per month calculate the aggregated sales per year)***

s/n	Business items	2015	2016	2017
1	Sales revenue			
2	Cost of sales			
3	Business expenses			
4	Taxes			
5	Net earnings ***(to be computed)***			
6	Total business fixed assets			
7	Stock of goods			
8	Debtors (receivables)			
9	Cash on hand and at bank			
10	Business loans			
11	Trade creditors			
12	Other creditors			
13	Net worth ***(to be computed)***			

Actual sales revenue and owner consumption information

15. In the table below kindly provide information on output sold to customers, consumed or given away in the current year January-December, 2017. ***(Put zero if he/she does not consume or give anything away and if business items are per day or week, per month calculate the aggregated sales per year)***

S/N	Product/Service item	(1) Unit price (P) in TZS	Quantity sold (Q_s) ***(specify units)***	Quantity consumed (Q_c) ***(specify units)***	Quantity given away (Q_g) ***(specify units)***	Value of quantity sold (TZS) (Q_sxP)	Value of Quantity consumed and given away (Q_c+ Q_g)xP
1							
2							
3							
4							
5							
6							

Actual profit/earnings information

16. After all costs are considered (transport, cost of input, supplies, paid labour etc.), how much profit do you earn in this business over the past week/month without including value of payments in kind to family members or payments to yourself in the current year January-December, for the years indicated below? (***Fill the table below to get net profit***)

S/N	Variable	2015	2016	2017
		(Per day, week, month, year)	**(Per day, week, month, year)**	**(Per day, week, month, year)**
		TZS	**TZS**	**TZS**
1	Sale revenue/service for current year (SR)			
2	Opening inventory/stocks ***(Quantity x purchase price)***			
	Purchases ***(Quantity x purchase price)***			
	Closing inventory ***(Quantity x purchase price)***			
	Cost of sales (CS):= (opening stock + purchases – closing stocks)			
3	Operating Expenses (OE)			
	– Transport			
	– Labour (salaries)			
	– Administration (water, telephone etc.)			
	– Selling and distribution			
	– Others			
4	Tax Expense (TE)			
5	Net income/earnings			

(*If the estimate is for the last week, the researcher will find out if that week was high, low or average. Then he will derive as estimate for the amount with the proprietor that covers all weeks in that past month)*

17. Do you use part of the money you get from this business for yourself or your household? 1. Yes, 2. No

18. If yes, how much money from this business do you normally use for yourself or your household? *TZS*……..

(*Put zero if nothing was consumed or used by the household)*

19. How much do you usually spend to restock your business in

a. High-sales month ……
b. Low-sales month ……
c. An average-sales month ……..

Cost information for non-traders *(Manufacturing and service enterprises)*

20. What were the costs of your inputs or supplies in the recent past days/week/month/year?

(*If the respondents say the costs are per day, and then ask if he/she buys the input/s or supply/ies every day)*

Name of input/supply	(1) Cost in TZS	(2)Time period (1) Day (2) Week (3) Month (4) Year
(i)		
(ii)		
(iii)		
(iv)		
(v)		

Other operating costs

21. What were the operating costs of this business in the recent past day/week/month/year?

(*If a respondent says that the costs are per day, ask if he/she purchases the unit every day)*

Cost category	(1) Cost in TZS	(2) **Time period** (1) Day (2) Week (3) Month (4) Year
(i) Paid labour (salaries)		
(ii) Paid labour (casual/piece workers)		
(iii) Paid labour (other if any)		
(iv) Unpaid labour (Value of in-kind payments)		
(v) Electricity for business (only for business)		
(vi) Telephone/mobile charges (Only for business)		
(vii) Transport of inputs		
(viii) Rent of shop or storage space (only if it is a separate shop/space for business)		
(ix) License		
(x) Cost of credit (interest rate for a borrowed funds)		
(xi) Repair/services for machines/car		
(xii) Other		
(xiii) Other		

Fixed assets of business

22. Please tell me about the following items (properties) owned and used in this enterprise.

Item (indicate the specific names of property)	**(1) Years owned**	**(2) Years left of use**	**(3) Original purchasing price**	**(4) Price if it was sold**			**(5) If shared with other businesses or household what % of time (per day/week/month/year) is it used by this business**
				2015	**2016**	**2017**	
(i) Tools							
(ii) Furniture and fittings							
(iii) Vehicles							
(iv) Machinery							
(v) Building							
(vii) Others							

Inventories

23. Please indicate types of products/inventory and their respective purchase/manufacturing costs in your inventory as at 31 December, 2017.

(1) Product inventory/raw material	**(2) Number of units available**	**(3) Purchase/manufacturing cost of one unit as at 31 December, 2017**	**(4) Total value**
(i) Raw materials (Supplies)			
(ii) Work in Progress			
(iii) Finished products manufactured			
(iv) Inventory purchased (for service enterprises)			
(v) Others			
(vi)			

Debts and accounts receivable

24. In the table below kindly provide information regarding amount of sales or service rendered to your customers still outstanding as at 31 December, for the years indicated in the table below

S/N	**Type of customer or name**	**Amount outstanding as at 31 December**		
		2015	2016	2017
		TZS	TZS	TZS
1				
2				
3				
4				
5				
6				
7				

25. If you have received credit for this business from each of the following sources, how much do you still owe the lenders including interest as at 31 December as indicated in the table below?

Source of credit	**Amount still owed**		
	2015	**2016**	**2017**
	TZS	TZS	TZS
1. Money lender (include also friends lending with interest			
2. Bank			
3. MFI			
4. SACCOS			
5. VICOBA			
6. Suppliers (creditors)			
7. Other			

26 Kindly provide information regarding amount of cash and bank balances you have in the following institutions as at 31 December, as indicated in the table below?

Location of savings (per day, per week, per month, per year)	**Amount saved computed per year(Cash + Bank)**		
	2015	**2016**	**2017**
	TZS	TZS	TZS
1. Bank (if saving is from more than one bank add them together)			
2. SACCOS			
3. VICOBA			
4. Microfinance Institution			
5. Relatives			
6. Friends			
7. Others			

Savings information

27. What amount of savings do you have from this business in the following institutions for the year ended 31 December as indicated in the table below?

Location of savings (per day, per week, per month, per year)	Amount saved computed per year		
	Year 2015	Year 2016	Year 2017
	TZS	TZS	TZS
1. Bank (if saving is from more than one bank add them together)			
2. SACCOS			
3. VICOBA			
4. Microfinance Institution			
5. Relatives			
6. Friends			
7. Home			

G: CONTRIBUTION OF BUSINESS PERFORMANCE TO ASSETS OWNERSHIP AND ACCESS OF SOCIAL SERVICES AMONG SELF-EMPLOYED VET AND NON-VET GRADUATES

28. In the following table you are required to indicate your response on each statement by putting a tick (√) in the box of your choice

Statement to measure		1	2	3	4	5
		SA	A	U	D	SD
1	There is adequate earnings from my business to meet school fees expenses needs for my family					
2	It is not possible to make savings from my current business					
3	Earnings from my business is not enough to make reinvestment into business					
4	Income saved from my business enabled to have my own shelter					
5	I would not be able to access health services without this business					
6	I pay all children fees by using income from business					
7	All the time I have been in business I have no problem of food security					
8	I do not use electricity at my home place because of low earnings from business					
9	I am able to pay for water services as I have sufficient income					
10	Access to clothing has been difficult as business income is insufficient					
11	I have enough money to meet my transport expenses					
12	Income from business is not enough to meet my house rent expenses					

29. In the following table you are required to indicate an estimate of cost in Tanzania shillings used in the following social services for the past three years as indicated (either per day, per week, month, or per year).

Statement to measure		2015	2016	2017
		TZS	TZS	TZS
		Per day Per week Per month Per year	Per day Per week Per month Per year	Per day Per week Per month Per year
1	Payment of school fees			
2	Payment of medical services			
3	Payment of water services			
4	Payment of electricity bills			
5	Purchase of clothing			
6	Purchase of food stuff			
7	Payment of rent (shelter)			
8	Payment of transport services			

30. Do you own assets as indicated in the Table below? Indicate the contribution of income from business and other sources of income (if any) to the acquisition of the asset in Tanzania shillings.

No	Asset group	Type of asset	Asset ownership Yes/No	Value Contribution from business (TZS)	Value contribution from other source (TZS)
1	Natural assets	1. Farm land/plot			
		2. Live stock			
		3.Foodsfrom environment			
2	Physical assets	1. Living house			
		2. Access to water			
		3. Household assets			
		i. Dining table			
		ii. Dining chair			
		iii. Easy chair (Kochi)			
		iv. Watch			
		v. Beds			
		vi. Fan			
		vii. Iron			
		viii. Cooking pots			
		ix. Refrigerators			
		x. Charcoal cooker			
		xi. Modern charcoal			
		xii. Electric cooker			
		xiii. Gas cooker			
		4. Communication equipment			
		i. Television set			
		ii. Radio			
		iii. Mobile phones			
		iv. Computer/laptop			
		5. Transportation assets			
		1. Motorcar			
		2. Bajaj			
		3. Motorcycle			
		4. Bicycle			
3	Human assets	1. Attendance of formal education			
		2. Working experience			
		3. Skills training attended			
4	Financial assets	1. Cash received from business			
		2. Cash received from non-business			
		3. Cash from savings			
		4. Cash from grant			
5	Social assets	1. Position in the society			
		2. Involvement in community activities			
		3. Involvement in political activities			
		4. Involvement in economic groups			

Ownership of productive business assets

31. Mention major productive assets you own in your area of business in the categories listed in the table below and indicate when did you acquire them and indicate their value in Tanzania shillings.

S/N	Item	Number of assets	Year of acquisition	Value in TZS	Source of Funds to acquire the assets
1. Carpentry and joinery					
i					
ii					
iii					
iv					
v					
2.Textile and clothing/tailoring					
i					
ii					
iii					
iv					
v					
3. Motor vehicle mechanics					
i					
ii					
iii					
iv					
v					
4. Electrical installation					
i					
ii					
iii					
iv					
v					
5. Secretarial services and computer application					
i					
ii					
iii					
iv					
v					
6. Construction (masonry)					
i					
ii					
iii					
iv					
v					
7. Food preparation (vending)					
i					
ii					
iii					
iv					
v					
8. Welding and fabrication					
i					
ii					
iii					

THANK YOU FOR YOUR CO-OPER**ATION**

Appendix 2: Checklist for key informants

Factors that influence self-employment among VET and non-VET graduates

- How would you describe self-employment of VET and non-VET graduates in Tanzania?
- What are the types of skills that attract more graduates into self-employment activities?
- Does integration of entrepreneurship training into your curricula have any impact into increase in self-employment activities?
- Do you think VETA graduates are better placed into self-employment in comparison to non-VETA graduates?
- Does the skills provided matches well with the market demands for self-employment activities?
- Do you think availability of financial institutions encourages self-employment activities?
- What is your view with regard to legal related issues such as business such as registration, tax registration etc. in relation to self-employment activities in Tanzania?
- What is your view with regard to business infrastructures in relation to self-employment activities in Tanzania?
- Explain briefly the socio-cultural factors in relation to self-employment activities in Tanzania.

Factors contributing to performance of businesses owned by self-employed VET graduates

Explain your understanding on the following statements in relation to business performance of self-employed VET graduates:

- Business performance in relation with Staff
- Business performance in relation with leadership/empowerment
- Business performance in relation to assets/resources owned
- Business performance in relation to business competitive strategies
- Business performance in relation to current funding of vocational education institutions in Tanzania
- Business performance in relation to practical training offered by industries
- Business performance in relation to access of credit among graduates

Performance of self-employed businesses owned by VET and those of non-VET graduates

- What is your opinion with regard to performance businesses owned by VET and non-VET graduates in terms of profitability?
- What is your opinion with regard to long term experiences in business of graduates in relation to firm performance?
- What is your opinion with regard to the current business, do you think it is important in attainment of graduates livelihoods outcomes
- What is your opinion with regard to skills acquired from college in relation to actual usage of the skills in the labour market?
- What is your opinion with respect to performance of the VET system in Tanzania if compared with other neighbouring countries?

Contribution of vocational educational training to access of livelihoods assets and social services among self-employed VET graduates

(i) Contribution of VET to access of social services?

(ii) Contribution of assets owned by VET and non-VET graduates to firms profitability performance?

(iii) Apart from the current businesses owned by graduates, what is your opinion with regard to diversification into other businesses among VET and non-VET graduates

THANK YOU FOR YOUR CO-OPERATION