MOSHI CO-OPERATIVE UNIVERSITY

ANTECEDENTS AND CONSEQUENCES OF PARTICIPATION IN HEALTH INSURANCE AMONG CO-OPERATIVE MEMBERS IN ARUMERU AND MOSHI DISTRICTS, TANZANIA

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BY

PETRO GIDEON NZOWA

A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY OF MOSHI CO-OPERATIVE UNIVERSITY, MOSHI TANZANIA

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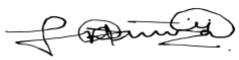

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The undersigned certifies that he has read and hereby recommends for acceptance by the Moshi Co-operative University a Thesis titled "**Antecedents and Consequences of Participation in Health Insurance among Co-operative Members in Arumeru and Moshi Districts, 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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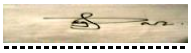

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LIST OF ABBREVIATIONS

ACA	:	Affordable Care Act
AIHW	:	Australian Institute of Health and Welfare
AMCOS	:	Agricultural and Marketing Co-operative Societies
BCa	:	Percentile Method
CHF	:	Community Health Fund
CIC	:	Co-operative Institutions' Capabilities
CRDB	:	CRDB Bank PLS
CVM	:	Contingent Valuation Method
CWBS.	:	Changes in Well-being Status
EAC	:	East African Community
HIL	:	Health Insurance Literacy
ILO	:	International Labour Organization
KNCU	:	Kilimanjaro Native Co-operative Union
LOT-R	:	Revised Life Orientation Test
NGOMAT	:	Ngoni Matengo Co-operative Union
NHIF	:	National Health Insurance Fund
NMB	:	NMB Bank PLC
NRCMS	:	New Rural Cooperative Medical Scheme
OECD	:	Organization for Economic Co-operation and Development
OOP	:	Out-Of-Pocket
PHI	:	Participation in Health Insurance
PLS-SEM	:	Partial Least Squares Structural Equation Modelling
SACCOS	:	Savings and Credit Co-operative Society
SAPs	:	Structural Adjustment Programmes
SCT	:	Social Capital Theory
SDGs	:	Sustainable Development Goals
TCB	:	Tanzania Commercial Bank
TCDC	:	The Tanzania Cooperative Development Commission
TIKA	:	Tiba Kwa Kadi
TPB	:	Theory of Planned Behaviour
TZS	:	Tanzania Shillings
UDHR	:	Universal Declaration of Human Rights
UHC	:	Universal Health Coverage

UHIC	:	Universal Health Insurance Coverage
UN	:	United Nation
UNICEF	:	United Nations Childrens Funds
URT	:	United Republic of Tanzania
USD	:	United States Dollar
VIF	:	Variance Inflation Factor
WHO	:	World Health Organization
WTP	:	Willingness to Pay

EXTENDED ABSTRACT

Social protection inclusiveness and coverage is a global challenge. Health insurance, as one of the categories of social protection, is exposed to similar challenges. This has led to an increased participation gap, unequal access, and utilisation of health insurance among individuals. Several initiatives are devised to initiate stronger linkages and better harmonisation between machinery to increase the number of people accessing and utilising health insurance. Co-operatives are among the institutions that have demonstrated the opportunity to close health insurance participation gaps. Recognising this, the government of Tanzania, through the National Health Insurance Fund (NHIF), has created a special voluntary health insurance scheme for co-operative members, namely Ushirika Afya in Kiswahili. The purpose of Ushirika Afya was to increase health insurance coverage among co-operators. However, statistics show that the number of individuals who have subscribed to health insurance schemes is still low. Thus, this study aimed to analyse the antecedents and consequences of participation in health insurance, taking co-operative members as a case. Specifically, the study first determined the influence of co-operative members' traits on health insurance participation. Secondly, the study analysed the determinants of willingness to pay (WTP) for health insurance among co-operative members. Thirdly, the study evaluated the association between co-operative members' health insurance literacy (HIL) and health insurance participation. Lastly, the study examined the role of participation in health insurance on the changes in wellbeing status among co-operative members. In attaining these objectives, the theory of planned behaviour, social capital theory, institutional theory of organisations, and the theory of dispositional optimism were adopted as the theoretical lenses in analysing the relationship of variables in this study. By adopting a cross-sectional survey, 550 co-operative members were selected from the Arumeru and Moshi Districts in the Arusha and Kilimanjaro Regions of Tanzania. The Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyse and test the relationship between and among variables of this study. PLS-SEM was adopted because this study involved formative measured indicators, and the structural models were complex, containing many constructs and indicators that involved the analysis of the mediators and moderators. In analysing the influence of co-operative members' traits on health insurance participation behaviour, findings indicated that members' characteristics, attitudes, and behavioural control positively

and significantly influence health insurance participation behaviour among co-operative members. Also, this study's findings partially supporting the social capital theory revealed that, except for price, trust issues fully and partially mediate quality attributes and access criteria, respectively, regarding willingness to pay for health insurance. Study findings further indicated that HIL is positively and significantly associated with participation in health insurance, particularly Ushirika Afya. Besides, the link between HIL and participation in Ushirika Afya health insurance is found to be strong when the co-operative institutions' capabilities level is high and weakens when the institutions' capabilities level is low. Moreover, the study findings also revealed that participation in the Ushirika Afya health insurance scheme significantly positively impacts changing dimensions of wellbeing statuses among co-operative members. Supporting the theory of dispositional optimism, optimistic co-operative members entrusting higher levels of expectations when participating in health insurance were likely to report positive changes and improvements in their wellbeing status compared with their counterparts. Based on these findings, this study recommends that insurers evaluate and consider variations in members' dynamics that reinforce and raise their likelihood of participating in health insurance. Further, the study recommends maintaining firm trust among co-operators, management, health insurers, and health facilities for enhanced willingness to pay for health insurance. Also, for sustainable participation in health insurance among co-operative members, it is important to formulate awareness programmes and continuous training that target to increase HIL and build strong co-operative institutional capabilities in aspects of health insurance. Altogether, these will increase participation in health insurance and eventually contribute positively to improving the wellbeing of individuals and the economy.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

This section introduces and gives an overview of the concepts and important variables for this study. It highlights the core from which health insurance emerged and digests its journey to the co-operative members' context. The section also gives an overview of the potential of co-operative institutions as the vehicles to channel and stimulate health insurance participation across diverse populations.

1.1.1 Social protection

Over the years, social protection has gained attention among policymakers and researchers at local and global dialogues. Social protection refers to the policies and programmes designed to reduce poverty and vulnerability by fostering effective labour markets, reducing people's exposure to risks and enhancing their ability to manage economic and social risks relating to unemployment, exclusion, sickness, disability and old age (ILO, 2022). Social protection encompasses social assistance, social insurance and labour market programmes. This study confines itself to one category of social protection, which is social insurance, taking health insurance to represent other categories (Devereux, 2022). Social insurance programs are contributory, and beneficiaries receive benefits or services in recognition of contributions to an insurance scheme. Social insurance comprises programmes designed to minimize the negative impact of economic shocks on individuals and families (Osabohien *et al.,* 2020). They include publicly provided or mandated insurance schemes against old age, disability, death of the main household provider, maternity leave and sickness cash benefits, and social-health insurance (Devereux, 2022).

The importance of social protection in all of its categories is based on the assumption that through social protection, individuals are empowered to address both economic and social distress caused by the absence or a substantial reduction of income from work or any other contingencies (ILO, 2022; 1999; Drolet, 2016; URT, 2008). Based on this, in 1948, the United Nations (UN) declared social protection as a human right in the Universal Declaration of Human Rights (UDHR). Since then, it has been

recognised and prioritised as a key instrument in development among governments and international agencies such as the ILO and World Bank.

The debate on social protection, in general, has been on its providers' objectives, availability, and commitment to attain coverage for all individuals in society through the effective participation of all actors. Such actors comprise governments, non-government organisations, and community support structures. In general, there is a consensus that if well implemented, social protection can be one of the means that may address poverty and vulnerability, sustain investments in human development, enable women's empowerment, improve livelihoods, and address economic and social eventualities in society (Devereux, 2022; Faist *et al*., 2015; ILO, 2015a). The poverty rate in Tanzania is relatively high (about 25.7 % of the population) (URT, 2023). It is believed that helping people access social protection, particularly health insurance, by using vehicles such as co-operatives is one step toward reducing the rate and realising the Sustainable Development Goals (SDGs). Thus, social protection is integral to poverty reduction commitments/strategies and the realisation of the SGDs among governments, Tanzania in particular (Drolet, 2016; Babajanian *et al*., 2014).

However, social protection inclusiveness and coverage are global challenges despite their importance. Individuals across populations are not covered. ILO (2022) reported that the average coverage rate for sub-Saharan African countries is less than 13%, whereas for Tanzania is about 14%. Such coverage gaps are associated with various factors, such as how formal social protection schemes operate, political and institutional frameworks, and related laws and regulations (ILO, 2022; 2015b; UNICEF, 2014; Hagemejer & McKinnon, 2013; Oduro, 2010). Also, financing patterns (Jiang *et al*., 2017; Desai & Rudra, 2016) and population composition (ILO, 2015) play a pivotal role in the execution of social protection initiatives.

Impliedly, social protection is marked by a high degree of heterogeneity in its operations, thus impacting its coverage (Deacon, 2013). This pose humps in dealing with peculiar characteristics and circumstances of some population categories, such as informal sector populations, poor people, and vulnerable groups (disabled, elderly, pregnant, and children) (Olivier *et al*., 2012; Devereux & Philip, 2010). This increases social and economic uncertainties and risks such as illness, unemployment,

injury, and alike, affecting effectiveness towards stable and sustainable development that impairs individuals' wellbeing.

Correspondingly, international agencies, the ILO in particular, have been urging and guiding various actors in widening and extending coverage across populations, excluded and uncovered in particular (ILO, 2022; Fiszbein, Kanbur & Yemtsov, 2014). This has made governments and non-government organisations initiate several social protection measures (including preventive, protective, promotive, and transformative measures). Such measures include cash or in-kind transfers, inputs or food subsidies, social pension, health insurance or medical care to different groups across populations, enriching their vulnerabilities and risks (Jiang *et al.*, 2017; Mbwete, 2015; Babajanian *et al*., 2014).

The emphasis on such measures primarily targets poor people, farmers, informal sector workers, and older people (Devereux, 2022; Spitzer *et al*., 2009). The privilege is given to these groups because they comprise majorities among economies. Hence, the emphasis has been on how to provide them with different forms of social protection that can protect and promote them out of poverty, hunger, inequality, and exclusion in case of contingencies (Desai & Rudra, 2016; ILO, 2015; UNICEF, 2014; World Bank, 2012).

Despite such initiatives, existing systems and measures for social protection have not succeeded in providing coverage to all individuals across populations. The majority, especially in developing countries, particularly those in Africa, Asia and the Pacific, are still exposed to life circle and social-economic risks such as food insecurity, healthiness, low income, and unemployment, as seen in Table 1.

Table 1: Global and Regional Estimates of Social Protection Coverage by Population Group by 2020 or the Latest available year

Population group	Region and percentage coverage					
	Global	Africa	America	Arab States	Asia and the Pacific	Europe and Central Asia
Population covered by at least one social protection benefit	46.9	17.4	64.3	40.0	44.1	84.1
Children	26.4	12.6	57.4	15.4	18	82.3
Mothers with new-borns	44.9	14.9	51.9	12.2	45.9	83.6
Persons with severe disabilities	33.5	9.3	71.8	7.2	21.6	86.0
Workers in case of work injury	35.4	18.4	57.4	63.5	24.8	75.5
Unemployed	18.6	5.3	16.4	8.7	14.0	51.3
Older persons	77.5	27.1	88.1	24.0	73.5	96.7
Vulnerable persons covered by social assistance	28.9	9.3	36.7	32.2	25.3	64.4

Source: ILO (2022)

As shown in Table 1, social protection coverage differs considerably across populations. Such variance in coverage amplifies exclusion gaps among and between individuals in various aspects of social protection, such as access and use of healthcare services. This situation raises concerns among policymakers on how to improve the current coverage status of various categories of social protection across individuals.

One category of social protection that has been emphasised is health insurance. The target is to ensure that all individuals are covered with health insurance to increase access and usage of health services to improve health status and wellbeing. Among other recommended initiatives to expand and improve health insurance coverage is to involve member-based organisations such as co-operatives in supplementing government initiatives (ILO, 2022). The involvement of co-operative is through the establishment of supplementary health insurance schemes that respond to the needs of the various population segments. In Tanzania, the government has established the "Ushirika Afya" health insurance initiative as a supplementary scheme for co-operative members to increase health insurance coverage across populations (URT, 2003). This study confines itself to analysing drivers and the outcomes of participating in that scheme among co-operative members.

1.1.2 Health insurance

The costs of medical services constitute one of the most critical challenges to the economic security of individuals and households. The challenge has been exacerbated as the growing economic crisis in many low income countries in the 1970s and 1980s resulted from governments' inability to sustain free health care services to individuals. Given Tanzania's financial and economic challenges in the 1970s and 1980s, the Breton Wood Institutions recommended the country adopt Structural Adjustment Programmes (SAPs).

SAPs introduced cost-sharing in health services. Prior to SAPs, health care was free as the government financed and covered almost all costs through the tax collected revenue. Under SAPs, user fee was introduced in health services, increasing out-of-pocket expenditure and exclusion in accessing and using healthcare (Ranabhat *et al*., 2017). This further proved to be a challenge to most people to meet health care costs. Consequently, health insurance was introduced, emphasised, and prioritised to cushion healthcare costs (Kaseke, 2015).

The introduced insurance systems operate as both statutory and formal private health insurance schemes. However, not all individuals within economies can afford statutory or formal private schemes. In most cases, statutory schemes are meant for public servants and formal sector employees. Formal private health insurance schemes accommodate individuals willing and able to pay. Still, private health insurance schemes are characterised by higher costs of premiums, making them unaffordable for the majority of individuals. Inadequacy in statutory and formal private health insurance schemes forced individuals to devise mechanisms to cover the sick and hospitalised. Many have opted to pool finances through family or group contributions to deal with their health contingencies (Ruparanganda *et al*., 2017). Under these mechanisms, clans, family, kinship, and society form the basis for financing individuals and communities during sickness, death, and invalidity (Pearce *et al*., 2016; Kaseke, 2015).

Undoubtedly, health insurance is potentially beneficial because unexpected medical expenses threaten individuals' wellbeing. Thus, individuals are urged to participate in health insurance. Individuals' participation in health insurance guarantees access to affordable basic and quality medical care and reduces out-of-pocket (OOP)

expenditure in a rally to improve quality of life (WHO, 2020; Wagstaff *et al*., 2016; Saksena *et al*., 2014). Undeniably, participation and improved health insurance coverage have improved individuals' health indicators and contributed to more substantial economic development.

The absence of health insurance and low or none participation exposes individuals to health life-circle risks and challenges, particularly when one gets sick as s/he cannot afford medication given majority of the population is poor and usually have no savings at all to meet health emergencies costs (Amani *et al.*, 2020; Osabohien *et al*., 2020). This leads to poor health and unproductivity, hence poverty (Osabohien *et al*., 2020; Nsiah-Boateng *et al.*, 2019). The mentioned factors have contributed to promoting initiatives that aim at increasing health protection worldwide and necessitating a great demand for implementing systems and comprehensive resources that are competent enough to ensure the extension of healthcare services to all.

Despite the outlined importance of health insurance in covering primary and secondary health care services, coverage against infrequent but large medical expenses suffers some bias. Statistics from the World Bank indicate that 3.6 billion individuals lack basic health services, and over 100 million are paying for their health services through out-of-pocket money. These health services-related challenges seem to drag these individuals into more poverty (World Bank, 2019). Further, statistics from the ILO indicate that less than 14% of sub-Saharan Africa's population assumes coverage of social insurance programs (ILO, 2021). Such bias arises from cost escalation due to adverse selection, higher premiums, over-prescription, and over-provision of services (Plianbangchang, 2018; Fenny, 2017).

Also, in many developing countries, the health insurance systems are not integrated but fragmented, differing in structures, objectives, and targets (Plianbangchang, 2018; Chomi *et al*., 2014). Thus, devising measures to make health insurance accessible and affordable to the majority to attain universal health insurance coverage to promote universal health coverage is inevitable. One of the measures might be to ensure that insurance costs against primary and secondary health expenditures are promoted through government-financed private-sector or

community arrangements. Also, hybrid systems may be devised to ensure adequate coverage across various populations.

Several health insurance schemes and national health insurance systems have been developed to halt increased healthcare-related costs across countries in response to the above-stated inadequacy. For example, in 2003, China launched the New Rural Cooperative Medical Scheme (NRCMS) to provide farmers and rural dwellers basic medical insurance. The scheme serves more than 97% of the rural population (Liu *et al.*, 2019; Liu, 2016). In the United States of America, the patient protection and Affordable Care Act (ACA) has been implemented, giving citizens the freedom to compare, choose and shop for suitable health insurance to increase health services' affordability to meet immediate health needs (Bauhoff *et al.*, 2020). In the same veins, the member countries of the Organization for Economic Co-operation and Development (OECD) have made adjustments in their macro-fiscal and private health insurance financing patterns, enabling its health systems to achieve the universal health coverage (UHC) objectives (Sfakianakis *et al.*, 2020; Bergen *et al.*, 2019; OECD, 2019).

Furthermore, African countries, e.g., Rwanda, Ethiopia, and Sudan, have adopted community health insurance strategies to aid national health insurance systems (Waelkens *et al.*, 2017; Husin & Rahman, 2016). These strategies are relatively cheap and can be accessed by many individuals (Feleke *et al.*, 2015). Also, they increase access, efficiency, and effectiveness in providing health services; thus, they stand as a stepping stone toward realising UHC (Amani *et al.*, 2020; Kapologwe *et al.*, 2017; Mpambije, 2017; Waelkens *et al.*, 2017). As a result, for example, Rwanda is a leading country in Africa in the degree of universal health coverage (UHC) as about 91% of her population is covered by *Mutuelles de Santé* (Mutual health), which is operated by the government (Fenny *et al.*, 2018).

Like any other developing country, Tanzania has witnessed what has been happening globally regarding health insurance. Health insurance initiatives in the country began in 1993 after SAPs reformed the existed health service delivery structure that introduced a cost-sharing policy in health services. Before SAPs, the government fully financed healthcare through revenue collected from taxes. Due to an increased population and demand for health services, tax revenue was not sufficient to cover all

the healthcare costs. This necessitated the government to devise other appropriate means to help individuals manage healthcare costs.

Initially, the government introduced the Community Health Fund (CHF) in 1996, targeting rural households in the informal sector. It was then followed by the National Health Insurance Fund (NHIF) in 2001, targeting and covering government employees and individuals in the formal sector. Consequently, *Tiba Kwa Kadi* (TIKA) was introduced in 2009 to cover urban households in the informal sector (Kigume & Maluka, 2021). CHF and TIKA work in parallel in providing health insurance cover and are regulated by the government through its local authorities. However, the CHF and TIKA health insurance schemes face structural and operational challenges that have resulted in low uptake among individuals, limiting their effectiveness in providing health insurance coverage (Kigume & Maluka, 2021).

Later, the liberation and integration of several actors in offering private and government health insurance were implemented in the country to increase coverage for both formal and informal populations (World Bank, 2019; Kapologwe *et al.*, 2017). In spite of these efforts, large segments of the Tanzania population are still excluded, mostly belonging to the informal sector (Amani *et al.*, 2020; Fenny *et al.*, 2018). These individuals are still partially or totally exposed to substantial risks of higher medical expenditure, hence un-access to primary health services and poverty at large (World Bank, 2019; ILO, 2017). Thus, it is necessary to understand what limits individuals from participating in various health insurance schemes despite these initiatives. The current study will fill that knowledge gap with a focus on co-operative members' participation in health insurance as the representative of other categories of populations in Tanzania.

To warrant the number of individuals covered by health insurance systems increases, the government of Tanzania, through the National Health Insurance Fund (NHIF), created a special voluntary health insurance scheme for co-operative members, namely "Ushirika Afya" in Kiswahili. The "Ushirika Afya" is a voluntary health insurance scheme designed to serve co-operative members without formal and conventional access to health insurance (URT, 2001). The "Ushirika Afya" scheme was primarily designed for workers in the agricultural sector specifically to serve

members of agricultural and marketing co-operative societies (AMCOS). Understandably, members of other forms of co-operatives can also join the scheme. It also provides a supplementary scheme for co-operative members employed in the formal sector and has statutory health insurance coverage. Therefore, "Ushirika Afya" was considered one of the platforms for health insurance inclusion for individuals who have been statutorily excluded from accessing health insurance.

Health insurance under the "Ushirika Afya" scheme is relatively cheaper and more affordable than other private health insurance schemes. Under this scheme, co-operative members and their spouses are required to voluntarily pay an annual premium of Tanzania Shillings (TZS) 76 800 and TZS 50 400 for each child under the age of 21. Also, banks in Tanzania, such as NMB Bank PLC, CRDB Bank PLC, and Tanzania Commercial Bank (TCB), offer free-interest health insurance loans to co-operative members to cover the above-stated premium costs. This is an opportunity to reap for most individuals, especially co-operative members. It was expected to increase enrolment in the schemes and increase health insurance coverage in Tanzania (Tungu *et al*., 2020). Yet, the number is not as planned. Large segments of the informal population, including co-operative members, still use out-of-pocket expenditures to address health needs. In that regard, one of the aims of the current study was to investigate the participation behaviour of the co-operative members in health insurance schemes.

In spite of the 2030 Tanzania financial sector development master plan targets to cover about 90% of all Tanzania population with health insurance by 2030, the highest coverage percentage ever reported was about 32% in 2019-2020. In that percentage coverage, CHF constituted about 23%, NHIF 8%, and private health insurance companies contributed less than 1%. However, from 2020 to 2022, health insurance coverage has decreased drastically to about 15% of the total Tanzania population. Out of this, CHF coverage reduced to about 5.4%, and NHF remained at 8%, whereas private insurers increased coverage to about 2%. This leaves about 85% of Tanzania's population without health insurance coverage (URT, 2022). This leads to challenges such as partial treatment, postponed medical care, and catastrophic health expenditures in case of illness and other health eventualities (Amani *et al*., 2020; Wang *et al*., 2020; Fenny *et al*., 2018). One of the claimed reasons for dropping in coverage is that people are unwilling to renew their insurance contracts,

particularly those in CHF and private arrangements in NHIF, including co-operative members in the Ushirika Afya scheme. Thus, for an increased willingness to pay and continued development in health insurance in Tanzania, the current study analysed factors associated with the willingness to pay for health insurance, particularly Ushirika Afya, among co-operative members.

1.1.3 Co-operatives and Social Protection

Historically and practically, co-operatives have played a significant role in addressing global developmental issues. Consequently, in most African countries, including Tanzania, co-operatives have shown great potential in championing the achievement of social goals. All along, co-operative members have been in an advantageous position relative to non-members (at least in theory) when it comes to addressing social-economic challenges. Undeniably, this has been due to the fact that co-operatives' primary objectives are to protect members and empower them against social-economic risks and contingencies, particularly social protection (Mchomvu *et al*., 2002).

The co-operatives movement in Tanzania has passed through various phases. In all the phases, the co-operative mission was, among others, to protect and empower its members in multiple dimensions of life. For example, during the colonial era, co-operatives such as Ismailia Credit Co-operative Societies in Dar es Salaam, Dodoma, Moshi, Mwanza, and Tanga played a significant role in providing their members and non-members with affordable loans to finance their social-economic needs, including healthcare financing (Seimu, 2015; Strickland, 1933). Also, co-operative unions such as Kilimanjaro Native Co-operative Union (KNCU) and Ngoni Matengo Co-operative Union (NGOMAT) facilitated effective cash crops farming (coffee and tobacco) by providing their members with assured markets and prices of their produce (Seimu, 2022). The intention was to increase coffee and tobacco production and improve their members' social and economic wellbeing.

The post-colonial era witnessed the government's strong promotion of co-operative institutions as a vehicle to speed and assure rural development (Seimu, 2022). During this era, co-operatives were vibrant in assuring their members with needed social services such as education and health. Whenever the government failed to provide complete cover, co-operatives in various forms stood as a shield against costs related

to acquiring basic needs such as education, chronic and severe diseases, and poverty that their members faced (Mchomvu *et al*., 2002). Even when cost-sharing policies were introduced in healthcare services, co-operatives could still finance their members. Similarly, in the era of the liberalised economy, there has been an increased focus on promoting financial-based co-operatives, notably savings and credit co-operative societies (SACCOS), to increase access to finance initiatives, particularly health insurance (Maghimbi, 2010). It is from this historical and practice that the government and other stakeholders saw co-operatives as the best institutions that can be used to facilitate health insurance access and utilisation as one aspect of access to finance across diverse populations.

Co-operative institutions, especially when they affiliate their operations with governments and other potential stakeholders, form a crucial base in social protection initiatives in sustaining members' social, economic, and financial needs (Okello *et al*., 2013; UN, 2009). Also, they act as a buffer mechanism for members' social and economic needs when governments and other formal institutional arrangements are not in place (Wanyama *et al*., 2008). They invent team spirit mechanisms that allow members to meet unexpected expenses related to illness, social welfare, death, and other socio-economic problems like drought and crop failure (World Bank, 2012; Fiszbein & Schady, 2009; URT, 2008). Evidently, as one of the community support structures, these institutions potentially fill the gaps that the existing formal social protection institutions have failed to address, particularly health insurance (ILO, 2014; UNICEF, 2014; Baird *et al*., 2013; ILO, 2012; ILO, 2010). Both formal and informal workers' populations depend much on co-operatives, as an informal social protection system in sustaining its members and their dependents in dealing with contingencies when the existing formal social protection arrangements fail (Ackson & Masabo, 2013; Mupedziswa & Ntseane, 2013; Devereux & Philip, 2010).

Social protection provisions by these co-operatives have been through respective nature and types of products or services offered to their members, such as loans, savings, health insurance, and other insurance and marketing facilities, among others (Okello *et al*., 2013; Mathuma, 2011; Lemma, 2007; Bailey, 2005; Mchomvu *et al*., 2002). Interestingly, the Tanzania Social Security Policy of 2003 and the proposed National Social Protection Framework (NSPF) of 2008, ILO and World Bank recognise co-operatives as one among the drivers and actors in providing social

protection (ILO, 2015a; World Bank, 2012; URT, 2008). They form the bottom of the pyramid in the social protection structure, government being at the top of the pyramid (Okello *et al.*, 2013; Kaseke, 2013; Mathuma, 2011). The value and appreciation of co-operatives in social protection initiatives are assumed to be grounded, among others, on the principles governing its operations, the nature or types of products/services offered, and the number of members it serves (ILO, 2015; World Bank, 2012; DFID, 2010; Pollet, 2009; URT, 2008).

However, there is a scarcity of empirical justifications that give an insight into how co-operatives have succeeded in delivering social protection to their members, particularly health insurance. Moreover, whether co-operative members' traits affect their participation decisions is still unknown. Understanding how co-operative members' traits influence health insurance participation behaviour is a critical step toward designing and providing appropriate health insurance packages to co-operative members based on their needs and circumstances. Nevertheless, some studies have identified traits that significantly affect health insurance participation behaviour in various health insurance systems. Such qualities include but are not limited to the individuals' knowledge and understanding of the principles of insurance and the quality of health services for the insured (Kigume & Maluka, 2021; Prakoso *et al*., 2020; Alhassan, 2018; Fenny *et al.*, 2018); individuals' health status and history of chronic diseases (Chauhan, 2019; Minyihun, 2019); age and income (Amani *et al.*, 2020, Bauhoff, 2020; Nsiah-Boateng *et al.*, 2019) and education level and household/family size (Wang *et al*., 2020, Minyihun, 2019; Ebrahim *et al.*, 2019).

In the existing literature, the qualities mentioned above have been analysed to the individuals out of the co-operative members' context. Moreover, each factor has been treated independently when analysing its effect on health insurance participation. This may have resulted in a partial and biased conclusion. This study proposes another way of analysing such factors. In this study, all factors are combined to form one general construct, "members' characteristics," to eliminate the possibilities of partiality and biases in analysing health insurance participation behaviour among co-operative members.

As part of analysing individuals' traits, it has been established that attitude and behavioural control also affect health insurance participation behaviour. The argument is that the level of individuals' heterogeneity in terms of behavioural control and attitude influences health insurance participation behaviour and tends to affect the functioning of health insurance systems (Ebrahim *et al.*, 2019; Nsiah-Boateng *et al.*, 2019; Chomi *et al.*, 2014; East Africa Community (EAC), 2014). Such attitude and behavioural control dictate individuals' abilities in making choices and decisions. This is more likely when individuals compare the expected utility values of participating in health insurance systems (Fenny *et al.*, 2018; Odeyemi, 2014; Scheil-adlung *et al.*, 2010; Cheng *et al.*, 2003). Impliedly, negative attitudes and behavioural control limit individuals from deciding to participate in health insurance schemes (Raza *et al.*, 2019; Issaka *et al.*, 2016). Further, positive behavioural control and attitude consent health insurance participation behaviour in health insurance schemes among individuals (Chemouni, 2018; Panda *et al.*, 2016). However, despite the literature's emphasis on the role of attitude and behavioural control on participation in health insurance services, whether this applies to co-operative members needs to be justified.

Most studies have still not analysed the extent to which dynamics in co-operative members' characteristics, attitudes, and behavioural control influence their decision to participate in health insurance. Most of the analyses concern individuals who are not co-operative members, such as the urban poor (Nsiah-Boateng *et al.*, 2019), employees (Raza *et al.*, 2019), and households (Baillon *et al.*, 2019). Moreover, previous studies focused on consumer preferences (Amani *et al.*, 2020; Nsiah-Boateng *et al.*, 2019) and public health (Bauhoff, 2020; Wang *et al.*, 2020; Ebrahim *et al.*, 2019). Less attention has been paid to the group influence on individual participation behaviour in health insurance. Although few studies, such as Ebrahim *et al.* (2019), Minyihun (2019), and Chemouni (2018), analysed participation in community-based health insurance schemes, their findings cannot be universal to the context of co-operatives members. Yet, co-operatives have not been given enough attention in the literature despite being an ideal institution with distinct features in its operations with different member compositions regarding health insurance operations.

Furthermore, whether co-operative members are willing to pay for health insurance initiatives through co-operative institutions is yet to be studied. Folland *et al.* (2016) argue that Willingness to Pay (WTP) for a particular health insurance product or service is determined by individuals' disparities in using such products or services. Impliedly, WTP for health insurance is an alternative measure of its cost-benefit trade-offs. However, WTP for health insurance across populations is said to be affected by various factors. Studies by Amani *et al.* (2020) and Miti *et al.* (2021) found that price is one of the critical factors affecting WTP. The implication is that the higher the price, the lower the WTP, and vice versa. This means as the amount of money one needs to pay for insurance premiums increases, WTP for health insurance decreases (Miti *et al.*, 2021; Jofre-Bonet & Kamara, 2018).

Additionally, studies such as Arkorful *et al.* (2021), Pahlevan Sharif *et al.* (2021), Ebrahim *et al.* (2019), and Minyihun *et al.* (2019) claim that WTP for health insurance is also affected by the quality attributes of both insurers and health facilities. The assured quality in accepted standards for health insurance providers and health facilities tends to increase WTP among individuals as it increases individuals' confidence in the service rendered and guarantee of health in case of illness (Arkorful *et al.*, 2021; Pahlevan Sharif *et al.*, 2021; Ebrahim *et al.*, 2019). Other studies claim that access in terms of equity and easiness in getting health and health care, location, and distance to health facilities where competent healthcare providers are available also affects WTP (Chiwire *et al.*, 2021; Ebrahim *et al.*, 2019; Duku *et al.*, 2018; Kusi *et al.*, 2018). Whenever individuals encounter denial and access barriers, their WTP for health insurance is likely to decline. Such barriers to access prevent them from effectively dealing with their health (Chiwire *et al.*, 2021; Ebrahim *et al.*, 2019).

Against the backdrop, the extent to which each explained factor affects WTP might be influenced by other reasons. It is stated that one reason that is likely to mediate other factors and WTP for health insurance is trust (Poan *et al.*, 2021; Zein *et al.*, 2020; Alhassan, 2018). Sutter and Kocher (2007) argue that trust is the root of assessing perceived information, acts, and dealings in making and shaping individuals' decisions. This implies that effective WTP decision for health insurance among individuals, systems, and institutions is more successful if trust prevails (Saita *et al.*, 2016; Gilson, 2003). Additionally, individuals participate and voluntarily pay

for health insurance if they have adequate health insurance literacy (HIL) (Edward *et al.*, 2022). HIL facilitates health information-seeking behaviour among individuals and helps providers and intermediaries offer clients timely and suitable health insurance (Koh, 2022). Yet, whether the aforementioned holds to the co-operative members' context is yet to be analysed.

Studies show that individuals willingly pay and participate in various health insurance with diverse goals, including changing their wellbeing statuses (Ma, 2022a). Health insurance initiatives through co-operative institutions have been spotted as a key catalyst for positive impacts on people's wellbeing (ILO, 2021). Indeed, individuals decide to participate in any health insurance scheme with expectations of improving various dimensions of wellbeing (Rehman, 2020). One expects to improve wellbeing status in such dimensions as health status, stabilised life and work-life balance, education and skills, social connection, civic duties and taking part in governance duties (OECD, 2021). Also, it involves changes in the sense of personal security, housing and related facilities, securing jobs and sources of earnings, creating and maintaining quality environments and, participation in income-generating activities and increasing wealth (AIHW, 2021; OECD, 2021; OECD, 2015). Still, the literature is silent on how participation in health insurance through co-operatives promotes improvements in dimensions of the wellbeing of the co-operative members. This also forms the central focus of this study.

The study was intended to assess the drivers and outcomes of co-operative members' participation in health insurance as part of social protection in Tanzania. In doing so, the emphasis of the study revolved around analysing the impacts of co-operative members' traits and health insurance literacy on health insurance participation. Also, the study assessed the willingness of members to pay for health insurance initiatives through their respective societies. Finally, the study examined whether participation in health insurance impacts changes in members' wellbeing status in an attempt to deal with economic insecurities and reduce social and economic risks for co-operative members.

1.2 Statement of the Problem

Low participation in health insurance is one of the challenges facing the majority of governments around the globe. This is evident as global statistics indicate that more than 3.6 billion people do not have access to basic healthcare, and more than 100 million people pay for their medical care out of their pockets (World Bank, 2019). Also, more than 85% of the people in sub-Saharan Africa have no access to health insurance and other social insurance schemes available in place (ILO, 2017; 2021). Likewise, it is estimated that only 15% of the total population in Tanzania is covered by the available health insurance systems (URT, 2022). This indicates that most of the population struggles to meet and satisfy their healthcare needs. This situation adds to people's difficulties with illnesses and other health issues, such as delayed or incomplete medical care and catastrophic medical costs that affect their wellbeing (Amani *et al*., 2020; Wang *et al*., 2020).

Yet, there is room to improve the situation as some initiatives have proved to perform well in increasing the health insurance coverage rate in some parts of the world. China, for example, covers more than 97% of its rural population with basic medical insurance through the New Rural Cooperative Medical Scheme (NRCMS) (Liu, 2019). Also, community health insurance strategies have been established in Rwanda, Ethiopia, and Sudan to support national health insurance systems. Such adoption has made Rwanda the leading country in Africa in Universal Health Coverage (UHC), covering about 91% of her population (Fenny *et al*., 2018; Waelkens *et al*., 2017; Husin & Rahman, 2016). Adoption and success of community-based strategies are grounded on the fact that they are reasonably affordable and accessible to many people (Feleke *et al*., 2015) and also effective and efficient in the delivery of health insurance (Amani *et al*., 2020; Kapologwe *et al*., 2017; Mpambije, 2017; Waelkens *et al*., 2017). These strategies also play a pivotal role in realising UHC in most developing economies.

Considering the opportunity of using co-operatives and other community-based institutions to extend health insurance coverage to many individuals, the Tanzania government, through the National Health Insurance Fund (NHIF), has established a unique voluntary health insurance scheme for co-operative members, namely "Ushirika Afya". Thus, the "Ushirika Afya" has emerged as one of the most effective

and efficient platforms for those negated by prevailing laws from receiving health insurance coverage. The “Ushirika Afya” also serves as one of the steps toward the realisation of UHC in Tanzania. Unfortunately, despite this platform being readily available, most co-operative members continue to pay for their healthcare needs using out of pockets expenditure (Tungu *et al*., 2020). The Tanzania Cooperative Development Commission (TCDC) report that out of 5.9 million co-operative members in the country, only 6 000 benefited through the “Ushirika Afya” scheme (TCDC, 2022). This is a concern to address since it increases participation gaps, unequal access, and disparities in using health insurance among co-operative members and other individuals. As a result, most co-operative members continue to face challenges in accessing and utilising healthcare services, adding to difficulties in improving their wellbeing.

What remains unclear, however, is why participation in health insurance is still low among co-operative members despite the readily available opportunity. In that regard, this study anchored on analysing the antecedents and consequences of participation in health insurance among co-operative members as representative of other population segments. More specifically, the study assessed how co-operative members’ traits and health insurance literacy influence participation behaviour in health insurance. Also, the study analysed the determinants of willingness to pay for health insurance among co-operative members and how participation in health insurance affects their wellbeing.

1.3 Research Objectives

The study had one general objective and four specific objectives.

1.3.1 The general objective of the study

The study’s general objective was to analyse the antecedents and consequences of participation in health insurance among co-operative members in Arumeru and Moshi Districts, Tanzania.

1.3.2 Specific objectives of the study

The specific objectives of the study were:

i. To determine the extent to which co-operative members' traits influence health insurance participation behaviour.
ii. To ascertain the determinants of willingness to pay for health insurance among co-operative members.
iii. To evaluate the association between health insurance literacy and health insurance participation among co-operative members.
iv. To investigate the relationship between participation in health insurance and changes in the wellbeing status of co-operative members.

1.3.3 Research Questions

The study was guided by four research questions to attain the above research objectives. These research questions were;

i. To what extent do co-operative members' traits influence participation behaviour in health insurance?
ii. What are the determinants of willingness to pay for health insurance among co-operative members?
iii. Does health insurance literacy among co-operative members associate with their decision to participate in health insurance?
iv. How does participation in health insurance affect the wellbeing status of co-operative members?

Each research question above stood as the base for writing manuscripts of this study. Moreover, some hypotheses were formulated in each manuscript to arrive at this study's conclusion.

1.4 Justification of the Study

As any other country signed and agreed to Articles 22 and 25 of the Universal Declaration of Human Rights (1948), Tanzania aspires for her citizens to have a right to social security and a decent standard of living. Health insurance, one of the components of social security, is crucial to creating and enabling individuals to live decent lives. Thus, understanding the drivers of co-operative members' participation in health insurance and its related outcomes, which is the foundation for this study,

stems as one of the catalysts toward effective abidance to the Universal Declaration of Human Rights.

The findings of this study are timely. Currently, health insurance dominates the discourse, especially in facilitating the realisation of the SDGs, Goal 3, Target 3.8, to achieve UHC. Achieving UHC includes access to effective, quality, and affordable essential healthcare services, medicines, and vaccines for all individuals. Effective attainment of UHC is directly related to increased health insurance coverage. Thus, this study can inform policymakers and other health insurance stakeholders on effectively implementing and attaining the UHC targets, particularly by involving co-operatives as the delivery channel of health insurance. Nonetheless, the current move by the Tanzania government to achieve universal health insurance coverage can be better informed by the findings of this study. In particular, by adopting co-operative entities as one of the institutions to fast track the initiative as such institutions accommodate diverse populations.

Also, the findings of this study align and provide vital information that contributes to the realisation of AU's Agenda 2063: The Africa We Want. The agenda, among others, institutes achieving a high standard of living by making available quality and affordable social security and protection such as health insurance that aim at improving the quality of life and wellbeing for all citizens. Together with that, the findings of this study can be used to inform policymakers and stakeholders on the attainment of the Tanzania 2020-2030 Financial Sector Development Master Plan and the Tanzania Development Vision 2025. Among others, the plan and the vision call for new perspectives and novel approaches to institutional coordination and coherence in supporting the realisation of health insurance coverage for all.

Also, this study's findings align with and inform the National Social Security Policy that recognises and appreciates co-operative institutions in strengthening the initiatives of providing better social protection needs for different groups in the community with respect to income and degree of vulnerability. Moreover, in complementing the National Social Security Policy and Cooperative Development Policy, this study's findings give insights into the implementations of the strategic plan of The Tanzania Cooperative Development Commission that, among others, focus on creating and providing room for easy access to health insurance to co-operative members.

1.5 The Theoretical Foundations of the Study

Despite its relevance and applicability, not all theories yield better analysis in explaining and relating some phenomenon. Some theories tend to assume a linear relationship in contextualising a particular phenomenon. Thus, thinking of linearity in logical reasoning when making critical financial decisions, particularly health insurance, is irrational. Hence, a blend of theories is needed to augment the validity of a particular phenomenon, such as participation in health insurance among co-operative members. Four theories guided the study. These theories are the Theory of Planned Behaviour (TPB), the Social Capital Theory (SCT), the Theory of Dispositional Optimism, and the Institutional Theory of Organisations. These theories complement each other in informing the objectives of this study. TPB was adopted to inform the first objective of this study, which focused on co-operative members' participation behaviours. Since TPB has no element of trust, SCT with such an element was adopted to guide the analysis of the second objective, which was about willingness to pay for health insurance. Moreover, in objective three, when analysing co-operative institutions' capabilities, the Institutional Theory of Organisations was used as it contains important dimensions fitting the analysis, which is not found in TPB and SCT. Lastly, the Theory of Dispositional Optimism was adopted to guide the analysis of how expectations influence the relationship between participation in health insurance and changes in the wellbeing status of co-operative members in objective four as the other three theories have no such element. The discussion of each theory is presented below:

1.5.1 Theory of Planned Behaviour (TPB)

The TPB was propounded by Ajzen (1985). The core of the theory is that attitude, subjective norms, and perceived behavioural control predicts behavioural intention, hence actual behaviour performance (Huda *et al.*, 2012; Syed & Nazura, 2011; Fishbein & Ajzen, 2010; Golnaz *et al.*, 2010; Shim *et al.*, 2001; Beck & Ajzen, 1991; Ajzen, 1985, 1991; Ajzen & Fishbein, 1980). Other theory proponents, such as Raza *et al.* (2019) and Sherma and Mannan (2015), doubt if any gap exists between behavioural intention and actual behaviour performance. Hence, it is unnecessary to separate behavioural intention and actual behaviour performance in analysing individuals' behaviour.

It is established that attitude through one's evaluative judgment best envisages intentions and behaviour towards participating in certain conduct. It encompasses an individual's power to respond and take a position in a particular scenario positively or negatively based on their feelings and thinking (Fishbein & Ajzen, 2011; Ajzen & Fishbein, 1980). Based on the TPB arguments, attitude guides and enables individuals to evaluate behaviour towards a certain act (Huda *et al.*, 2012). Similarly, it is a key factor in changing decisions depending on the context and the matter on the table (Sharma & Mannan, 2015). Advocators of the theory argue that, whether favourable or unfavourable, any intention towards participation in an insurance act is assured and predicted by one's attitude (Huda *et al.*, 2012; Golnaz *et al.*, 2010).

Perceived behavioural control concerns one's established beliefs and perception of how easily or with difficulty one can fulfil the desire to perform a certain action (Sherma & Mannan, 2015; Conner & Norman, 2005; DeBarr, 2004). Individuals' behaviour control represents deliberately intended or unintended reactions to the aimed advantages and disadvantages that tend to affect decisions and performance of certain actions (Hulland & Houston, 2021). According to TPB, whenever individuals have confidence in the planned behaviour, they are expected to have a stronger performance of the behaviour (Ajzen, 2002; Ajzen, 1991). Based on this theory element, the desire to participate in health insurance among co-operative members is expected to be influenced by their established beliefs, perceptions, and confidence in Ushirika Afya operations.

While Fishbein and Ajzen (2011) argue that subjective norms determine individuals' actual behaviour and choices, this study proposes a different way of validating such a relationship. The study assumes that, for subjective norms to hold, that is, other people's perception and influence on the ability and belief of an individual concerning the performance of actual behaviour, co-operative member characteristics are important. Co-operative member characteristics are taken collectively to mean attributes that embrace typical patterns of behaviour, rationalisation styles, and feelings that guide how they regulate decisions (Coaley, 2010; Kassin, 2003). Such co-operative members' characteristics (e.g., education level, insurance knowledge, income level, age, and history of chronic diseases) significantly predict random decisions and actions based on individuals' intelligence, cognitive abilities, motives, values, and attitudes (Carver & Scheier, 2000). This study predicts co-

operative members' characteristics to influence their decisions and actions concerning participation in the Ushirika Afya health insurance scheme.

1.5.2 The Social Capital Theory (SCT)

The social capital theory is adopted to elaborate on the potential of social structure influence on shaping and influencing individual decisions. Proponents of the SCT argue that there are elements of social connection and ties that govern interactions and provide generative benefits among individuals, groups, and community members (Savage & Kanazawa, 2002; Sommerfeld *et al*., 2002; Putnam, 2000; Putnam, 1993; Coleman, 1990). These elements which form SCT are networks, norms, and social trust (Moore & Kawachi, 2017; Putnam, 2000). These elements dictate bonding and regulate one's decision-making capabilities and participation in social issues for equitable enjoyment of common benefits (Ehsan *et al.,* 2019; Fenenga *et al*., 2018; Ko *et al*., 2018; Donfouet *et al*., 2011; Eriksson, 2011). Further, such elements can emanate as individual attributes (Islam *et al*., 2006; Portes, 1998) or external force (group attributes) (Kawachi & Berkman, 2014) or as both individual and group attributes (Porta, 2015) when it comes to affecting and influencing the decision.

Drawing upon the elements of social capital theory, this study confines itself to one major element of the theory: trust to analyse and explain the willingness to pay for health insurance among co-operative members. The adoption of the trust element is based on Putnam's (1993) argument that social capital is fundamentally the degree of trust available among and between individuals that facilitates their actions and collaborations for mutual gain. Consistent with Putnam (1993), trust is analysed in this study to see how it dictates and regulates bonding and capabilities as to willingness to pay for health insurance among co-operative members.

Based on the dynamics that co-operatives have gone through, the assumption is that members of co-operatives are likely to lose trust in their society/organisation. In that regard, using social capital theory with an element of trust is appropriate. So we think for the co-operatives to be a vehicle to accelerate health insurance through these schemes, social capital is very important. The assumption is that if individuals trust each other and their institution, they are likely to increase their willingness to pay for health insurance through schemes such as "Ushirika Afya". Further studies in insurance affirm that social capital elements, trust in particular, increase willingness

to pay or enrolment in health insurance given that other factors such as price, quality, access, and other benefits are in order (Campbell, 2020; Fenenga *et al*., 2018; Zhang *et al*., 2006; Granovetter, 2005). Hence, for this study, SCT explains how trust will likely influence and control co-operative members' relationships and abilities regarding willingness to pay for health insurance, particularly *"*Ushirika Afya" and other health schemes meant for co-operative members.

1.5.3 Theory of Dispositional Optimism

The study also adopted the Theory of Dispositional Optimism to inform its variables. Scheier and Carver (1985) proposed the theory of dispositional optimism, which asserts that one's expectations about the future determine one's circumstances. The theory describes a person's dispositional trait in terms of their ability to act with positive expectations for future events consistent with their fundamental beliefs (Stosny, 2011). Thus, optimism is linked to various beneficial outcomes for individuals, including improved personal wellbeing (Diener *et al*., 1999). Optimism is a state of mind or attitude connected with a positive mindset on the social or material future that the evaluators consider socially desirable to their benefit (Peterson, 2006; Tiger, 1979).

This study uses the theory to analyse the relationship between health insurance participation and wellbeing status changes among co-operative members. The suggestion is that how one thinks about one's decision or action (in this study, participation in health insurance) greatly impacts one's (co-operative member) wellbeing. Also, if treated correctly, optimism in various groups in communities with comparable characteristics (co-operatives) can positively impact their wellbeing (Peterson, 2006; Schneider, 2001; Ben Ze'ev, 2000). This means that having higher and more optimistic expectations can significantly impact how individuals make decisions in specific situations and on their wellbeing (Rasmussen *et al*., 2009; Chambers & Windschitl, 2004; Taylor & Brown, 1988). This means that an optimistic person may relax in a range of situations, allowing positive expectations to take over and waiting for positive outcomes that lead to beneficial changes in wellbeing (Radcliffe & Klein, 2002; Armor & Taylor, 1998). From this, we can see how optimism can be used as a powerful coping strategy and even a method of motivation by providing hope that something can be achieved.

Based on this theory, confident co-operative members who view participation in the Ushirka Afya scheme as a pleasant experience can potentially live a brighter life, resulting in a favourable impact on their wellbeing. In this instance, optimistic co-operative members are projected to have a higher and more advantageous position to improve wellbeing status out of participation in health insurance under the Ushirka Afya scheme. On the other hand, members with low and possibly negative expectations about involvement in health insurance under the Ushirka Afya scheme are unlikely to see changes in their overall wellbeing status.

1.5.6 The Institutional Theory of Organisations

The institutional theory of organisations is also adopted as the analytical lens to address one of the hypotheses of this study. Meyer and Rowan (1977) introduced this theory in the 1970s. The theory's core lies in the institutions (Zucker, 1987). Based on the theory, an institution has three main elements: regulative, normative, and cultural-cognitive, which shape people's thinking and behaviour in societal and organisational settings (Berthod, 2018; Scott, 2014; Meyer, 2008; Scott,2005). The three pillars are separated only for analytical purposes in theory, though they are used in tandem when it comes to practices (Renner-Micah *et al*., 2020; Scott, 2014).

The regulative element of the theory concerns how the regulatory framework (for this study, various laws, rules, and regulations for health insurance) guides and regulates the institutions and their actors' behaviours (Scott, 2014; Mignerat & Rivard, 2009). The theory's normative element concerns the actors' values and norms in fulfilling social obligations that aim to direct and support specific desirable behaviours based on the existing regulative framework (Connolly *et al.,* 2012; Scott, 2014). This study's normative element involves established norms, traditions, and practises in the national health insurance fund associated with Ushirika Afya operations. As Effah (2016) put it, the cultural-cognitive element refers to the assumed practises, traditions, and assumptions that guide social actors' thinking and actions (in this case, the patterns of thoughts and decision-making tendencies of the health insurance stakeholders). Generally, perceptions and responses of actors (which can be individuals or groups, organisations or associations of people; in this case, co-operative members) toward these elements in their institution may facilitate or limit policy intervention relating to health services (Freeman *et al.,* 2021; Gokalp Aras *et al*., 2021; Scott *et al*., 2000).

The institutional theory was chosen as the theoretical foundation in this study because of the important notions it contains for analysing the influence of an institution's normative, regulative, and cultural-cognitive elements in health insurance operations (Javanparast *et al*., 2018). For effective participation in the Ushirika Afya, co-operative members should satisfy themselves with their institutions' normative, regulative and cultural-cognitive elements. Thus, an institution deemed strong in such aspects is expected to motivate most co-operative members to participate in Ushirika Afya. This is because it will likely increase confidence (or otherwise) among co-operative members on how such an institution can handle health insurance operations.

1.6 Conceptual Framework

Participation in health insurance and its outcome is a multidimensional endeavour among co-operative members. The current study analyses the antecedents and consequences of participation in health insurance among co-operative members. It conceptualises how co-operative members' traits and health insurance literacy are associated with participation in health insurance among them. Further, the study aimed to investigate the willingness to pay for health insurance and how participation in health insurance impacts the wellbeing status of co-operative members.

As shown in Figure 1, the relationship between co-operative members' traits (for this study, it encompasses co-operative members' attitudes, characteristics and behavioural control) and participation in health insurance, as guided by the theory of planned behaviour, is considered linear. Likewise, willingness to pay for health insurance among co-operative members, as determined by factors such as price, quality attributes, and access criteria, is considered an antecedent of participation in health insurance. However, such mentioned factors are mediated by trust (one element of the social capital theory) that dictate and regulate bonding and capabilities concerning willingness to pay for health insurance among co-operative members.

Moreover, the study uses the institutional theory of organisation to investigate whether co-operative institutions' capabilities can intervene by moderating the relationship between co-operative members' health insurance literacy and participation in health insurance. Lastly, in establishing the relationship between participation in health insurance and changes in wellbeing status among co-operative

members, the theory of dispositional optimism is adopted to inform this study by introducing expectations and expectations levels as a mediator and a moderator in that link.

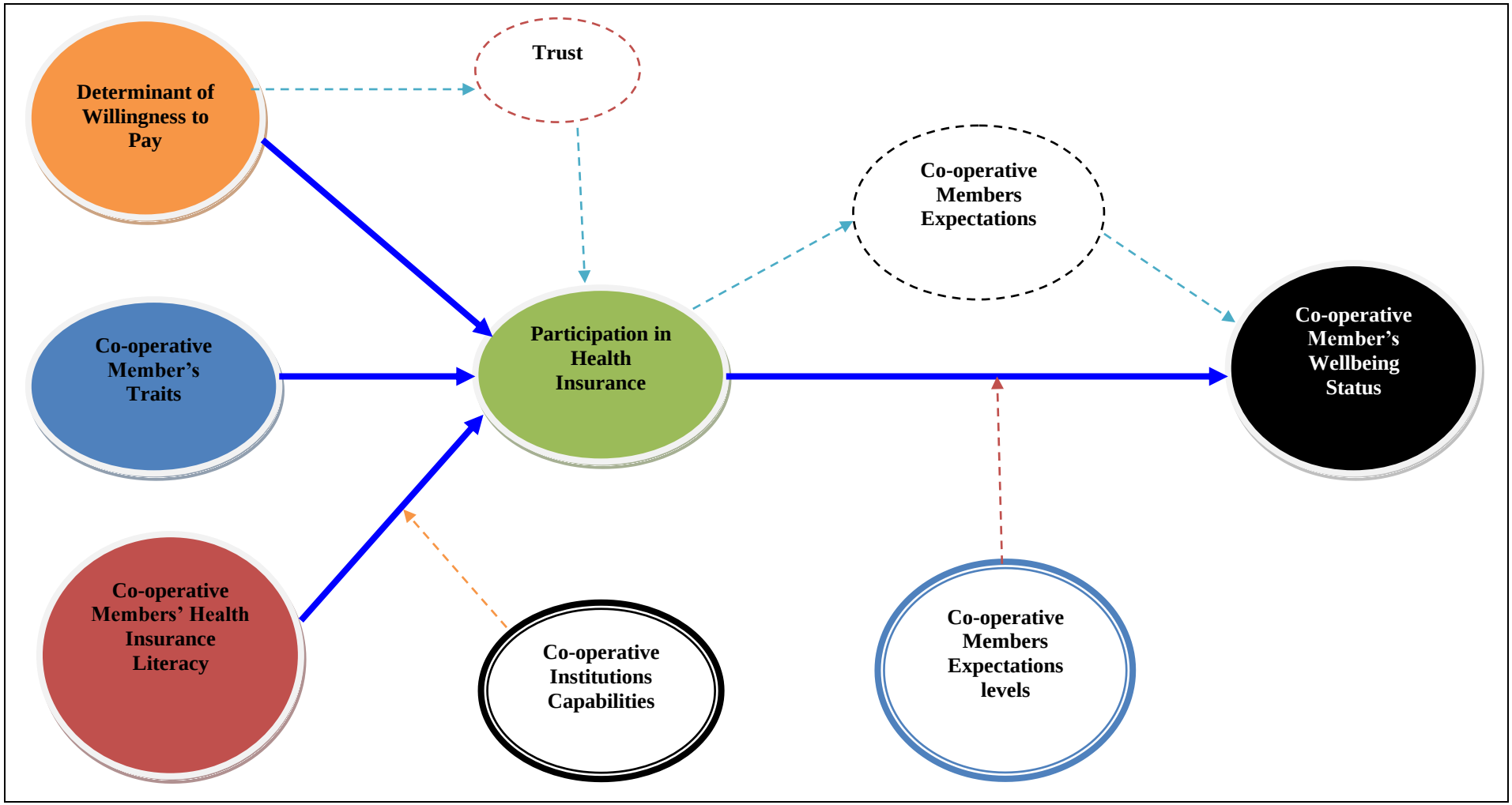

Figure 1: Conceptual Framework of the Study

1.7 General Methodology

1.7.1 Geographical coverage

Kilimanjaro and Arusha regions were selected to give out respondents for the study representing other regions of Tanzania where health insurance has been introduced to co-operatives. The area was selected because of its outstanding history of co-operative movement and practices. Arumeru and Moshi Districts were selected from the selected regions because co-operatives suiting this study's demands were available. Additionally, the area has quite a sufficient number of co-operative societies that are adequate to form a significant population for this study. Also, there is a relatively higher population with low and high-density areas comprising individuals with membership in different co-operatives and engaging in various social and economic activities in both formal and informal sectors. The heterogeneous nature of co-operative societies and members in the area is another reason that led to the choice of the area. This allowed for gathering and analysing assorted data in justifying antecedents and consequences of participating in health insurance among co-operative members. The co-operatives selected were Aranga AMCOS, Mrimbo Uuwo AMCOS, Marangu East AMCOS, Kikarola SACCOS, and Mamba South AMCOS. The selected co-operatives are currently or have been incorporated into health insurance operations by health insurance providers.

1.7.2 Research philosophy and approach

This is a quantitative study; hence, the positivism philosophical stance is its research philosophy. The philosophy has been selected based on the argument by Polit *et al.* (2001), who noted that the positivism philosophical tradition is commonly allied with quantitative studies. Also, positivism has been selected and is appropriate for this study because concepts are operationalised to measure facts quantitatively by reducing the problem into the simplest possible elements for better understating. Additionally, scholars such as Easterby-Smith *et al.* (2012) and Hughes (1994) believe that positivism philosophy best fits when the choice of what to study and the ways to study it is determined by objective criteria (that best describes this study) than by human beliefs and interests. This study adopted this philosophy because the role of the researcher was independent of the subject under examination, thus objective in concluding. To ensure objectivity in this study, the truth about the study

variables did not depend on the researcher's belief alone but on the ideas that can be verified through investigation and observation of external reality (Crossan, 2003).

Furthermore, positivism philosophy is warranted in this study because the aim was to identify causal explanations and guiding theories that explain human behaviour (in this case, co-operative member participation in health insurance) and its outcomes (that, among others, improvement in members' wellbeing status) (Creswell, 2009). Despite a significant criticism of the positivist approach that it does not provide the means to study human beings and their behaviours in an in-depth way, however, since most of the critical aspects that need to prevail were met as explained above, the adoption of this philosophical stance was relevant for this study.

As for the study approach, this study employed the deductive research approach. The approach is suggested when existing theories guide an investigation of the problem and adopt positivism as the philosophical stance (Saunders *et al.*, 2009), which is the case for this study. Also, this approach was adopted because the arguments used in this study were deductive. Sserwanga (2011) posits that an argument is deductive if its conclusion is a logical consequence of its propositions. This means a researcher takes a general theory, tests it, and subsequently reaches a specific conclusion at a valid position of reasoning within a particular context (Saunders *et al.*, 2011; Brink *et al.*, 2006).

Further, this study followed stages highlighted by Robson (2002) when adopting the deductive approach. The first stage is formulating a proposition from the theory that can be tested to show the relationship between variables. The second is to express the hypothesis in operational terms by indicating exactly how the variables will be measured and proposing a relationship between variables. The third stage is to test the proposed hypotheses. The fourth and fifth stages are concerned with confirming the theory, indicating the need for its modification, or, if necessary, modifying the theory in light of the findings. Since this study followed these stages and conformed to the arguments for deductive studies, the approach was relevant and appropriate.

1.8 Research Design

This study adopted a cross-sectional survey research design. The design involves collecting data at a particular point in time that is useful in obtaining the facts and perceptions of respondents. This design also helps to make statistical explanations

and inferences concerning key variables of the study (Saunders *et al*., 2011). Further, the design involves scrutinising events, objects, subjects, and ideas by analysing and describing a population's attitudes, opinions, or trends without attempting to control the condition of such phenomena (Asenahabi, 2019; Jongbo, 2014). Conforming to the above, in this study, the design allowed examining and establishing statistical relationships between the co-operative members' traits (attitude, behaviour, characteristics), health insurance literacy, willingness to pay and participation in health insurance together with how such participation affects the wellbeing status of co-operative members. However, this kind of research design is subjected to controlling against sample bias, which can impinge on the degree of the results' reliability and clarity on the generalisation of the findings to the population. Despite such faults, this design allowed this study to assess a wider diversity of behaviours and other phenomena in large groups of co-operative members with minimal effort and in a cost-effective way, as pointed out by Marczyk *et al*. (2005).

1.8.1 Population and Sampling Procedures

This study population was active co-operative members in co-operative societies integrated into operating health insurance services. Co-operatives are selected because of their unique way of operations that is based, among others, on voluntarism. Contrary to other organisations, co-operatives also accommodate and allow membership to more individuals with different social-economic characteristics. This heterogeneous nature of membership was thought to be essential in bringing triangulated views when analysing participation in health insurance among co-operative members.

The sampling unit for this study included all co-operative society members who have once benefitted or are benefiting from health insurance schemes that run through their respective co-operatives. At first, the purposive sampling technique was used to identify co-operative institutions and members that met the conditions to be included in this study. Purposive sampling was used in the study because it is a practical method for gathering relatively large samples from the targeted respondents (in this case, co-operative members from co-operative institutions) (Klar & Leeper, 2019). A purposive sampling strategy was inevitable because co-operatives are of different types comprising heterogeneous members. Purposive sampling, especially in heterogeneous populations, enhances the rigour of the study and the validity of the

information and findings by better matching the sample with pertinent and relevant information to the study objectives (Campbell *et al.*, 2020; Kelly, 2010; Palinkas *et al.*, 2015; Guarte & Barrios, 2006). Thus, the strategy enabled to sample only co-operatives and members who could provide relevant information regarding participation in health insurance and its related consequences.

Even though this method is subjective and relies on the researcher's knowledge and judgement, participation among respondents were still voluntary. The respondents (co-operative institutions and members) were identified to participate in the study not only to fulfil the study's participation criteria but also having an interest in the subject matter. Additionally, co-operative institutions and members were encouraged to participate in the study based on their capacity to advance knowledge in the topic at hand and their level of desire to do so, as proposed by Guarte and Barrios (2006) when adopting purposive sampling as one of the data collection strategies.

Moreover, a simple random sampling technique was applied to sample co-operative members to be involved in the study. By adopting this approach, each co-operative member who once enrolled or was benefiting from health insurance had an equal probability of participating in this study. All co-operative members meeting the criteria for this study had to be enumerated in ascending order in a table and then randomly selected to take part in this study. Despite the method falling short of sampling errors, less precision, and requiring high cost (Bornstein *et al.*, 2013), however, adopting this strategy is beneficial as it requires minimal familiarity with the study population and increases both the internal and external validity, yielding an unbiased sample that is representative of the target population (Acharya *et al.*, 2013; Faul *et al.*, 2007).

1.8.2 Sample Size

The minimum sample size that can be accepted for this study was determined by Cochran's (1977) formula. The formula, among others, considers the risk the researcher is willing to accept in the study; a 5% margin of error was acceptable for this study. The formula given below has been used to calculate the sample size in this study:

$$SampleSize(n) = \frac{Z^2_{\alpha/2}\, p(1-p)}{e^2}$$

Where:

n = probability of success alternative occurring in all sampled co-operatives

Z = standard normal value for the level of confidence desired (95%, i.e., 1.96)

p = percentage of target population approximated to have particular features (0.5)

e = the margin of error (5%)

From the formula:

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

$$n = 384$$

However, since the obtained result (n=384) using the formula above is the minimum sample that can be used, this study decided to increase the number of respondents involved. This was decided because there are no restrictions about the maximum; rather, a minimum sample size that can be involved in a study.

Nonetheless, the rule of thumb for sample size estimation when PLS-SEM is adopted requires a minimum sample size to be higher of either, 10 times the largest number of indicators in a construct or 20 times the number of constructs in a study (Hair *et al.*, 2017). For this study, the largest number of indicators in a construct is 15, and the number of constructs is 13. Thus, 10 times 15 *vis-à-vis* 20 times 13 yields 150 and 260, respectively. Therefore, based on this rule, the minimum sample size that could have been sufficient is 260 co-operative members. However, 550 responses were randomly collected from co-operative members to form the study's analysis base. Comrey and Lee (1992) and Wolf *et al.* (2013) opine that a sample size of about 500 or above is considered fit, sufficient, and good enough for quality structural equation model analyses. Yet, the sample size used in each study's objectives (i.e., the manuscript in each chapter) varies depending on the accuracy of respondents in filling out the questionnaire during data collection.

1.8.3 Data collection and measurement of the variable

A quantitative approach guided the study; hence, it was essential to employ quantitative methods and tools of data collection. A survey method was adopted by using a structured questionnaire to collect data. After getting all the ethical and data collection approvals (**See Appendix 2, pages 194-205**), data were collected from co-operative members who voluntarily decided to participate in the study in Arumeru and Moshi districts. The questionnaire was completed by the respondents themselves

(self-administered questionnaires). However, in some cases where respondents could not fill out the questionnaire, without bias, the researcher was obliged to assist them in completing the questionnaire. The average time spent by the respondents to complete the questionnaire was 60 minutes. The questionnaire was divided into two sections (**See Appendix 1, pages 186-193**). The first section included questions for respondents' demographic information and screening questions relating to health insurance for co-operative members. The second section comprised items that solicited information on key constructs of the study.

The key constructs of the study were member characteristics, attitude, behavioural control, price, trust, access, quality, members' expectations, changes in wellbeing status, health insurance literacy, co-operative institutions' capabilities and participation in the health insurance. A five-point Likert scale ranging from 1 to 5 whereby 1 stands for ‘strongly disagree’ to 5 that stands for ‘strongly agree’, was adopted to measure observed items in the key constructs of the study. The five-point scale was adopted based on the argument that it is more appropriate for people not exposed to Likert scale measurement, enabling them to make fine distinctions with an increased potential information gain (Krosnick & Presser, 2010; Paulhus, 1991). Thus, using a five-point scale for co-operative members was appropriate and relevant as most were unfamiliar with the Likert scale measurement.

The study had a total of 13 variables (constructs). Various indicators were adopted from previous studies to measure the constructs. The indicators for the *Attitude* construct were inspired by the work of Bandura (2006) and Ajzen (2001) while that of *Behavioural Control* by Ajzen (2002) and Ajzen (2001). *Member characteristics* indicators were the own researcher's constructs based on the impact of each indicator, as stated by Kusi *et al.* (2017), Agyepong *et al.* (2016), and Nsiah-Boateng *et al.* (2019). The items for the *Price* construct were adopted from the work of Sweeney and Soutar (2001), while those of the *Trust* construct were adapted from Boateng and Narteh (2016). The indicators for the *Access* construct were modified from the study of Liu *et al.* (2019), and the study by Lee (2017) and Urbach *et al.* (2010) inspired the formation of indicators for the *Quality* construct as far as health insurance service is concerned.

The indicators for *Participation in the health insurance* construct were conceptualised from the work of Rifkin (1986), and the tools were borrowed from Mladovsky (2014) and Liu *et al.* (2014) and then customised to reflect co-operative members' context. The construct for *Members' expectations* was measured through self-reporting questionnaires modified from the life orientation test (LOT-R) developed by Scheier *et al.* (1994) and customised to suit co-operative members' context. As for the construct, *Changes in the wellbeing status* of co-operative members and respective households were self-reported by reflecting the wellbeing dimensions as per AIHW (2021), OECD (2021), and OECD (2015). Members' *Health Insurance Literacy* was measured through self-reporting questionnaires that were adopted from McCormack *et al*. (2009), Huston (2010), Paez *et al*. (2014), and Quincy (2012) and customised to suit co-operative members' context. Indicators for *Co-operative institutions' capabilities* were customised from the study by Ansah *et al*. (2020) and Krammer *et al*. (2018).

Despite data collection tools being adopted from previous studies of a similar nature, a pilot study was undertaken to evaluate respondents' relevance and understanding of questions before collecting data. The pilot study was carried out in Moshi municipal involving members of various co-operative societies to ensure the data collection tools' reliability to the context of co-operative members in the study area. As Viechtbauer *et al*. (2015) suggested, the pilot included 55 respondents, accounting for 10% of the total study sample size. Following the pilot study, modifications were made to the questions to mirror and accommodate respondents' understanding. As part of these revisions, terminology and phrases irrelevant to the respondents' understanding levels were altered (e.g., the terminology “Family” were replaced with “household members”). The alterations made in the questionnaires enabled the collection of sufficient and relevant information on the variables of this study.

1.8.4 Data reliability, validity and analysis

One objective of this study was to analyse the determinants of willingness to pay for health insurance among co-operative members. A single Contingent Valuation Method (CVM) was used to elicit and estimate the amount co-operative members are willing to pay for the *Ushirika Afya* scheme. Respondents were given four ranges to choose from about the amount they were willing to pay for health insurance. The CVM was adopted because it can potentially enlighten the respondent directly about

the nature, depth, and monetary implications of the amounts on the table (Mathiyazhagan, 1998). After CVM, the relationship between other variables determining willingness to pay for health insurance was tested using PLS-SEM.

Moreover, in testing the relationship between and among variable constructs, the study adopted PLS-SEM (Hair *et al*., 2017; Hair *et al*., 2019) with the aid of SmartPLS 3.3.3-6 software (Ringle *et al*., 2015). Adoption of PLS-SEM was a must because this study's path models include formatively measured constructs (Hair *et al*., 2019). Also, PLS-SEM was adopted because the analysis in this study was about testing a theoretical framework from a prediction viewpoint (Hair *et al*., 2019). Moreover, PLS-SEM was adopted because this study's structural model was complex; that is, it contains many constructs and indicators involving analysis of the mediators and moderators (Hair *et al*., 2019). Also, PLS-SEM was adopted because it allows a distribution-free variance and gives maximum explained variance (Pahlevan Sharif & Sharif Nia, 2018). Nonetheless, PLS-SEM analysis is reliable and robust for estimating and evaluating multifaceted models with several constructs, indicators, and structural paths with only a few assumptions about data distribution and characteristics (Sarstedt & Mooi, 2019). Further, PLS-SEM is suggested to be used when evaluating models with limiting effects on both observed and latent indicators, as it is for this study (Pahlevan Sharif & Sharif Nia, 2018; Hair *et al*., 2017). Thus, adopting PLS-SEM was necessary as all the above-stated criteria are directly associated with this study.

When PLS-SEM is adopted, assessment of the results involves a two-step approach. The first step is an evaluation of the psychometric properties, the so-called measurement model, followed by the second one, which is the evaluation of the structural model (Hair *et al*., 2017). In psychometric properties, analysis is done to determine the relationships between constructs (variables) and their corresponding indicator variables to establish and test their validity and reliability (Hair *et al*., 2017; Diamantopoulos, 2008). For this study, assessing the measurement model as recommended by Hair *et al*. (2017) and Cenfetelli and Bassellier (2009) involved looking at convergent validity to test if a measure correlates positively with other measures of the same construct using different indicators whereby the construct scores should be 0.70 or higher. Then, scrutinising collinearity issues between indicators was done, and each indicator's variance inflation factor (VIF) value was

supposed to be lower than 5 (Hair *et al*., 2019). Lastly, the study examined the indicators' relative and absolute importance by looking at the indicators' outer weights and outer loadings, respectively.

The second step of evaluating the structural model concerns determining the model's capability to predict one or more target constructs. Hair *et al*. (2017) recommend basic things to be considered when evaluating the structural model. At first, the structural model is examined for collinearity among all sets of predictors. Following this, bootstrapping procedures are used to evaluate the significance of the path coefficients and look at the p-value (s), which should be less than 0.05 (significance level = 5%). Also, in evaluating structural mode, other criteria such as Coefficient of Determination (R^2 Value), Effect Size f^2, Predictive Relevance Q^2, and Effect Size q^2 can be analysed (Hair *et al.*, 2019). However, it is not a must to include all these criteria. The researcher can choose based on its appropriateness for the study when analysing the exogenous and endogenous constructs (Hair *et al.*, 2019).

1.9 Organisation of the Study

This thesis has six chapters. Chapter One presents an introductory part. This chapter forms the foundation of the study by providing information concerning the background of the study, statement of the problem, justification of the study, research objectives, research questions, theoretical foundation of the study, and general methodology. Chapter Two of the thesis is the first manuscript. This chapter provides information on the relationship between co-operative members' traits and participation in health insurance. Chapter Three is the second manuscript, which concerns trust and co-operative members' willingness to pay for health insurance. This chapter is followed by a third manuscript, forming Chapter Four. The chapter highlights the link between health insurance literacy and participation in health insurance among co-operative members, taking into account co-operative institutions' capabilities. Chapter Five of the thesis is the fourth manuscript, which relates participation in health insurance and changes in wellbeing status among co-operative members. The last chapter, Chapter Six, presents the summary, conclusions, recommendations, implications, and areas for further research as reflected in the manuscripts of this study. The manuscripts that form chapters Two to Five in this thesis have been published in peer-reviewed journals (**See Appendix 3, pages 207-236**).

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CHAPTER TWO

2.0 CO-OPERATIVE MEMBERS' TRAITS AND HEALTH INSURANCE PARTICIPATION BEHAVIOUR IN TANZANIA

2.1 Abstract

It is a global concern about participation gaps in health insurance among individuals. This paper investigates the impact of co-operative members' traits on health insurance participation behaviour. More specifically, using the Theory of Planned Behaviour (TPB), the article analyses the effects of members' attitudes, behavioural control, and characteristics on health insurance participation behaviour. This paper adopted a cross-sectional survey involving a study of 500 co-operative members. A five-point Likert scale was adopted to collect opinions on the impacts of independent variables on the dependent variable. The PLS-SEM was used to examine variables influencing co-operative members' participation in health insurance. Supporting the TPB, findings indicate that all three variables, namely, members' characteristics, attitudes, and behavioural control, positively and significantly influence health insurance participation behaviour among co-operative members. However, members' characteristics have a higher predictive value, followed by members' attitudes and behavioural control on influencing health insurance participation behaviour among co-operative members. Whenever achievable, insurers are encouraged and recommended to examine and consider co-operative members' traits that strengthen and increase their likelihood of participating in health insurance.

Key Words: ***Co-operatives; Health Insurance; Participation Behaviour, PLS-SEM***; ***Theory of Planned Behaviour,***

2.2 Introduction

Health insurance is pivotal in realising the Universal Health Coverage (UHC) initiatives. Extending its coverage across populations is among the contemporary issues dominating dialogues across the globe. International organisations such as the United Nations (UN), the World Health Organization (WHO) and the World Bank consider health insurance and assured health for all individuals as a focal objective of the 2030 agenda in the realisation of the Sustainable Development Goals (SDGs) (WHO, 2020; World Bank, 2019; UN, 2015). Health insurance is a basic right;

everyone should participate in the community (Devasoorya & Srinivasa Vallabhan, 2016). Participation in health insurance guarantees access to basic and quality medical care and reduces out-of-pocket (OOP) expenditure in a rally to improve quality of life (WHO, 2020; Wagstaff *et al*., 2016; Saksena *et al*., 2014). The absence of health insurance and low participation exposes individuals to health life-circle risks and challenges, leading to poor health and unproductivity, hence poverty (Osabohien *et al*., 2020; Stavropoulou *et al*., 2016; Drolet, 2016).

Statistics in 2019 show that about 46% of the world's population lacks essential health services (World Bank, 2019). Similarly, while the global average health exclusion rate is estimated to be 56% and 22% in rural and urban areas, respectively, the International Labour Organization (ILO) projects that more than 85% of the total population in sub-Saharan Africa lacks coverage of social insurance programs, health insurance inclusive (ILO, 2021; 2017). Thus, countries are called to initiate stronger linkages and better harmonisation between machinery geared to increase the number of people accessing and utilising health insurance globally (ILO, 2021). The target is to reduce the participation gaps, unequal access and utilisation of health insurance among individuals.

In response to that call, the majority of the Organization for Economic Co-operation and Development (OECD) countries have been making adjustments in their macro-fiscal and private health insurance financing patterns to enable its health systems to achieve the UHC objectives (Sfakianakis *et al*., 2020; Bergen *et al*., 2019; OECD, 2019). Furthermore, African countries, including Tanzania, have adopted Community Health Insurance strategies as a means to aid national health insurance systems in the financing, increasing access, efficiency and effectiveness relating to providing health services to individuals (Kigume & Maluka, 2021; Amani *et al*., 2020; Kapologwe *et al*., 2017; Mpambije, 2017; Waelkens *et al*., 2017). For example, in 2003, China launched the New Rural Co-operative Medical Scheme (NRCMS), covering more than 97% of farmers and rural dwellers in providing them with basic medical insurance (Chen *et al.*, 2018; Liu, 2016). In the United States of America, the implementation of the Patient Protection and Affordable Care Act (ACA) in 2010 has given the freedom to citizens to compare, choose and shop for suitable health insurance in an attempt to increase the affordability of health services to meet immediate health needs (Bauhoff, 2020).

In Tanzania, there is a health insurance scheme that has been designed to accommodate and allow community-based organisations such as co-operatives and their members to participate ((United Republic of Tanzania (URT), 2001). It is voluntary for the co-operatives and their members to join the insurance scheme, especially for those who belong to the informal sector or have no formal employment (Kigume & Maluka, 2021; Kapologwe *et al*., 2017). This is contrary to other individuals who belong to the informal sector or have no formal employment; joining health insurance schemes for them is a challenge. They are obligated and subjected to conditions that sometimes surpass their capabilities. Through co-operatives, such requirements are made easy, accessible, and more manageable by most individuals in the economy.

Contrary to other institutions, co-operatives' main objectives are to safeguard members and empower them against social-economic risks and contingencies (e.g., health insurance) irrespective of their social or economic status (Mchomvu *et al*., 2002). These institutions also accommodate and accept membership from large groups of individuals with diverse characteristics that other institutions cannot easily accommodate. Co-operatives have potential and distinct unique features that sharpen collective members' bargaining power for sustaining and addressing their needs and challenges relating to health insurance (Giaimo, 2013). Nonetheless, for those with formal employment and health insurance, being members of co-operatives gives them additional room to cover their households that cannot be covered statutorily. Thus, it is expected that once health insurance is offered through co-operatives, it would likely be preferred by majorities. This is because these institutions effectively deal with constraints and challenges encountered in other platforms relating to participation in health insurance.

Yet, the number of individuals (including co-operatives members) who have accessed health insurance schemes in Tanzania is truncating (Borghi *et al*., 2013). Statistics show that 85% of individuals have no access to health insurance services in the country (URT, 2022; Wajanga *et al*., 2022). Of the 15% of individuals who are covered, 8% are covered by the National Health Insurance Fund (NHIF), 5.4% by the Community Health Fund (CHF), and the remainder (2%) by private insurers (URT, 2022). Due to these low coverage rates, most individuals face health-related challenges, including partial treatment, postponed medical care, and catastrophic

health expenditures. Thus, it is crucial to understand individuals' (in this case, co-operative members) participation behaviour in health insurance in developing economies like Tanzania. This will eventually contribute toward initiatives to realise universal health insurance coverage in the country.

The fact that higher percentages of individuals are not participating in health insurance raises a question of the possible factors hindering them. However, literature highlights (e.g., Ebrahim *et al.,* 2019; Nsiah-Boateng *et al.,* 2019; Raza *et al.,* 2019; Chomi *et al.,* 2014) assert that individuals' characteristics, attitudes, and behavioural control influences participation in health insurance services. However, whether this holds for co-operative members needs to be justified. Nonetheless, most of the literature on health insurance participation focused much on consumer preferences (e.g., Amani *et al.*, 2020; Nsiah-Boateng *et al.*, 2019; Kimani *et al.*, 2012). Nonetheless, these studies focused on public health and paid less attention to the group influence on individual participation behaviour (e.g., Bauhoff, 2020; Wang *et al.*, 2020; Ebrahim *et al.*, 2019). Yet, the focus of the existing literature tends to pay less attention to co-operatives as appropriate institutions with uniqueness in their operations and different member compositions when it comes to increasing health insurance participation behaviour.

Moreover, studies on health insurance participation behaviour in the context of co-operatives, especially in emerging economies like Tanzania, are scanty. It is on these grounds, therefore, this study aims to examine the influence of co-operative members' traits on health insurance participation behaviour. This study adopts structural equation modelling as the analytical model and the Theory of Planned Behaviour (Ajzen & Fishbein, 1980; Ajzen, 1985) as its theoretical lens to analyse how co-operative members' attitudes and perceived behavioural control predict health insurance participation behaviour. Additionally, the study examines how co-operative members' characteristics drive participation behaviour in health insurance. The rest of the paper is structured as follows: the next section covers the literature review, theoretical underpinnings, hypotheses and conceptual model of the study. After that, methodology, findings and discussions follow and lastly, conclusions and recommendations of the study.

2.3 Literature Review and Hypothesis Development

Previous studies have identified factors limiting people from accessing and participating in health insurance systems. Such factors include a lack of knowledge and understanding of the principles of insurance and the quality of health services for the insured (e.g., Prakoso *et al.,* 2020; Alhassan, 2018, Fenny *et al.,* 2018; Umeh & Feeley, 2017; Farías, 2016; Kusi *et al.*, 2015); individuals' health status and history of chronic diseases (e.g., Chauhan, 2019; Minyihun, 2019); age and income (e.g., Amani *et al.,* 2020, Bauhoff, 2020; Nsiah-Boateng *et al.,* 2019, Ebrahim *et al.,* 2019) and education level and household/family size (e.g., Wang *et al*., 2020; Ebrahim *et al.,* 2019; Minyihun, 2019). However, all these studies have treated each factor independently when analysing its influence on health insurance participation. Independent treatment of variables in previous studies seems to be a partial measure of health insurance participation. Thus, this study combines all factors in aggregation to form a broader and inclusive measure of "members' characteristics" to limit elements of bias in concluding when analysing health insurance participation behaviour among co-operative members.

Also, attitude and behavioural control have been mentioned in the literature to explain participation in health insurance. Differences in individuals' actions as guided by attitude and behavioural control tend to affect health insurance operations. In other words, a high degree of members' heterogeneity in terms of behavioural control and attitude hinders effective participation and successful functioning of health insurance (Ebrahim *et al.,* 2019; Nsiah-Boateng *et al.,* 2019; Chomi *et al.,* 2014; East Africa Community (EAC), 2014; Peterson, 2012; Scheil-Adlung *et al.*, 2010; McCord & Osinde, 2005). It is thought that variability in individuals' intrinsic traits, attitudes and behavioural control govern their ability to make choices once they are comparing the expected utility values for participating in health insurance systems (Fenny *et al.,* 2018; Odeyemi, 2014; Scheil-adlung *et al.,* 2010; Schneider, 2004; Cheng *et al.*, 2003). However, to the authors' knowledge, attitude and behavioural control have not yet been tested in the co-operative context.

Nonetheless, like other individuals, co-operative members have traits that govern participation behaviours in any act. Such traits as behavioural control, attitude and characteristics have been reported to impact individuals' participation behaviour in health insurance. For Raza *et al*. (2019), Ellis (2016), and Carapinha *et al.* (2011),

negative attitudes and behavioural control have been a barrier towards effective decisions in taking part in a particular health insurance scheme. Further, Chemouni (2018) and Panda *et al.* (2015) argue that people's positive perceptions encompassing behavioural control and attitude influence and consent to their participation in health insurance. On the contrary, Adjabui *et al.* (2019) and Baillon *et al.* (2019) show that risk attitude and behavioural sensitivity do not justify a decision to participate in insurance for the uninsured.

Analyses in most studies are about individuals who are not members of co-operatives. For example, participation in national health insurance among urban poor (Nsiah-Boateng *et al.*, 2019), employees from different organisations on Islamic insurance (Raza *et al.*, 2019), and household survey on the behavioural breakdown of willingness to pay for health insurance (Baillon *et al.*, 2019). A few exceptions (e.g., Ebrahim *et al.*, 2019; Minyihun, 2019; Chemouni, 2018; Panda *et al.*, 2015) studied participation in community-based insurance systems whose operations resemble co-operatives. Most studies have not examined the extent to which dynamics in co-operative members' characteristics, attitudes and behavioural control drive decisions to participate in health insurance. Thus, their findings cannot be generalised to the context of co-operatives in analysing health insurance participation behaviour among members. This study, therefore, intends to fill that literature gap.

2.4 Hypotheses of the Study

Hypotheses of this study are developed based on the Theory of Planned Behaviour (TPB) propounded by Ajzen (1985). Proponents of the theory assume that attitude, subjective norms, and perceived behavioural control predicts behavioural intention, hence actual behaviour (Huda *et al.*, 2012; Syed & Nazura, 2011; Fishbein & Ajzen, 2010; Golnaz *et al.*, 2010; Shim *et al.*, 2001; Ajzen, 1991; Beck & Ajzen, 1991; Ajzen, 1985; Ajzen & Fishbein, 1980). However, other proponents such as Raza *et al.* (2019) and Sherma and Mannan (2015) claim that behavioural intention doesn't need to exist before actual behaviour performance as there is doubt if any gap exists between behavioural intention and actual behaviour performance. Thus, this study did not consider behaviour intention as a mediating predictor of actual behaviour performance in explaining health insurance participation among co-operative members.

2.4.1 Attitude

Through one's evaluative judgment, attitude best envisages intentions and behaviour towards participating in a particular behaviour (Fishbein & Ajzen, 2011; Ajzen & Fishbein, 1980). Based on the TPB arguments, attitude guides and enables individuals to evaluate behaviour towards a particular act (Huda *et al.*, 2012). Similarly, it is a critical factor towards changed decisions depending on the context and the matter on the table (Sharma & Mannan, 2015). Advocators of the theory argue that, whether favourable or unfavourable, any intention towards participation in an insurance act is assured and predicted by one's attitude (Huda *et al.*, 2012; Golnaz *et al.*, 2010). Nonetheless, studies (e.g. Echchabi *et al.*, 2016; Setyobudi *et al.*, 2015) indicate that attitude positively and significantly influences individuals' behaviour and decisions to participate in financial products such as insurance. From the co-operative's perspective, it is anticipated that co-operative members' attitudes, which can be favourable or unfavourable, shape and can alter decisions towards participating in health insurance. Hence, this study hypothesises that;

H1: Co-operative members' attitude influences participation behaviour in health insurance.

2.4.2 Behavioural Control

Perceived behavioural control involves one's established beliefs and perception of how easily or with difficulty one can fulfil the desire to perform a specific action (Sherma and Mannan, 2015; Corner and Norman, 2005; DeBarr, 2004). According to TPB, whenever individuals have confidence in the planned behaviour, they are expected to have a stronger performance of the behaviour (Ajzen, 2002; Ajzen, 1991), in this case, participation in health insurance. Empirical evidence shows that behaviour control and health insurance participation are related. One's behaviour control towards participation in health insurance is expected to be influenced by an individual's capability and how other people perceive their ability to handle issues relating to health insurance participation (Husin & Rahman, 2016; Sharma & Mannan, 2015). Studies by Raza *et al.* (2019), Mas'ud (2016), and Kim & Karpova (2010) report that behaviour control is said to influence individuals to purchase or participate in different insurance products. Thus, this study argues that in the context of co-operatives, members' behaviour control is likely to form a significant base when deciding whether to participate in health insurance. The more members have

confidence in their ability and how other members perceive them in managing health insurance, the more participation is expected. Hence, this study hypothesises that;

H2: Co-operative member behaviour control over insurance influences participation behaviour in health insurance.

2.4.3 Member Characteristics

While Fishbein and Ajzen (2011) argue that subjective norms determine individuals' actual behaviour and choices, this study proposes a different way of validating such a relationship. This study assumes that, for subjective norms to hold, that is, other people's perception and influence on the ability and belief of an individual concerning the performance of actual behaviour, co-operative member characteristics are important. Co-operative member characteristics embrace typical behaviour patterns, rationalisation styles and feelings that guide decision-making (Coaley, 2010; Kassin, 2003). Such characteristics significantly predict unpredictable decisions and actions based on individuals' intelligence, cognitive abilities, motives, values and attitudes (Carver & Scheier, 2000). Co-operative members' characteristics in terms of age, income, education level, knowledge and understanding of insurance are prerequisite conditions that differentiate one person from others in health insurance participation behaviour (Kassin *et al.*, 2021). In other words, decisions to participate in health insurance is expected to be effective when it consents characteristics of co-operative members (Nsiah-Boateng *et al.*, 2019; Kusi *et al.*, 2017; Agyepong *et al.*, 2016; Dror *et al.*, 2016; Adebayo *et al.*, 2015; Carrin *et al.*, 2005). Hence subjective norms are substituted by members' characteristics in explaining and determining their influence on health insurance participation behaviour. Thus, this study hypothesises that;

H3: ***Co-operative members' characteristics influence participation behaviour in health insurance***

2.5 Conceptual model of the study

This study is modelled based on two established elements of the Theory of Planned Behaviour along with an additional element. The adopted theory's conventional elements are co-operative members' attitudes and behavioural control, with co-operative members' characteristics as an added element. These elements are used as variables to study their influence on predicting health insurance participation behaviour among co-operative members, as seen in Figure 2.

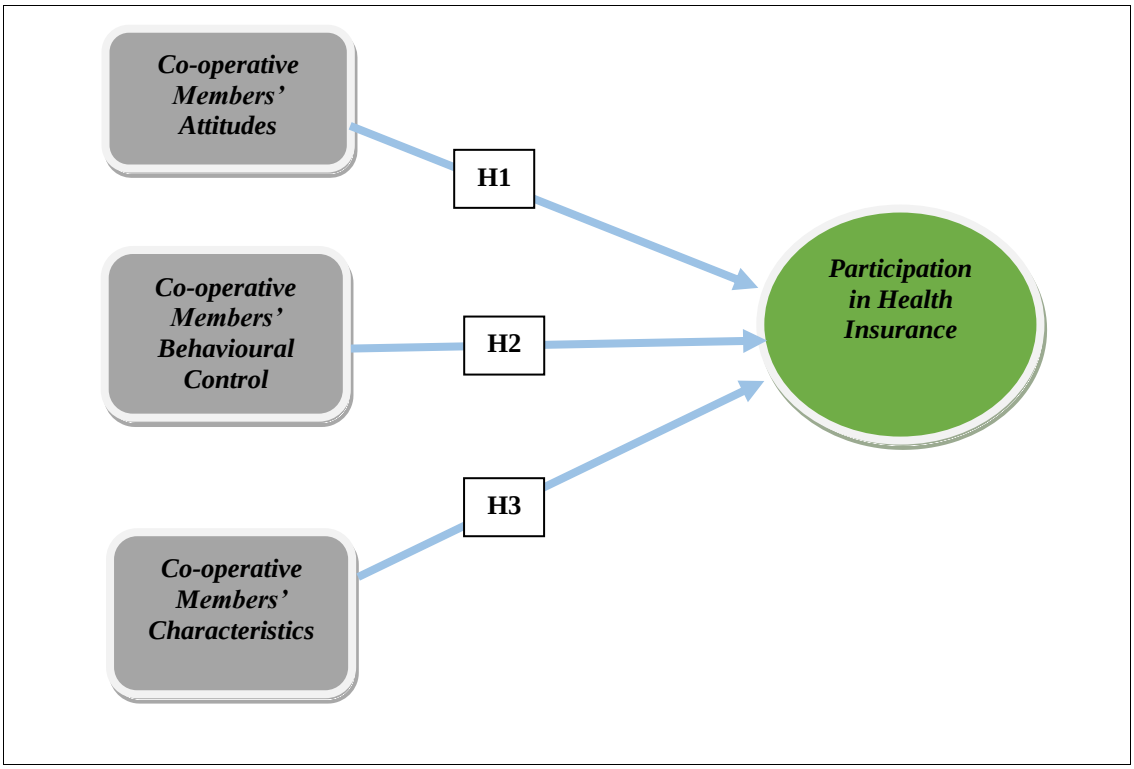

Figure 2 : Conceptual model of the study

2.6 Methodology

This study employs quantitative method research, which adopted a cross-sectional survey. This allowed analysing at one point in time the prevailing discrepancies in attitude, behavioural control and characteristics in a quest to understand health insurance participation behaviour among co-operative members. In attaining the study's objective, Kilimanjaro and Arusha were selected to represent other regions of Tanzania where health insurance has been introduced in co-operatives. These regions have been selected because of their remarkable history of co-operatives movements and practices. The selected area has co-operatives that comprise members of different characteristics, attitudes and abilities in behavioural control that emerge from diverse cultures, economic statuses and traits fitting the demands of this study.

The population for this study was active co-operative members in co-operative societies incorporated into running health insurance products. Moreover, the study sampling unit involved co-operative members who benefitted from health insurance schemes integrated into their respective co-operative institutions. At first, the purposive sampling technique was used to identify co-operative institutions and members that met the conditions to be included in this study. Purposive sampling was used in the study because it is a practical method for gathering relatively large

samples from the targeted respondents (in this case, co-operative members from co-operative institutions) (Klar & Leeper, 2019). The sample size for this study involved 500 co-operative members. At first, 550 responses were randomly collected from co-operative members to form the base of analysis in the study. After collecting responses, Hair *et al.* (2017) recommend addressing missing data and sceptical responses before the data analysis stage. Thus, 50 responses were dropped after checking for missing values and suspicious responses. Finally, 500 questionnaires were fit, sufficient and good enough for quality structural equation model analysis (Wolf *et al.*, 2013; Comrey & Lee, 1992).

A five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) was adopted to collect opinions on the influence of members' characteristics, attitudes and behavioural control on participation in health insurance. The adoption of the Five-point scale is based on the argument that it is more appropriate for people not exposed to Likert scale measurement, enabling them to make fine distinctions with an increased potential information gain (Krosnick & Presser, 2010; Paulhus, 1991).

The indicator constructs for attitude were inspired by the work of Bandura (2006) and Ajzen (2001), while that of behavioural control by Ajzen (2002) and Ajzen (2001). Moreover, the indicators for the member characteristics construct were inspired by the work of Nsiah-Boateng *et al.* (2019), Kusi *et al.* (2017), and Agyepong *et al.* (2016). Attitude, behavioural control, and member characteristics comprised 5, 5 and 6 indicators, respectively. Participation behaviour had 6 indicators. Partial least-square structural equation modelling (PLS-SEM) determined the extent of variables relationships and structural model association of this study with the aid of SmartPLS 3.3.3-6 software, as Hair *et al.* (2011) recommend. PLS-SEM is recommended when assessing complex models with restrictive effects on both observed and latent indicators, as it allows a distribution-free variance approach and gives maximum explained variance (Pahlevan Sharif & Sharif Nia, 2018).

2.7 Findings and Discussion

2.7.1 Social-demographic characteristics of the co-operative members

Table 2 shows the descriptive characteristics of the 500 co-operative members involved in this study. Among the members, 81.6% had membership in certain health insurance, while 18.8% were not. Most respondents were self-employed (61.52%).

Among these respondents, 35.5% had primary education, and 31.62% had certificate and diploma education. Also, most respondents were aged between 38 and 57 (52.94%), with membership in a particular society ranging from 1 to 10 years (70.34%). Moreover, 84.31% of the respondents were married and had a family size of 0-4 households (88.97%).

Table 2 : Social-demographic Characteristics of the Respondents (n=500)

Variable	Health Insurance Membership Status	
	Yes (n=408; 81.6%)	No (n=92; 18.4%)
Gender		
Male	278 (68.14%)	66 (71.74%)
Female	130 (31.86%)	26 (28.26%)
Marital Status		
Married	344 (84.31%)	79 (85.87%)
Others	64 (15.69%)	13 (14.13%)
Age Categories		
18-37	71 (17.40%)	15 (16.30%)
38-57	216 (52.94%)	49 (53.26%)
58-77	113 (27.70%)	27 (29.35%)
78+	8 (1.96%)	1 (1.09%)
Education Level		
Primary	143 (35.05%)	23 (25.00%)
Secondary	76 (18.63%)	17 (18.48%)
Certificate and Diploma	129 (31.62%)	38 (41.30%)
Degree	60 (14.70%)	14 (15.22%)
Employment/Occupation Status		
Government employee	83 (20.34%)	0
Private sector employee	74 (18.14%)	34 (36.96%)
Self-employed	251 (61.52%)	58 (63.04%)
Household Size		
0-6	320 (78.43%)	69 (75.00%)
7+	88 (21.57%)	23 (25.00%)
Number of Dependants in the Household		
0-4	363 (88.97%)	79 (85.87%)
5+	45 (11.03%)	13 (14.13%)
Co-operative Membership Time		
1-10	287 (70.34%)	62 (67.40%)
11-20	88 (21.57%)	23 (25.00%
21+	33 (8.09%)	7 (7.60%)

2.7.2 Formative Measurement Model

The model was formatively measured because each indicator explicitly captured the construct's domain (Hair *et al.*, 2017). Thus, convergent validity, collinearity between indicators and significance and relevance of outer weights need to be determined. Convergent validity refers to the degree to which a measure correlates positively with other measures of a similar construct using distinctive indicators. It is done by performing redundancy analysis where a correlation of above 0.70 in the formative indicator construct is agreed to be appropriate (Chin, 1998; Hair *et al.*,

2017). As seen in Figures 3, 4 and 5, redundancy analyses of the formatively measured constructs Characteristics, Attitude and Behavioural control generated scores of 0.736, 0.834, and 0.804, respectively; thus, all constructs conform to convergent validity.

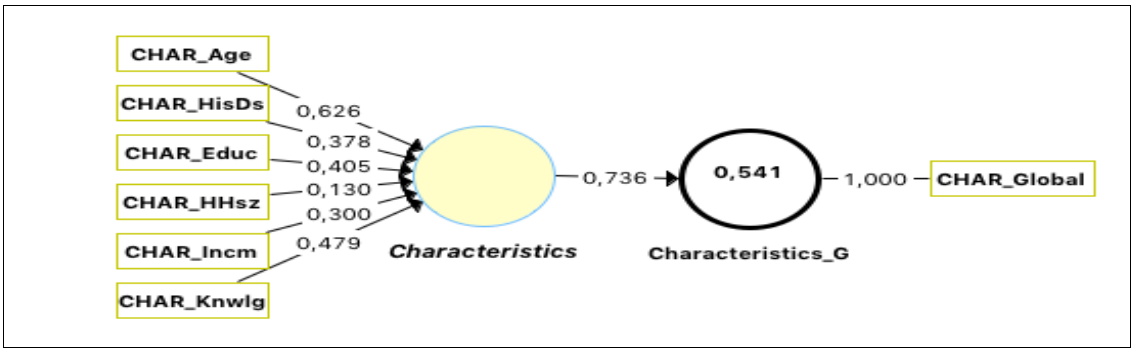

Figure 3 : Convergent validity for the construct *Co-operative Members' Characteristics*

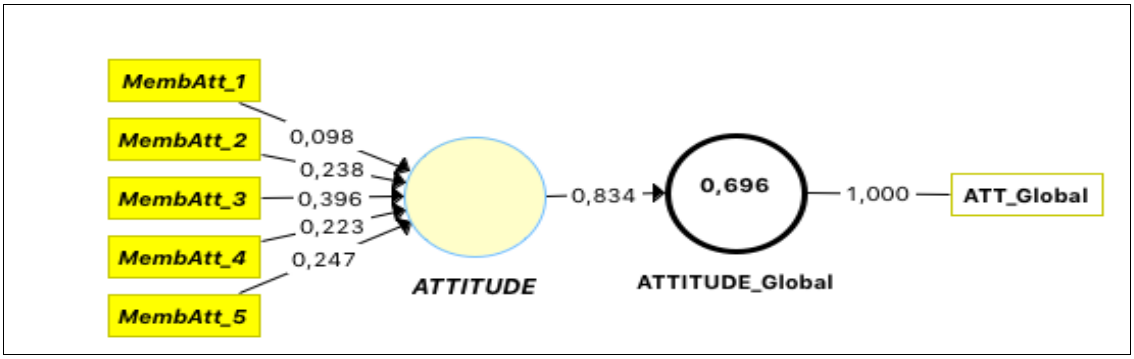

Figure 4 : Convergent validity for the construct *Co-operative Members' Attitude*

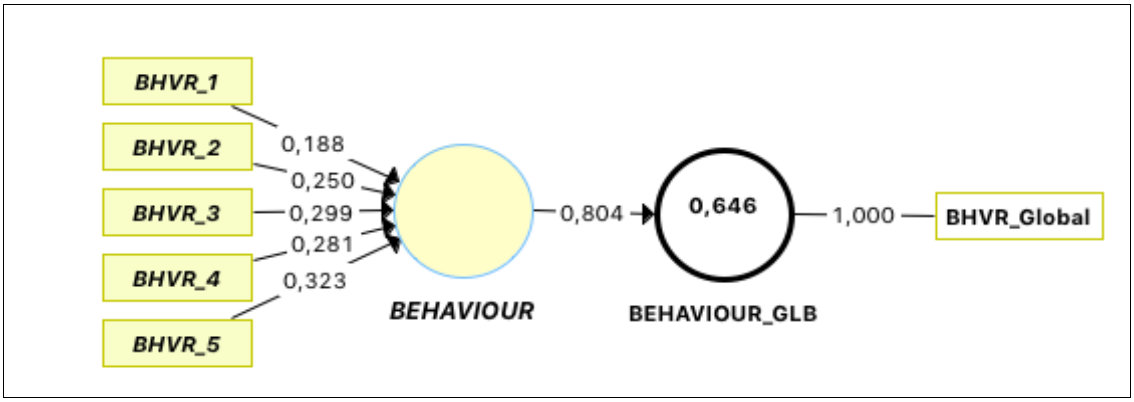

Figure 5: Convergent validity for the construct *Co-operative Members' Behavioural Control*

Next is the assessment of collinearity among indicators. The intention is to see if indicators with similar information address the same formative construct in the model. Hair *et al.* (2017) suggest looking at the variance inflation factor (VIF) as a proxy measure of collinearity. A value of VIF, less than 5 for an indicator, signifies

no possible collinearity among indicators (Hair *et al.*, 2017). Any indicator with VIF greater than 5 is recommended to be dropped as it may interfere with and affect the estimation of model weights (Hair *et al.*, 2017). The results of the collinearity test are shown in Table 3.

Table 3 : Collinearity Statistics

Formative Construct	Formative Indicator	VIF
Co-operative Members' Behavioural Control	BHVR_1	2.274
	BHVR_2	2.069
	BHVR_3	1.487
	BHVR_4	2.864
	BHVR_5	1.250
Co-operative Members' Characteristics	CHAR_Age	4.012
	CHAR_Educ	2.455
	CHAR_HHsz	1.364
	CHAR_HisDs	1.305
	CHAR_Incm	2.364
	CHAR_Knwlg	2.773
Co-operative Members' Attitude	MembATT_1	2.487
	MembATT_2	2.208
	MembATT_3	2.061
	MembATT_4	1.992
	MembATT_5	2.307
Participation in Health Insurance	PAT-1	1.021
	PAT-2	1.022
	PAT-3	1.054
	PAT-4	1.055
	PAT-5	1.223
	PAT-6	1.037

Results in Table 3 show ***CHAR_Age*** has a VIF value of 4.012, the highest among other indicators, but lower than the dawn value of 5. Thus, there is no potential threat of collinearity among formative constructs that might affect the estimation and evaluation of the structural model on participation in health insurance.

Also, we determined the outer weight and outer loading significance and relevance by performing bootstrapping. Table 4 shows formatively measured constructs results for behavioural control, characteristics and attitude, indicating estimates for outer weights, outer loadings, *t* values, *p* values, and confidence intervals obtained by the percentile method (BCa).

Table 4 : Formative Constructs Outer Weights Significance Testing Result

Formative Constructs	Formative Indicator	Outer Weights	Outer Loadings	T Values	P Values	95% BCa C.I	Significance p<0.05
Behavioural Control	*BHVR_1*	0.733	0.702	5.626	**0.000**	0.475,0.986	Yes
	BHVR_2	0.017	0.535	0.136	**0.892**	-0.232,0.247	No
	BHVR_3	0.296	0.523	3.897	**0.000**	0.150,0.449	Yes
	BHVR_4	-0.589	0.271	4.162	**0.000**	-0.853,-0.296	Yes
	BHVR_5	0.613	0.792	7.506	**0.000**	0.445,0.766	Yes
Characteristics	*CHAR_Age*	0.726	0.856	6.097	**0.000**	0.487,0.956	Yes
	CHAR_Educ	0.381	0.826	5.513	**0.000**	0.246,0.516	Yes
	CHAR_HHsz	0.115	-0.252	2.176	**0.030**	0.003,0.215	Yes
	CHAR_HisDs	0.415	0.562	7.577	**0.000**	0.305,0.518	Yes
	CHAR_Incm	0.183	0.652	1.831	**0.067**	-0.023,0.365	No
	CHAR_Knwlg	0.511	-0.507	5.765	**0.000**	0.346,0.691	Yes
Attitude	*MembATT_1*	0.010	0.587	0.035	**0.972**	-0.642,0.534	No
	MembATT_2	0.639	0.462	3.200	**0.001**	0.262,1.037	Yes
	MembATT_3	0.187	0.650	0.899	**0.369**	-0.234,0.584	No
	MembATT_4	-1.223	-0.316	9.019	**0.000**	-1.438, -1.011	Yes
	MembATT_5	0.669	0.401	3.016	**0.003**	0.220,1.075	Yes
Participation	*PAT-1*	0.005	0.647	0.105	**0.916**	-0.088,0.101	No
	PAT-2	-0.032	0.529	0.735	**0.462**	-0.119,0.058	No
	PAT-3	0.943	0.983	19.109	**0.000**	0.822,0.997	Yes
	PAT-4	0.185	0.691	1.824	**0.068**	0.002,0.401	No
	PAT-5	-0.319	-0.191	2.983	**0.001**	-0.525, -0.306	Yes
	PAT-6	0.470	0.373	2.351	**0.009**	0.005, 0.731	Yes

From table 4, except for the outer weights estimates of *BHVR_2*, *CHAR_Incm*, *MembATT_1, MembATT_3, PAT-1, PAT-2, and PAT-4*, all other formative indicators have $\rho < 0.05$; therefore, significant. Cenfetelli & Bassellier (2009) and Hair *et al.* (2017) suggest that when the indicator outer loading is insignificant but with a value > 0.5, it should be kept for analysis, otherwise removed as it is irrelevant in specifying contents explaining the formative construct. Since the outer loadings for indicators *BHVR_2, CHAR_Incm, MembATT_1, MembATT_3, PAT-1, PAT-2, and PAT-4* outer loading values are > 0.5, therefore, are kept in the model as significantly informs about the member characteristics, attitude, behavioural control and participation as far as health insurance is concerned.

2.8 Structural Model Measurement

In measuring the structural model, we measured the quality of the model by analysing its R Square to test for coefficient determination of all exogenous constructs to endogenous constructs in the model (Hair *et al.*, 2017). The results are shown in Table 5.

Table 5 : Coefficient Determination (R Square)

R Square		
	R Square	**R Square Adjusted**
Participation	0.569	0.567

The R Square measures the model's predictive power and signifies the shared outcomes of the exogenous latent variables on the endogenous latent variable. Hair *et al.* (2011) and Henseler *et al.* (2009) state that the R Square value between 0.50 and 0.75 moderately predicts the combined effects of exogenous constructs on endogenous constructs. With an R Square of 0.569, as seen in Table 5, attitude, behavioural control, and characteristics have moderate power, thus sufficient in predicting co-operative members' participation in health insurance.

Table 6: *f* Square Estimates

	Attitude	**Behavioural Control**	**Characteristics**	**Participation**
Attitude				**0.063**
Behavioural Control				**0.018**
Characteristics				**0.519**
Participation				

In relation to that, the ***f*** Square value measures the specific effect size of a certain exogenous construct in predicting the structural model. Also, it can be used to estimate the influence of omitted constructs on endogenous constructs. From Table 6, characteristics have a substantial effect (0.519), while attitude and behavioural control have, respectively, a medium effect (0.063) and no effect (0.018) on health insurance participation among co-operative members. Hair *et al.* (2017) state that ***f*** Square values less than 0.02 show no effect, and 0.02, 0.15, and 0.35 indicate small, medium, and large effects of the exogenous latent variable. Thus, omitting behavioural control in the model is possible to not affect its predictive power when analysing co-operative member participation in health insurance.

Next in the assessment of the structural model is the analysis of path coefficients and total effects of each exogenous construct, attitude, behavioural control and characteristics to exhibit its relationships to the endogenous formative construct, which is participation.

Table 7 : Structural Model Relationships

Relationship	Hypotheses	β	T Statistics	ρ Values
Attitude -> Participation	H1	0.171	2.899	**0.004**
Behaviour Control -> Participation	H2	0.115	2.056	**0.040**
Characteristics -> Participation	H3	0.629	11.838	**0.000**

Results in Table 7 indicate that members' behavioural control has very little significance ($\beta = 0.115$, $\rho < 0.040$) on members' participation in health insurance compared to other variables. Member's characteristics ($\beta = 0.629$, $\rho < 0.000$) are the dominating factor followed by members' attitude ($\beta = 0.171$, $\rho < 0.004$) in influencing participation in health insurance. Further, while all three variables are positive and significant, supporting all the hypotheses, member characteristics are the primary driver as they bear a higher positive coefficient, hence the strongest effect on member participation in health insurance than that of member attitude or member behavioural control.

Specifically, analysing characteristics constructs, age (similar to Amani *et al.*, 2020 and Bauhoff, 2020), knowledge of insurance operations (like Prakoso *et al.*, 2020 Alhassan, 2018, and Fenny *et al.*, 2018), and history of chronic diseases of members (as also reported by Chauhan, 2019 and Minyihun, 2019) are the main characteristics that should be emphasised and much attention put on them to sensitise co-operative members participation. It is not surprising age is the indicator with the highest outer weight in the characteristic construct. This is possible because in most co-operative societies, Agricultural and Marketing Co-operative Societies (AMCOS) in particular, older people constitute a large portion of the members' composition who might have been facing and/or pause challenges when it comes to health insurance participation. It is thought that health policy favours older people as they can access and use some health services freely, thus neglecting the importance of being covered by health insurance. Further, insurers consider older people a riskier group to insure as they are prone to several diseases that may increase the cost of running health insurance operations. This has led insurers to create strict conditions for older people when purchasing health insurance coverage.

Similarly, knowledge of members on health insurance operations scored relatively higher outer weights in forming the characteristic construct, contributing to

influencing member participation in health insurance. Knowledge of a particular issue forms the base for making an effective and informed decision, such as health insurance participation. Thus, in this study, members perceive that knowing how insurance operates for them and their significant others impacts their decision to participate in health insurance initiatives through co-operatives. Hence, increased knowledge and understanding among health insurance members allows them to make effective decisions regarding participation in health insurance.

Not surprisingly, results show that, compared with their counterparts, members with a history of chronic diseases are more ready and likely to participate in health insurance. When an individual faces prolonged cases of diseases, it is more likely they incur substantial out-of-pocket expenditure relating to health services. Thus, insurance becomes a cheaper option. Unfortunately, health insurance companies have conservative and strict conditions in ensuring ill-health people. This means for increased participation behaviour among co-operative members, prior explanations concerning the conditions and repercussions of ensuring ill-health individuals are crucial for making appropriate decisions.

Surprisingly, members' income had a lower impact on shaping member characteristics regarding health insurance participation in co-operatives. This contradicts the findings of Bauhoff (2020) and Nsiah-Boateng *et al.* (2019), who found a stronger relationship between income and health insurance uptake. The study findings imply that income was not a limiting issue for participation since each member has the freedom to choose the best insurance cover option based on their income. In some cases, the collective decision to participate in health insurance for co-operative society was made, and some money was paid for all members willing to join health insurance. However, to increase participation, health insurers' taking into account each member's income is paramount rather than evaluating an institution's ability as a whole. Participation is more for individual members and their household arrangements than an institutional concern.

Other indicators, such as the household size of members and education level, had a minimum outer weight, hence minimal contribution to shaping member characteristics and hence participation. However, these results contradict the results of Wang *et al.* (2020), Minyihun (2019) and Ebrahim *et al.* (2019), who reported a

positive influence of educational level and a negative impact of household size on health insurance participation.

Compared to characteristics construct results, the construct for co-operative members' attitudes has a lesser positive and significant impact on participation. These results disagree with Adjabui *et al*. (2019) and Baillon *et al.* (2019), who found no relationship between attitude and health insurance participation. For this study, these results mean whenever co-operative member attitude is positive on health insurance, probably more will be appealed to participate and likely to encourage others to join such insurance and vice versa. This is parallel with the results of Raza *et al.* (2019), Chemouni (2018) and Panda *et al.* (2015). Additionally, as attitude involves how people think, this indicates that co-operative members believe that health insurance is an investment and, hence, participating in it is an act of investing. Based on these results, therefore, attitude positively predicts and influences co-operative members toward participating in health insurance through co-operatives. Insurers dealing with health insurance need to consider the timing at which members' attitudes favour participating in health insurance if the goal is increasing participation. However, this pauses challenges as members' attitudes towards health insurance will likely change their likelihood to participate.

Similarly, member behavioural control positively and significantly influences participation in health insurance. This reflects results by Ebrahim *et al.* (2019), Nsiah-Boateng *et al.* (2019), and Mas'ud (2016), who found a positive relationship between behavioural control and health insurance participation. In other words, co-operative members believe and have confidence in their capabilities. Also, they believe that leaders and other members have required traits that increase their likelihood to participate in health insurance through their co-operatives. This was also argued by Rezaee *et al.* (2019) and Ellis (2016) in their studies that participation in health insurance is likely to increase if it conforms to one's pattern of behavioural control. As for this study, such behavioural control might have been developed based on daily routines relating to how they manage and perceive health issues and health insurance as far as co-operatives are concerned. Thus, having a grip and investing in understanding co-operative members' behavioural control patterns will increase participation in health insurance.

2.9 Conclusion and Recommendations

The study analysed members' traits' influence on co-operatives' health insurance participation behaviour. Supporting the Theory of Planned Behaviour, the results of this study indicate that co-operatives members' characteristics, attitudes and behavioural control positively influence participation in health insurance. Specifically, results regarding members' characteristics showed a stronger positive significant influence on participation than that of attitudes and behavioural control. This is to say knowing the insured in all dimensions that tend to affect their decision-making pattern is an essential step towards increased and sustainable participation behaviour in health insurance. For health insurance providers, inappropriate or un-understanding of co-operative members' characteristics, attitudes, and behavioural control will result in poor design and hence failure of insurance packages intended for them. Whenever achievable, insurers are encouraged and recommended to examine and consider members' traits that strengthen and increase their likelihood of participating in health insurance. Specifically, insurers should devise health insurance packages that accommodate all kinds of individuals by reflecting age, history of chronic diseases, income, and household size to increase the number of participants in health insurance. Also, insurers, government, and co-operatives should invest more in creating awareness programs that increase individuals' knowledge and understanding of health insurance operations. Hence, they make an effective and informed decision for participation.

Nevertheless, co-operatives leaders and insurers should increase transparency and accountability in dealings relating to health insurance to maintain co-operative members' beliefs and confidence in participating in health insurance. However, this study clarifies that member traits that encompass characteristics, attitude and behavioural control are not the only predictors of co-operative members' participation behaviour in health insurance. These variables (i.e., member characteristics, attitude and behavioural control) explain about 56.9% (i.e., R^2 value) in the variation of health insurance participation behaviour among co-operative members. The remaining 43.1% is still unexplained by the model in the current study. Thus, the study suggests further studies that consider other direct measured variables that might explain more about health insurance participation behaviour, considering laws, policies and regulations governing insurance and co-operative industries in emerging economies like Tanzania.

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CHAPTER THREE

3.0 MEDIATION EFFECT OF TRUST ON WILLINGNESS TO PAY FOR HEALTH INSURANCE AMONG CO-OPERATIVE MEMBERS IN TANZANIA

3.1 Abstract

This study analysed co-operative members' willingness to pay (WTP) for health insurance. The social capital theory was adopted to analyse the mediation role of trust issues on other variables determining co-operative members' WTP for health insurance. A single Contingent Valuation Method (CVM) was used to elicit and estimate the amount co-operative members were willing to pay for health insurance. The Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyse variables affecting co-operative members' WTP for health insurance. Findings indicated that most co-operative members were willing to pay for health insurance. Further, except for price, trust issues fully and partially mediate quality attributes and access criteria, respectively, when it comes to WTP for health insurance. Firm trust is required among co-operators, management, health insurers, and health facilities to increase WTP for health insurance among co-operative members.

Keywords: ***Health Insurance, Willingness to Pay, Trust, Co-operatives, Social Capital Theory, PLS-SEM***

3.2 Introduction

Globally, health insurance is financed either by the government or individuals or sometimes by both (Nosratnejad *et al.* 2017). Conventionally, health insurance financed by the government aims at maximising social welfare and ensuring equity in utilising healthcare services (Nosratnejad *et al*., 2017; World Health Organization (WHO), 2016). However, such governments' goals are constrained by inadequate fiscal space for health and priority gaps (WHO, 2021; World Bank, 2019). This forces individuals to look for alternative health insurance financing strategies to fill gaps left by the government. Individuals often opt for private health insurance or out-of-pocket expenditure to finance their healthcare needs. However, Balqis-Ali *et al.* (2021) and Sekhri and Savedoff (2005) posit that inequalities characterise private health insurance strategies available for individuals and, in most cases, increase exclusions gaps.

As a result of the above handicaps in health insurance financing, more than 50% of the global health expenditure, which amounts to more than USD 7.3 trillion annually, is from out-of-pocket (WHO, 2021). This is not preferred as high out-of-pocket expenditures result in financial hardship, causing millions of individuals, particularly those in the informal sector, to receive incomplete cures and give up on needed health care. Also, most individuals are pushed into extreme poverty and death (Amani *et al*., 2020; Wang *et al*., 2020; Fenny *et al*., 2018). Any government does not desire this situation. Thus, governments worldwide have been trying to implement initiatives to reduce out-of-pocket expenditures and increase the number of individuals with health insurance (International Labour Organisation (ILO), 2021; Amani *et al*., 2020). One recommended initiative involves co-opting member-based organisations such as co-operatives to supplement government initiatives to accelerate health insurance financing across populations.

Co-operative institutions have been regarded as palatable vehicles for all aspects of development throughout the globe (Henrÿ & Schimmel, 2011). These institutions play a significant role in poverty reduction strategies in such aspects as financial inclusion, education and training, agriculture, and social protection, among others (Burchi & Roscioli, 2022; Wanyama, 2014; Mchomvu *et al*., 2002). Within this context, co-operative institutions also stem as one of the key players in facilitating

and accelerating health insurance coverage for most individuals (ILO, 2021; ILO, 2017). Literature, including Seudiband and Amadu (2020) and Bastagli (2013), shows that the formation and operations of co-operatives accommodate and offer access to social health insurance to individuals neglected and denied by other formal institutions. Hence, countries across the globe are sensitising people to willingly subscribe to health insurance under co-operative institutions to mitigate health challenges and their related costs in an attempt to attain universal health insurance coverage (ILO, 2021; Amani *et al*., 2020; World Bank, 2019). Yet, the response is still low in most developing economies; most populations are not utilising health insurance services. This necessitates finding why individuals are not willingly paying or subscribing to health insurance initiatives, particularly the voluntary health insurance schemes operated in co-operative institutions.

In Tanzania, the government, through the National Health Insurance Fund (NHIF), created a unique voluntary health insurance scheme for co-operative members, namely "Ushirika Afya" in Kiswahili. The "Ushirika Afya" is a voluntary health insurance scheme designed to serve co-operative members who have no formal and conventional access to health insurance (United Republic of Tanzania (URT), 2001). For other individuals employed in the formal sector, health insurance is mandatory for all workers. Premiums are remitted directly to insurance schemes or companies as employers deduct from their salaries (ILO, 2021). The "Ushirika Afya" scheme was primarily designed for workers in the agricultural sector to serve members of agricultural and marketing co-operative societies (AMCOS). However, members of other forms of co-operatives can also join the scheme. "Ushirika Afya" act as a supplementary scheme for co-operative members employed in the formal sector and has a statutory health insurance cover. Therefore, the "Ushirika Afya" scheme has become one of the best platforms for health insurance inclusion for individuals statutorily excluded from accessing health insurance. While the scheme plays an essential role in facilitating health insurance, there have been limited empirical investigations showing the extent to which co-operative members and other individuals have utilised such a platform and willingly paid for it.

Health insurance under the "Ushirika Afya" scheme is relatively cheaper than other schemes. Under this scheme, each co-operative member and their spouse voluntarily pay an annual premium of TZS 76 800/- (approximately USD 33) and TZS 50 400/-

(approximately USD 22) for children under the age of 21 years. Also, banks in Tanzania, such as NMB Bank PLC, CRDB Bank PLC, and Tanzania Commercial Bank (TCB), offer free-interest health insurance loans to co-operative members to cover the above-stated premium costs. This is an opportunity for most individuals, particularly co-operative members, to increase enrolment in the scheme to expand health insurance coverage in Tanzania. Yet, large segments of the population, including co-operative members, still use out-of-pocket expenditures to address health needs (Kiguma & Muluka, 2021; Tungu *et al.*, 2020). Statistics show that only 32% of individuals have been accessing health insurance services in the country by 2019, whereby the NHIF covered 8%, while 23% by Community Health Fund (CHF) and the remaining (1%) by private insurers (URT, 2022; Embrey *et al.* 2021; Kiguma & Muluka, 2021). However, statistics in 2022 indicate that the total Tanzania population covered by health insurance declined to about 15%, of which CHF coverage decreased to about 5.4%, and NHIF remained at 8%. In contrast, private insurers increased coverage to about 2% (URT, 2022). This leaves about 85% of Tanzania's population without health insurance coverage (Wajanga *et al.*, 2022). This has led to challenges such as partial treatment, postponed medical care, and catastrophic health expenditure in case of illness and health eventualities (Wajanga *et al.*, 2022; Amani *et al.*, 2020; Wang *et al.*, 2020). The question under this situation is whether the opportunities presented in the "Ushirika Afya" scheme have stimulated willingness to pay for health insurance among co-operative members.

Since it is a voluntary scheme, willingness to pay for "Ushirika Afya" depends on the evaluated participation benefits among co-operative members. Also, as the reasons for the low willingness to pay for the mentioned scheme are unknown, recent evidence suggests that the quality of services, access criteria, and pricing are likely to be among the cause (Chaiyesh, 2022; Júnior *et al.*, 2021; Arkorful *et al.*, 2021; Amani *et al.*, 2020; Miti *et al.*, 2021; Wang *et al.*, 2020). Additionally, Campbell (2020), Fenenga *et al.* (2018), and Shan *et al.* (2016) suggest that how individuals trust the actors involved in the health insurance scheme can dictate and control their relationships and abilities in actions concerning willingness to pay for health insurance. So far, however, there is little discussion on whether quality attributes, price and access criteria relating to health insurance services affect co-operative members' willingness to pay for health insurance, "Ushirika Afya" in particular.

Moreover, the social capital theory postulates that trust issues can intervene and jeopardise individuals' effective decision-making regarding taking part willingly in various community interventions, particularly health insurance. However, whether trust issues intervene in co-operative members' willingness to pay for health insurance given the presence of other factors (in this case, price, quality attributes and access criteria) is yet to be studied. In this regard, a need emerges to undertake this study on co-operative members' willingness to pay for the health insurance scheme designed for them. The study findings are expected to bring new understanding to the scheme designers on areas for improvement and add to the body of knowledge in health insurance operations. This will significantly contribute towards issues that limit the realisation of universal health insurance coverage in Tanzania. Otherwise, the scheme will slowly incur natural death for not achieving the desired outcomes and leave the targeted group uncovered with health insurance. Hence, unimproved health, low production level among co-operators, and the country's underdevelopment in all aspects.

3.3 Literature Review

3.3.1 Willingness to Pay for Health Insurance

Willingness to pay for health insurance is a proxy measure of cost-benefit trade-offs and, hence, a significant factor for variations in using health services across populations (Folland *et al*., 2016). Researchers have investigated contributing factors that pause challenges for willingness to pay for health insurance schemes to most individuals to avoid out-of-pocket expenses for their health needs. Miti *et al*. (2021) and Amani *et al*. (2020) believe that price is among the key factors preventing individuals' willingness to pay for health insurance. In health insurance literature, price connotes the premium the insured should pay the insurer (insurance company) to be covered (Amani *et al*., 2020). From the basic principle of demand and supply, other things remain constant; the higher the price, the lower the quantity demanded, and vice versa. Therefore, as the amount of money one needs to pay for insurance premiums increases, the willingness to pay for those individuals decreases (Miti *et al*., 2021; Jofre-Bonet & Kamara, 2018).

Moreover, studies such as Arkorful *et al*. (2021), Pahlevan Sharif *et al*. (2021), Ebrahim *et al*. (2019), Minyihun *et al*. (2019), Biggeri *et al*. (2018), Lee (2017), Dror

et al. (2016), Panda *et al*. (2016) and Adebayo *et al*. (2015) argue that quality attributes for both insurers and health facilities affect willingness to pay for health insurance among individuals. Quality is considered to be the efforts by health insurers to preserve health and, in case of sickness or injury, to revive health safely and efficiently through the work of healthcare experts, institutions, and combined delivery systems (Lee, 2017; Dror *et al*., 2016). In line with that, Biggeri *et al*. (2018) and Adebayo *et al*. (2015) believe that quality should be guaranteed and effectively met in accepted standards for health insurance to be efficient. This means quality is positively related to willingness to pay for health services, particularly health insurance (Arkorful *et al*., 2021; Pahlevan Sharif *et al*., 2021; Ebrahim *et al*., 2019). Impliedly, higher quality of health facilities and insurance providers increases individuals' willingness to pay for health insurance. Higher quality services increase individuals' confidence in the service received and health assurance in case of illness.

Likewise, studies by Chiwire *et al*. (2021), Ebrahim *et al*. (2019), Duku *et al*. (2018), and Kusi *et al*. (2018) claim that access is another factor that is likely to influence an individual's willingness to pay for health insurance. For Duku *et al*. (2018), access is attributed to equity and easiness among individuals in getting health and healthcare services as reflected in such aspects as location and distance of health facilities. Similarly, Kusi *et al*. (2018) add that access is reflected in such terms as finding competent healthcare providers willing and able to serve individuals in a near and convenient locality. This is to say, as more individuals are given and open to access to health facilities, they will likely increase their willingness to pay for health insurance (Chiwire *et al*., 2021; Ebrahim *et al*., 2019). Thus, any deprivation and barriers to access to health facilities for insured and uninsured individuals may result in less willingness to pay for health insurance. This is because access barriers prevent individuals from effectively managing and taking charge of their health and well-being.

However, previous studies such as Arkorful *et al*. (2021), Chiwire *et al*. (2021), Miti *et al*. (2021), Amani *et al*. (2020), and Minyihun *et al*. (2019) mentioning just a few assumed uninterrupted relationships between price, quality, and access among others as to willingness to pay for health insurance. These studies claimed a linear and direct relationship exists between price, quality, and access as to willingness to pay

for health insurance. This claim seems inadequate since the process through which these variables affect willingness to pay for health insurance might be interrupted by other variables. There is a need to introduce an intermediating variable to explain the relationship among these variables better (Zein *et al.*, 2020). Thus, this study introduces trust issues as a mediator variable to explain this relationship.

Literature reveals that trust is likely to mediate other factors regarding individuals' willingness to pay for health insurance (Poan *et al.*, 2021; Zein *et al.*, 2020; Alhassan, 2018; Fenny *et al.*, 2018). This indicates that trust forms the basis for measuring perceived information, acts, and dealings. Also, Sutter and Kocher (2007) claim that trust determines information's worthiness and truthiness in making and shaping individuals' decisions. Therefore, it is common to understand that trust guides decisions to pay for health insurance willingly. Similarly, trust between and among individuals, systems, institutions, and the service receiver is the key to successful intervention, particularly in health insurance (Malerba, 2022; Saita *et al.*, 2016; Gilson, 2003).

A great deal of previous research into health insurance has focused on individuals stating the link between price, quality of services, access criteria, and trust on willingness to pay for it. The extent to which this link holds among co-operative members regarding health insurance, "Ushirika Afya", is still unclear. To establish such clarity, this study chains to this area of research by analysing co-operative members' willingness to pay for health insurance.

3.4 Theoretical Framework of the Study

3.4.1 The Social Capital Theory

This study is governed by the social capital theory (SCT). Proponents of the SCT argue that elements of social connection and ties govern interactions and provide generative benefits among individuals, groups, and community members (Savage & Kanazawa, 2002; Sommerfeld *et al.*, 2002; Putnam, 2000; Putnam, 1993; Coleman, 1990). Such interactions can be affected by such elements as the level of trust, solidarity, and reciprocity amongst individuals within the group or community (Moore & Kawachi, 2017; Putnam, 2000). These elements dictate bonding and regulate one's capabilities for decision-making and participation in social issues for equitable enjoyment of expected benefits (Ehsan *et al.*, 2019; Fenenga *et al.*, 2018;

Ko *et al*., 2018; Donfouet *et al*., 2011; Eriksson, 2011). Further, such elements can emanate as individual attributes (Islam *et al*., 2006; Portes, 1998) or external forces (group attributes) (Kawachi & Berkman, 2014), or as both individual and group attributes (Porta, 2015) when it comes to affecting and influencing the decision. This study confines itself to one central SCT element: trust. Trust is analysed to see how it dictates and regulates bonding and capabilities as to willingness to pay for health insurance among co-operative members. The adoption of the trust element is based on Putnam's (1993) argument that social capital is fundamentally the degree of trust between individuals that facilitates their actions and collaborations for mutual gain.

In Tanzania, co-operatives have gone through different apogees. At a time, co-operatives were very strong, and several initiatives through these institutions were successful. Also, there was a time when co-operatives lost their direction due to various reasons such as malpractices and embezzlement among leaders. This time co-operative members were marginalised and lost trust and hope. However, in the 1980s, co-operative revived and gained its lost glory. Following that revival, co-operatives have been assigned responsibilities and are used to speed economic development and improve members' welfare. One of the signed responsibilities is facilitating health insurance delivery through various schemes to its members who do not access it in conventional ways.

Based on the dynamics that co-operatives have gone through, the assumption is that members of co-operatives are likely to lose trust in their institutions and among themselves. In that regard, using social capital theory with an element of trust is appropriate for this study. So, we think for the co-operatives to be a vehicle to accelerate health insurance through these schemes, social capital is significant. The assumption is that if individuals trust each other and their institution, they are likely to increase their willingness to pay for health insurance through schemes such as "Ushirika Afya". Further studies in insurance affirm that social capital elements, trust in particular, increase willingness to pay and enrolment in health insurance given that other factors such as price, quality, access, and other benefits are in order (Campbell, 2020; Fenenga *et al*., 2018; Zhang *et al*. 2006; Granovetter, 2005). Hence, this study uses SCT to explain how trust issues will likely influence and control co-operative members' relationships concerning health insurance. Also, SCT explains abilities

regarding willingness to pay for health insurance, particularly *"*Ushirika Afya" and other health schemes meant for co-operative members.

3.5 Hypotheses Development and Conceptual Framework

3.5.1 Price

Literature pinpoints price as a proxy measure of an individual's ability to pay for financial services, particularly health insurance. They argue that price affects the ability of these individuals to join and renew and triggers dropout in many voluntary health insurance schemes (Miti *et al*., 2021; Jofre-Bonet & Kamara, 2018). Also, price is an exclusion driver for the majority to willingly pay for health insurance across countries (Miti *et al*., 2021; Jofre-Bonet & Kamara, 2018; Panda *et al*., 2016; Nsiah-Boateng & Aikins, 2013). Price influences and affects decisions for willingness to pay for health insurance by allowing individuals to analyse the perceived cost-benefit of the service. Thus, it is likely that whenever the price is in favour, the willingness to pay will be higher and vice versa. However, this is only known to the general public and individuals. Whether the same is likely to happen for co-operative members when it comes to paying for health insurance willingly is yet to be studied. Hence, this study hypothesises the following:

H1: Price has a negative relationship with willingness to pay for health insurance among co-operative members.

3.5.2 Quality

Literature indicates that the quality of the insurer and the health service provider determines individuals' willingness to pay for health insurance. Few to mention the willingness to pay for micro health insurance among rural and poor people (Dror *et al*., 2016), community-based health insurance (Ranson *et al.*, 2006), co-operatives health insurance (Alharbi, 2017; Aldosari *et al*., 2016), and mutual health organisations (Turcotte-Tremblay *et al*. 2012). Willingness to pay is stimulated when people are satisfied with the service quality (Arkorful *et al*., 2021; Alatinga & Fielmua, 2011). It creates a sense of confidence about the diagnosis and treatments individuals receive.

Also, quality attributes are related to the dropout or continued membership in terms of premium payments or contributions to voluntary health insurance schemes (Cheno *et al*., 2021; Amani *et al*., 2020; Minyihun *et al*., 2019; Dror *et al*., 2016; Mladovsky,

2014; Schneider, 2005). Here, quality attributes make individuals compare the amount and costs paid for health insurance and actual services received to justify if it is a fair deed. Any variations between the expected and actual quality of services form the basis for terminating the health insurance contract. Yet, of all this empirical evidence, little is known about whether quality attributes influence willingness to pay for health insurance among co-operative members. Thus, the following hypothesis is proposed:

H2: Quality of the service by insurers is positively related to willingness to pay for health insurance among co-operative members.

3.5.3 Access

It is also advocated that the insured's access to the service location determines willingness to pay for insurance services among individuals (Duku *et al.*, 2018; Kansra & Gill, 2017; Alatinga & Fielmua, 2011). Unlimited admittance to various health centres, forms and types is likely to influence willingness to pay for health insurance (Amani *et al*., 2020; Minyihun *et al*., 2019; Duku *et al*., 2018; Kusi *et al*., 2018). Inclusion or exclusion criteria on access to either public/government or private hospitals and specialised clinics where the insured are accepted for treatments influence decisions on willingness to pay for health insurance (Miti *et al*., 2021; Amani *et al*., 2020; Minyihun *et al*. 2019; Thomas & Sakthivel, 2015). This is because it increases confidence and guarantees the insured to get services without any exclusion criteria in all areas. Thus, any barriers to access, such as long distance to the health facility, denial of some services for the insured, and restrictions on the frequency of using insurance cards per day, are expected to reduce the willingness to pay for health insurance among individuals. However, to what extent and direction access affects willingness to pay for health insurance among co-operative members is still opaque to fill. It is therefore hypothesised that:

H3: Access criteria are negatively related to co-operative members' willingness to pay for health insurance.

3.5.4 Trust

Studies reveal that individuals do not trust and are not willingly paying for the existing health insurance systems. They fear losing their money in terms of annual insurance premiums, especially when they do not get sick (Liu *et al*., 2019). Further,

they hesitate to contribute such premiums to an organisation and individuals unfamiliar with them and have no relationship with them due to trust issues (Schneider, 2005). Lack of trust among individuals in the institutions or schemes offering insurance services results in low demand or minute response in contributions because premiums are paid in advance, and benefits are received in the future (Roy & Roy, 2020; Zein *et al.*, 2020; Liu *et al.*, 2019). Nonetheless, firm trust in service delivery increases individuals' response to willingly pay and participate in health insurance regardless of its prevailing conditions (Banerjee & Duflo, 2013; Kim *et al.*, 2013).

To revive trust and increase willingness to pay and participate in health insurance for those who are statutorily negated, governments and other key players have thought of and adopted co-operatives as a channel to deliver formal health insurance (Zeng *et al.* 2019). It is assumed that co-operatives' formation process and operations resemble the traditional way of helping each other in case of contingencies. Co-operative principles, values, and practices give a sense of trust to one another and any initiative that can be brought into it from outside. Nonetheless, it is the best source for financing health insurance and health care for household members (Zeng *et al.*, 2019; Wanyama, 2014). More precisely, trust is anticipated to positively affect the willingness to pay for health insurance when attributed to other factors like quality, price, and access to insurance services (Alhassan, 2018; Fenny *et al.*, 2018). Probably, the higher the trust, the more the willingness to pay for health insurance (Ebrahim *et al.*, 2019; Attia & Price, 2017). However, to the researcher's knowledge, limited studies have been conducted to justify whether trust issues have anything to do with the willingness to pay for health insurance among co-operative members. This has led to the formulation of the hypothesis that:

H4: Trust issues have a negative relationship with willingness to pay for health insurance among co-operative members

3.5.5 Hypothesised Mediation Effect of Trust on Willingness to Pay

Trust issues are expected to intervene in the relationships between price, quality and access and willingness to pay for health insurance among co-operative members. By starting with price, in most cases, the insured pays a certain premium when trust in the insurer prevails. The prevailing trust among the insured in the health insurance schemes or companies makes them continue to pay for health insurance willingly

(Zein *et al*., 2020). However, the ability to pay insurance prices may be affected by the variability in individuals' (in this case, co-operative members) trust in the insurers and management of co-operatives, which, in turn, affects willingness to pay for health insurance (Alhassan, 2018; Attia & Price, 2017). The assumption is that regardless of the co-operative members' ability to pay the premium set if they mistrust "Ushirika Afya" operations in various dimensions such as leadership, fund management, and alike, they will not willingly pay for the scheme. Therefore, we hypothesise that;

H5: Trust issues mediate the effect of price on co-operative members' willingness to pay for health insurance.

As for quality, dependable quality attributes increase individuals' trust in the services they receive, increasing their willingness to pay for the health insurance scheme (Ebrahim *et al*., 2019; Odeyemi, 2014). Quality raises individuals' trust in aspects such as preserving and reviving health safely and efficiently through the available delivery systems accepting health insurance (Lee, 2017). However, regardless of the quality of services, if members have trust issues, their desire and willingness to pay for health insurance are also affected (Ebrahim *et al*., 2019; Phe Goursat & Pellerano, 2016; Zhang *et al*., 2006). Based on the SCT affirmation, co-operative members' decision to willingly pay for the "Ushirika Afya" is expected not only on the scheme's quality but also on their trust, which determines bonding among each other and the management of the scheme. Thus, this study hypothesises that;

H6: Trust issues mediate the effect of quality on willingness to pay for health insurance among co-operative members.

Despite the insured's convenient access to health facilities determining their willingness to pay for insurance (Miti *et al*., 2021; Duku *et al*., 2018; Kusi *et al*., 2018), they always prefer accessing health facilities that they trust (Kim *et al*., 2013; Schneider, 2005). Overall, unlimited access to health facilities among the insured increases their confidence and guarantees them to get needed and preferred health services (Miti *et al*., 2021). This increases individuals' willingness to pay for health insurance (Minyihun *et al*., 2019). However, there is a need to assess whether trust issues intervene in co-operative members' willingness to pay for "Ushirika Afya" health insurance in given conditions for access. Therefore, it is hypothesised that;

H7: Trust issues mediate the effect of access criteria on co-operative members' willingness to pay for health insurance.

Based on the above hypotheses and by showing the relationship among the variables, the study is conceptualised as under: -

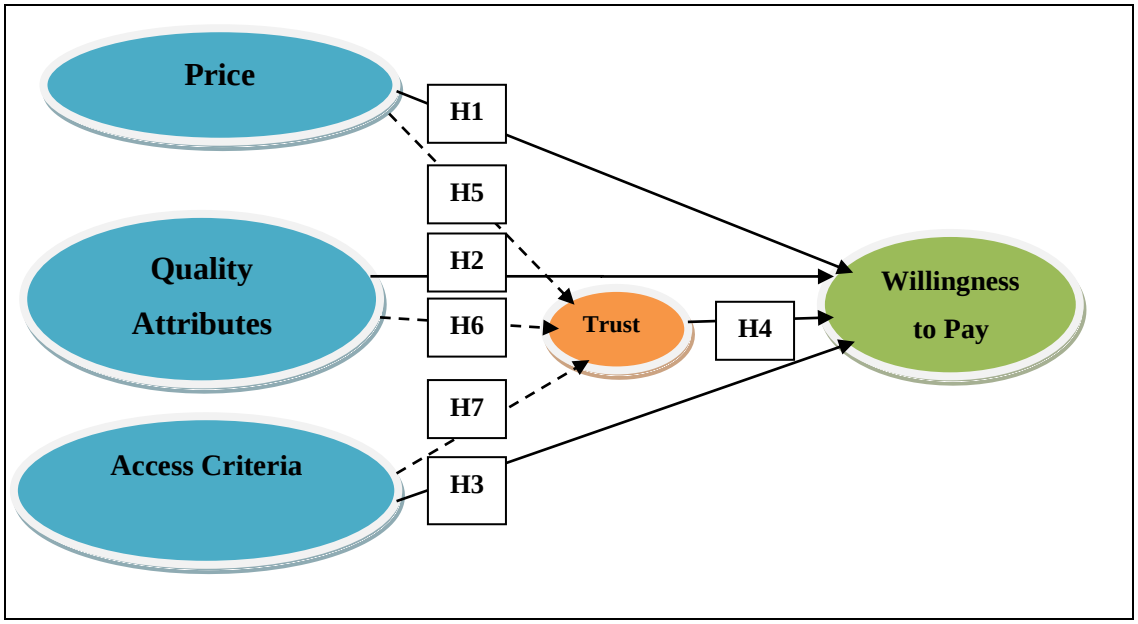

Figure 6 : Conceptual framework of the study.

3.6 Methodology

3.6.1 Study Design

Quantitative method research was adopted to measure the relationship between the independent variables (price, quality, access and trust) and the dependent variable (willingness to pay) mediated by trust. A cross-sectional survey design was used in this study. The design enabled the collection and analysis of data on the variations in independent variables to the dependent variable at a single point in time. Kilimanjaro and Arusha regions were selected to give out respondents for the study representing other regions of Tanzania where health insurance has been introduced in co-operatives. The area was selected because of its outstanding history of co-operatives movements and practices. Arumeru and Moshi Districts were selected from the selected regions because co-operatives suiting this study's demands were available. The co-operatives selected were Aranga AMCOS, Mrimbo Uuwo AMCOS, Marangu East AMCOS, Kikarola SACCOS, and Mamba South AMCOS. The co-operatives selected in the area comprise diverse members with different abilities relating to pricing, quality, access, and trust regarding willingness to pay for health insurance. Moreover, the selected co-operatives are currently or have been incorporated into health insurance operations by health insurance providers.

3.7 Data Collection Instruments

The questionnaires were developed using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) to collect opinions on the influence of independent variables (price, quality, and access) on the dependent variable (willingness to pay for health insurance ("Ushirika Afya")) when mediated by trust issues. The study adopted the Five-point Likert scale because the respondents involved in the study were not considerably exposed to the Likert scale measurement. Hence, the scale enabled them to make fine distinctions among variable parameters, increasing the potential for information gain (Krosnick & Presser, 2010; Paulhus, 1991). The development of questionnaires for this study was inspired and adapted from other previous studies. Then, it was refined and customised to suit the requirements of this study. The items for the price construct were adopted from the work of Sweeney and Soutar (2001). Moreover, the items for the *trust issues* construct were adapted from Boateng and Narteh (2016), while items for the *access criteria* construct were modified from the study of Liu *et al.* (2019). Likewise, Lee (2017) and Urbach *et al*. (2010) inspired the formation of items for the *quality attributes* construct regarding health insurance services.

3.8 Data Collection and Analysis Procedures

Before the data collection, a pilot study was conducted to test respondents' understanding and relevance of questions. The pilot involved a sample of 50 respondents, who accounted for 10% of the total sample size for the study. After pilot testing, alterations were made to the questions to reflect and fit respondents' understanding to collect sufficient and relevant information effectively. Such modifications included changing the terms and language irrelevant to the respondents' level of understanding.

A total of 550 responses were randomly collected from co-operative members to form the base of analysis in the study between August 2019 and December 2020. Data collection took a longer time than usual because of the COVID-19 pandemic. Due to the pandemic, local government authorities and co-operative leaders hesitated to permit data collection, and co-operative members were uncertain about participating in the study.

Hair *et al*. (2017) recommend addressing missing data issues and sceptical responses before the data analysis stage. They further state that in partial least squares structural equation modelling (PLS-SEM), a 10 times rule of thumb, that is, 10 times the largest number of formative indicators used to measure a single construct, can be used to determine the appropriate sample size for the analysis in the study. Since a single formative construct with the largest number of indicators had 4 indicators, 40 respondents were adequate for analysis in this study. However, from the 550 collected responses, 53 responses were dropped after checking for missing values and suspicious responses. Finally, 497 questionnaires were fit, sufficient, and good enough for quality structural equation model analysis, as Wolf *et al*. (2013) and Comrey and Lee (1992) recommended.

A single Contingent Valuation Method (CVM) was used to elicit and estimate the amount co-operative members were willing to pay for the "Ushirika Afya" scheme. Respondents were given four ranges to choose from about the amount they would pay for health insurance. CVM is a widely and commonly adopted survey-based technique to estimate individuals' WTP for a product not conventionally traded in the marketplace (Dror, 2014; Carson, 2001). In the insurance sector, CVM involves surveying the target populations' responses to the maximum price they would be willing to pay for hypothetical insurance products after being enlightened about their benefits (Dror, 2014). The technique was adopted because it allowed the researcher to get direct and explicit financial risk trade-offs of the respondents about the nature, depth, and monetary implications of the amounts on the table (Baker *et al*. 2014; Mathiyazhagan, 1998) for the "Ushirika Afya*"* insurance product.

Moreover, PLS-SEM is adopted to analyse variables that affect co-operative members' willingness to pay for health insurance. The model is used to determine the extent of variables relationships and structural model association in this study, as commended by Hair *et al.* (2011). PLS-SEM is adopted because it allows a distribution-free variance and gives maximum explained variance (Pahlevan Sharif and Sharif Nia, 2018). Further, PLS-SEM is suggested when evaluating formatively measured complex models with limiting effects on both observed and latent indicators, as it is for this study (Pahlevan Sharif & Sharif Nia, 2018; Hair *et al*., 2017).

3.9 Findings and Discussion

This segment presents the findings and discussion of the study. The first section discusses the descriptive findings of the study. A discussion of the measurement model, the structural model, and hypothesis testing follows. In the sections below, the phrase "willingness to pay for health insurance" is used to imply "willingness to pay for "Ushirika Afya" Scheme and other health insurance schemes/packages targeting co-operative members."

3.10 Descriptive Findings

Out of the 497 respondents who correctly and duly completed questionnaires, findings indicate that, on average, the number of household members was 5, while on average, each family had 3 dependants. The findings also indicated that the average age of the respondents was 50 years. Furthermore, findings indicated that 69% of the respondents were males while 31% were females. Findings also indicated that 84.7% of the respondents were married, 9.9% were single, 0.8% were divorced, and 4.6% were widowed. Additionally, it was found that 18.3% of respondents were government employees, 19.9% were private sector employees, 61.2% were self-employed, and 0.6% were unemployed. Out of 497 respondents, 492 were willing to pay for health insurance, while 5 were not, as shown in Table 8.

Also, the study intended to analyse if co-operative members were willing to pay above or below the prices offered by health insurance funds or companies. Currently, the NHIF charges an annual premium of TZS 76 800/- for each co-operative member and their dependents (Spouse and parents) and TZS 50 400/- for children below 18 years. They all receive the same service coverage in accredited health facilities. On the other hand, private health insurance companies charge annual premiums ranging from TZS 30 000/- (approximately USD 13) to TZS 220 000/- (approximately USD 94) per individual, with varied healthcare service cover based on the premium paid. Most members who were willing to pay for health insurance in this study (430=87.4%) (Table 8) were willing to pay the exact and relatively above the prevailing prices. However, this was for the members benefiting or integrated with the NHIF in the "Ushirika Afya*"* Scheme. Nonetheless, about 12.6% (62) of the respondents, particularly those insured by private health insurance companies, were reluctant to continue paying the current price and were willing to pay relatively below the prevailing prices.

Table 8 : Descriptive Findings

Variable	Willingness to Pay for Health Insurance		
	Yes (n=492; 98.99%)		No (n=5; 1.01%)
Pay Current Price	Yes (n=430;87.4%	No (n=62; 12.6%)	
Gender		N(497)	
Male		342 (69%)	
Female		155 (31%)	
Marital Status			
Married		421 (84.7%)	
Others		76 (15.3%)	
Employment/Occupation Status			
Government employee		94 (18.3%)	
Private sector employee		99 (19.9%)	
Self-employed		304 (61.2%)	
Average Age		50 years	
Average Household Size		5	
Average Number of Dependants in the Household		3	

Based on the "arm's length transactions" tradition, the findings indicate that most members receive relatively fair service for the price paid. Thus, additional prices should reflect further improvements in the quality of the services and more access to the facilities and services offered by respective schemes.

3.11 Formative Measurement Model

In PLS-SEM, either a reflective or formative measurement model can be adopted. This study adopted a formative measurement model to analyse the mediation effect of trust on willingness to pay for health insurance. The model was formatively measured because each indicator explicitly captured the construct's domain (Hair *et al.*, 2017). Thus, convergent validity, collinearity between indicators, significance, and relevance of outer weights were to be determined. In assessing convergent validity, a correlation of above 0.70 in the formative indicator construct is appropriate (Hair *et al.*, 2017; Chin, 1998). As seen in Table 9, redundancy analyses of the formatively measured constructs Price, Quality, Access, and Trust generated scores of 0.917, 0.761, 0.829, and 0.783, respectively. Thus, all of the constructs conform to convergent validity.

Hair *et al.* (2017) recommend looking at the variance inflation factor (VIF) as a proxy measure of collinearity among indicators. A VIF of less than 5 for an indicator indicates no potential collinearity among indicators (Hair *et al.*, 2017). The findings for the collinearity test are shown in Table 9, where all indicators have a VIF of less

than 5. Thus, there is no potential threat of collinearity among formative constructs that might affect the estimation and evaluation of the structural model on willingness to pay for health insurance.

Table 9 : Convergent Validity and Collinearity Statistics

Formative Constructs	Convergent Validity	Formative Indicator	VIF
Price	0.917	WTPHinsPrc1	1.194
		WTPHinsPrc2	1.004
		WTPHinsPrc3	1.193
Quality Attributes	0.761	WTPHinsQlty1	1.063
		WTPHinsQlty2	1.220
		WTPHinsQlty3	1.241
		WTPHinsQlty4	1.176
Access Criteria	0.829	WTPHinsAcs1	1.057
		WTPHinsAcs2	1.163
		WTPHinsAcs3	1.185
Trust Issues	0.783	CoopMembTrsPHins1	1.034
		CoopMembTrsPHins2	1.064
		CoopMembTrsPHins3	1.101
		CoopMembTrsPHins4	1.047
WTP	0.945	WTP1	1.047
		WTP2	1.025

Next was evaluating the indicators' outer weight, outer loading significance, and relevance. The assessment intends to measure indicators' exclusive significance and relevance in specifying contents and explaining the constructs (Hair *et al*. 2017). Table 10 shows formatively measured constructs findings indicating variables' estimates for outer weights, outer loadings, *t* values, and *p* values, together with confidence intervals obtained by the percentile method (BCa). The rule of thumb is that formative indicators' outer weights should be significant at $\rho < 0.05$, or the formative indicators' outer loading value > 0.5 so as to be kept for analysis, otherwise removed (Hair *et al*. 2017; Cenfetelli & Bassellier, 2009).

Table 10 : Formative Constructs Outer Weights Significance Testing Result

Relationship	Outer weights	Outer loadings	T Statistics	97.5% BCa C.I	P Values	Significance
Trst1 -> TRUST	0.557	0.609	5.198	0.344, 0.770	**0.000**	**Yes**
Trst2 -> TRUST	0.160	0.529	1.916	-0.010, 0.321	**0.055**	**No**
Trst3 -> TRUST	0.359	0.572	5.237	0.234, 0.498	**0.000**	**Yes**
Trst3 -> TRUST	0.550	0.649	7.033	0.414, 0.715	**0.000**	**Yes**
WTP1-> WTP	0.089	0.509	1.415	-0.033, 0.217	**0.157**	**No**
WTP2 -> WTP	-0.237	-0.634	2.234	-0.533, -0.017	**0.013**	**Yes**
Acs1 -> ACC	0.283	0.467	3.362	0.095, 0.430	**0.001**	**Yes**
Acs2 -> ACC	-0.062	0.518	0.845	-0.211, 0.076	**0.398**	**No**
Acs3 -> ACC	0.917	0.955	17.410	0.816, 1.021	**0.000**	**Yes**
Prc1 -> PR	0.022	-0.522	0.460	-0.279, 0.113	**0.645**	**No**
Prc2 -> PR	0.512	0.518	1.248	-0.850, 0.970	**0.212**	**No**
Prc3 -> PR	-0.185	-0.189	1.998	-0.650, -0.162	**0.046**	**Yes**
Qlty1 -> QLTY_	0.131	0.281	2.003	-0.006, 0.257	**0.045**	**Yes**
Qlty2 -> QLTY_	0.397	0.718	5.489	0.254, 0.535	**0.000**	**Yes**
Qlty3 -> QLTY_	0.630	0.862	8.431	0.489, 0.779	**0.000**	**Yes**
Qlty4 -> QLTY_	0.225	0.544	3.711	0.103, 0.341	**0.000**	**Yes**

In Table 10, the outer weights estimate for the formative indicators have $\rho < 0.05$ or the outer loading value > 0.5. Therefore, all the indicators having met the threshold are kept in the model as they significantly inform the key constructs of the study, that is, price, quality attributes, access criteria, and trust issues as far as willingness to pay for health insurance is concerned.

3.12 Structural Model Measurement

Structural model measurement involves the analysis of the total effects of each exogenous construct price, quality attributes, access criteria, and trust issues to exhibit its relationships to the endogenous formative construct, which is the willingness to pay for health insurance. Further, specific indirect effects were measured to assess the meditation role of trust issues on the willingness to pay for health insurance among co-operative members. Tables 11 and 12 show the results of hypothesis testing after the PLS-SEM algorithm analyses of the interactions stipulated in the conceptual model (Figure 5).

Table 11 : Total Effects

Relationship	Hypotheses	B	Standard Deviation	T Statistics	P Values
PR -> TRUST		-0.245	0.225	1.091	**0.276**
PR -> WTP	H_1	-0.122	0.053	2.311	**0.021**
QLTY_ -> TRUST		0.302	0.083	3.644	**0.000**
QLTY_ -> WTP	H_2	0.118	0.062	1.895	**0.058**
ACC -> TRUST		0.245	0.051	4.794	**0.000**
ACC -> WTP	H_3	0.136	0.053	2.552	**0.011**
TRUST -> WTP	H_4	-0.233	0.072	3.228	**0.001**

Analysis was performed to assess the role of price on willingness to pay for health insurance among co-operative members. The findings (Table 11) revealed that the price of health insurance in terms of premium paid significantly negatively impacts willingness to pay (H1: β = -0.122 t = 2.311 ρ = 0.021). Hence, H_1 is accepted; that is, the price has a negative relationship with willingness to pay for health insurance among co-operative members. From the findings, as health insurance prices increase by 1 unit, co-operative members' willingness to pay decreases by more than 12% and vice versa. These findings are in line with the studies by Miti *et al.* (2021), Amani *et al*. (2020), and Jofre-Bonet and Kamara (2018), who found that a higher premium for health insurance leads to a lower willingness to pay. Since price acts as a proxy measure of co-operative members' ability to pay, its increase jeopardises their willingness to pay for health insurance. Also, a price increase reduces the number of members who renew their membership, triggering dropout from health insurance schemes among co-operative members. However, the free interest health insurance loan given by banks (NMB, CRDB, and TCB) reduced the burden of finding the money to cover the premium costs. It stimulated willingness to pay for "Ushiraka Afya" among co-operative members.

Also, the study assessed the role of health insurance quality attributes on willingness to pay for health insurance among co-operatives members. Surprisingly, the findings (Table 11) revealed that the quality attributes of the health insurance provider and health facilities have no significant impact on willingness to pay (H2: β = 0.118 t = 1.895 ρ = 0.058). Hence, we fail to accept H_2 as quality attributes do not positively relate to the willingness to pay for health insurance among co-operative members. This shows that the relationship between quality and willingness to pay is insignificant. This means co-operative members' willingness to pay for health

insurance remains unchanged due to variations in the quality attributes of health insurance services. This finding contradicts previous studies' findings (e.g., Cheno *et al.*, 2021; Amani *et al.*, 2020; Alharbi, 2017; and Aldosari *et al.*, 2016) that quality influences willingness to pay and continued membership in health insurance schemes. The implication of this study's findings is that co-operative members do not consider quality attributes as one of the stimulants for their willingness to pay for health insurance. The current quality attributes of the health insurance and health facilities may possibly reflect what is expected of the amount or costs paid for insurance cover. However, these findings might indicate that something beyond quality attributes (e.g., Trust) is needed to stimulate and increase their willingness to pay for health insurance.

Further, the study analysed the influence of access criteria on willingness to pay for health insurance among members of co-operatives. The findings (Table 11) revealed that access criteria significantly positively impact willingness to pay (H3: $\beta = 0.136$ $t = 2.552$ $\rho = 0.011$). This shows a positive relationship between access criteria and willingness to pay for health insurance. Hence, we fail to accept H3 that access criteria are negatively related to willingness to pay for health insurance among co-operative members. As insurers and health facilities vary access criteria by 1 unit, willingness to pay varies by 13.6% in response to such variations in access criteria. This finding concurs with studies such as Amani *et al.* (2020), Minyihun *et al.* (2019), Duku *et al.* (2018), and Kusi *et al.* (2018). They claimed that unrestricted entry and convenient access to several types and forms of health facilities would likely influence willingness to pay for health insurance. This implies that willingness to pay for health insurance increases when co-operative members have more access without exclusions criteria to health facilities. This is to say the willingness to pay for health insurance rises when the insured co-operative members have confidence and guaranteed access to nearby public/government or private hospitals and specialised clinics without restriction and limited frequency of using insurance cards per day.

On the other hand, analysis was performed to assess the sole role of trust issues on willingness to pay for health insurance. The findings (Table 11) revealed that trust issues significantly negatively impact willingness to pay (H4: $\beta = -0.233$ $t = 3.228$ $\rho = 0.001$). This shows a negative relationship between trust issues and willingness to pay for health insurance. When trust issues increase among co-operative members to

the actors of health insurance by 1 unit, willingness to pay decreases by 23.3%, and vice versa. Thus, we fail to reject H4 as the findings indicate that trust issues negatively affect co-operative members' willingness to pay for health insurance. A negative relationship between trust issues and willingness to pay for health insurance was also reported by Liu *et al.* (2019), Barnes *et al.* (2018), Finkelstein *et al.* (2018), and Zein *et al.* (2018). Based on these findings, we believe that trust predicts and can mediate other variables towards willingness to pay for health insurance among co-operative members. When co-operative members trust health insurance providers, health facilities and their management, they will be more willing to pay for health insurance. Contrary to that, any negative variation in the degree of trust among co-operative members to the insurers and health facilities can impair patronage and sustainability of the health insurance scheme.

3.13 Mediation Analysis

Having analysed the significance of total effects in the model, the specific indirect effects were then analysed to test the mediation role of trust issues on willingness to pay for health insurance among co-operative members.

Table 12 : Specific Indirect Effects

Relationship	Hypotheses	B	Standard Deviation	T Statistics	P Values
QLTY_ -> TRUST -> WTP	H5	-0.070	0.035	2.021	**0.043**
PR -> TRUST -> WTP	H6	0.057	0.052	1.100	**0.271**
ACC -> TRUST -> WTP	H7	0.193	0.021	3.504	**0.000**

The analysis was performed to assess the mediating role of trust issues in the linkage between price and willingness to pay for health insurance. Despite the findings (Table 11) revealing the total effect of price on willingness to pay to be significant, the inclusion of a mediating variable (Trust issues) in analysing the impact of price on willingness to pay became insignificant (Table 12) (H6: $\beta = 0.057$ $t = 1.100$ $\rho = 0.271$). This shows that trust issues do not mediate the relationship between price and willingness to pay because the total effect and specific indirect effect were insignificant. Thus, we fail to accept H6. This means trust issues do not mediate the effect of price on co-operative members' willingness to pay for health insurance. These findings contradict Alhassan (2018) and Attia and Price (2017). They concluded that despite the ability to pay for the existing price, variability in members' trust affects their willingness to pay for health insurance. This study's

findings reflect that willingness to pay for health insurance is not affected by how co-operative members trust the insurers and health facilities but rather by their ability to pay the premiums for the service. These findings might imply that if co-operative members cannot afford to pay the premium for health insurance, their trust issues cannot be related to their willingness to pay for it. Moreover, these findings can be attributed to the free-of-interest health insurance loans given to co-operative members to cover the cost of premiums. Since the loan is given without interest and paid by the bank directly to the health insurance provider, they might not subject such payments to their trust issues on the respective schemes.

However, the relationship between quality and willingness to pay in the presence of a mediator reveals different findings. The findings were significant when mediation analysis was performed to assess the mediating role of trust issues in the linkage between quality attributes and willingness to pay for health insurance (H5: $\beta = -0.070$ $t= 2.021$ $\rho = 0.043$). With the inclusion of a mediating variable (Trust issues), the impacts of quality on willingness to pay became significant; that is, trust issues negatively and significantly mediate the effect of quality on willingness to pay for health insurance among co-operative members. Hence, we fail to reject H5. This shows trust issues fully mediate the relationship between quality and willingness to pay for health insurance because the total effect (Table 11) was insignificant. In contrast, the specific indirect effect (Table 12) became significant.

These findings imply that co-operative members' satisfaction with the quality attributes of the health insurance provider and health facilities alone cannot serve as a determinant to increase their willingness to pay for health insurance. This means that an increased willingness to pay for health insurance among co-operative members depends on how they enjoy and appreciate the quality of health insurance services and trust the schemes. These findings imply that for the co-operative members to pay for health insurance of a given quality attribute willingly, trust issues concerning the health facilities, staff, and medical equipment used to serve them should be minimal. These findings concur with other studies on quality influence on the willingness and intention to pay and use health insurance. Such studies are Arkorful *et al*. (2021), Ebrahim *et al*. (2019), and Phe Goursat and Pellerano (2016). They found that in the presence of trust, quality factors positively influence individuals' willingness to use and pay for health insurance.

The study also analysed the mediating role of trust issues in the linkage between access criteria and willingness to pay for health insurance. The findings (Table 11) revealed that the total effect of access criteria on willingness to pay was significant ($\beta = 0.136$ $t = 2.552$ $\rho = 0.011$). With the inclusion of the mediating variable (Trust issues), the impact of access on willingness to pay also became significant (Table 12) (H7: $\beta = 0.193$ $t = 3.504$ $\rho = 0.000$). This shows that trust issues partially mediate the relationship between access criteria and willingness to pay for health insurance because the total and specific indirect effects become significant. Hence, H7 is accepted as trust issues mediate the effect of access on willingness to pay for health insurance among co-operative members. Such a relationship was also reported by scholars, including Ebrahim *et al*. (2019), Alhassan (2018), Fenny *et al*. (2018), and Attia and Price (2017). Thus, favourable access criteria alone do not fully guarantee an increased willingness to pay for health insurance. Co-operative members must also trust individuals or institutions offering health insurance and health services to increase their willingness to pay. Whenever co-operative members incline trust issues with the operations of the health insurance scheme or management of their co-operatives, their willingness to pay is likely to decline regardless of the access criteria that are in place. This means that despite having unrestricted or biased access, they should not fear being serviced by unfamiliar individuals or institutions for them to pay for health insurance willingly. On the other hand, given the access criteria, when co-operative members fully trust the health insurance system and co-operative management, their willingness to pay for health insurance is more likely to increase.

3.14 Theoretical Implications, Conclusion, and Recommendations

3.14.1 Theoretical Implications of the Study

The findings of this study hypothesise two interesting theoretical inferences for scholars. First, even though social capital theory hypothetically emphasises trust to mediate the relationship between price and willingness to pay, this study's findings contradict the theory as trust issues had no role in the co-operative members' context. However, price negatively and significantly influences co-operative members' willingness to pay for health insurance. The second implication of the study is the absence of a direct relationship between quality attributes and willingness to pay for health insurance in the structural model. At the same time, mediation analysis incorporating trust issues revealed a relationship between quality attributes and

willingness to pay for health insurance. This supports the social capital theory as trust issues among co-operative members proved to dictate and regulate bonding and capabilities as to willingness to pay for health insurance. The implication is that the degree of trust among and between co-operative members facilitates their actions and collaborations as to their willingness to pay for health insurance. Thus, whenever individual co-operative members or groups of members incline a huge trust in health insurance actors, they will expect health insurance services to be of reasonable quality with minimum barriers to access to pay for it at a given price willingly.

3.15 Conclusion and Recommendations

Overall, co-operative members are willing to pay for health insurance at the current price and even at a relatively higher price, given that they trust the scheme and barriers to access are moderate. On the contrary, in the absence of trust as the mediator, quality attributes do not influence willingness to pay for health insurance among co-operative members. Also, the study findings indicate that except for price, trust issues fully and partially mediate quality attributes and access criteria, respectively, as to willingness to pay for health insurance among co-operative members.

For this, willingness to pay for health insurance is affected by trust issues relating to health insurance quality attributes and access criteria among co-operative members. Hence, for an increased willingness to pay for health insurance among co-operative members, firm trust is needed among co-operators, management, health insurers, and health facilities. Also, for this to work, co-operative leaders in corroboration with health insurance providers and health facilities must strive to ensure appropriate and acceptable quality of health insurance packages and services of the health facilities accredited to serve the insured.

Similarly, reduced barriers, guaranteed access to nearby health facilities, and the frequency of insurance card usage per day were also related to an increased willingness to pay for health insurance among co-operative members. Thus, health insurance operators must devise mechanisms in place that intend to create more room for insured co-operative members and other individuals to access health services smoothly and conveniently. Implementing the above will contribute significantly to the initiatives towards realising universal health insurance coverage in Tanzania.

3.16 Limitations of the Study

Despite the study's significant contribution to practical and theoretical aspects regarding willingness to pay for health insurance, the base for analysis resides only on co-operative members. Thus, one should generalise this study's findings cautiously as the idea of willingness to pay for health insurance cuts across diverse populations. Yet, the stated limitation does not nullify the significance of this study findings and its contribution to the literature on health insurance. The study is a base for future empirical studies investigating the willingness to pay for health insurance in Tanzania.

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CHAPTER FOUR

4.0 MODERATION EFFECTS OF CO-OPERATIVE INSTITUTIONS' CAPABILITIES ON THE RELATIONSHIP BETWEEN HEALTH INSURANCE LITERACY AND PARTICIPATION IN HEALTH INSURANCE AMONG CO-OPERATIVE MEMBERS IN TANZANIA

4.1 Abstract

The rationality of the decision to use health insurance depends on the individuals' health insurance literacy (HIL) level. HIL facilitates health information-seeking behaviour among individuals and helps providers and intermediaries offer clients timely and suitable health insurance. This study adopted the institutional theory of organisations as the theoretical lens to analyse the relationship between HIL and health insurance participation among co-operatives members. The study also assessed the moderation effect of co-operative institutions' capabilities on the relationship between HIL and participation in health insurance among co-operative members. Using the sample of 480 co-operative members, Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to test for the direct influence of HIL on participation in Ushirika Afya health insurance and the moderation role of co-operative institutions' capabilities in this relationship. Findings indicate that HIL is a significant factor influencing participation in health insurance, particularly in Ushirika Afya. On the moderation effect, the link between HIL and participation in Ushirika Afya health insurance is strong when the co-operative institutions' capabilities level is high. It weakens when the institutions' capabilities level is low. For sustainable participation in health insurance among co-operative members, it is crucial to formulate awareness programs and continuous training to increase HIL. Moreover, to build strong co-operative institutional capabilities, there is a need to increase initiatives in such aspects as management training in various dimensions relating to health insurance operations.

Keywords: ***Health Insurance Literacy; Health Insurance; Institutional Theory of Organizations; Institutional Capabilities; Co-operatives; PLS-SEM.***

4.2 Introduction

Recent developments in health insurance have highlighted the need for an increased interest in health insurance literacy (HIL). HIL is the degree to which a person has the knowledge, ability, and confidence to find and evaluate information regarding health plans. It also involves choosing the best health plan for their own and their family's financial and health circumstances and using it once enrolled (Quincy, 2012). It is from this meaning that HIL facilitates information-seeking behaviour that helps individuals to make appropriate decisions and reasonable risk transfer to participating in health insurance (Koh, 2022; Liu *et al*., 2021; Mamun *et al*., 2021) and helps intermediaries to offer clients with a timely and suitable health insurance support (Edward *et al*., 2022). Health insurance requires consumers to have awareness and adequate knowledge, understanding, skills, and confidence to make effective and efficient purchasing and using decisions (Huston, 2010).

Previous studies have reported that health insurance knowledge and understanding are related to individuals' sufficiency in HIL (Edward *et al.*, 2019). This is to say, HIL plays a significant role in health insurance participation among individuals. HIL facilitates the design and delivery (Bartholomae *et al.*, 2016); selection, understanding, and utilising (Nobls *et al.*, 2018), and easy and timely communication among health insurance stakeholders (Call *et al.*, 2021; Williams *et al*., 2021; Tipimeni *et al.*, 2018). Thus, successful operations, increased enrolment, and participation in health insurance among individuals depend on their HIL level (Edward *et al.*, 2019). However, the concept of HIL is relatively new in most emerging economies, particularly regarding the co-operative members' context. Nonetheless, while the idea of HIL stems as an important criterion for making effective decisions regarding health insurance (Koh, 2022), what is not yet clear is how HIL impacts co-operative members' decision to participate in health insurance.

Co-operative members in Tanzania have been introduced to a health insurance scheme called "Ushirika Afya". The scheme operates under the National Health Insurance Fund (NHIF) as one of the important health plans for co-operative members to improve their health and wellbeing (URT, 2001). The participation decision in this scheme is voluntary. Along with this available platform, however, participation in health insurance schemes in Tanzania varies across populations (including co-operative members). The highest participation and coverage percentage

reported was 32% of Tanzania's population in 2019-2020. In that percentage coverage, the Community Health Fund (CHF) constituted about 23%, NHIF 8%, and private health insurance companies contributed less than 1% (United Republic of Tanzania (URT), 2022). Such improved coverage led the population to benefit from access, quality, effectiveness, and efficiency in the healthcare system (Amani *et al.*, 2020).

However, from 2020 to date, health insurance coverage has decreased drastically to about 15% of the total Tanzania population. Of this, CHF coverage has reduced to about 5.4%, and NHF remained at 8%, whereas private insurers increased coverage to about 2% (URT, 2022). This leaves about 85% of Tanzania's population (co-operative members inclusive) without health insurance coverage. The decline in coverage could have been attributed to variations in HIL among individuals, co-operative members in particular. Albeit the Ushirika Afya scheme is open and accommodates all co-operative members, the practical decision to participate in this health insurance hinges upon their degree of HIL. The assumption is that to make an informed decision about whether to buy and use Ushirika Afya health insurance, co-operative members must be aware and have the required knowledge, confidence, and skills on health insurance.

When co-operative members do not understand health insurance plans (Ushirika Afya), it undermines policymakers' efforts to enhance health insurance coverage. Also, a lack of proper skills and confidence in the plan limits health insurance providers' ability to interact with them. It may cause frustration among co-operative members and weaken their likelihood to participate effectively in Ushirika Afya, affecting their access to health care and impairing attempts to attain universal health insurance coverage. Thus, it is critical to analyse how HIL influences co-operative members' participation in the Ushirika Afya health insurance scheme. In this study, we conceptualise and offer a complete perspective on how co-operative members' HIL influence participation in Ushirika Afya.

Moreover, this study argues that the strength of the relationship between HIL and co-operative members' participation in health insurance could vary depending on the levels of their institutions' capabilities. Such institutions' capabilities may be associated with handling issues and complaints relating to health insurance

operations (Rashmi *et al.*, 2021; Amorim Lopes & Alves, 2020). Usually, customers pay a premium if they trust the institutions' capabilities in operating and offering health insurance as an essential part of their health plan (Nayak *et al.*, 2021; Rashmi *et al*., 2021). This is to say, levels of institutions' capabilities can intensify, weaken, negate or alter the relationship between HIL and participation in health insurance among co-operative members. However, it is still unclear whether institution capabilities (co-operatives institutions capability) moderate the relationship between HIL and participation in health insurance among co-operative members.

Therefore, one purpose of this paper was to analyse the influence of HIL on health insurance participation among co-operative members. By adopting the institutional theory of organisations as the theoretical lens, the paper was also set to assess the moderation effect of co-operative institutions' capabilities on the relationship between HIL and participation in health insurance among co-operative members. The remaining parts of this paper have been organised in the following way: the next section is the literature review and hypotheses. It will then go to the methods section, findings and discussion, conclusion and implications, and lastly, limitations of the study.

4.3 Literature Review and hypotheses

4.3.1 Theoretical Foundation of the Study

The institutional theory of organisations is adopted as the analytical lens to address the hypotheses of this study. Meyer and Rowan (1977) introduced this theory in the 1970s. The theory's core lies in an institution (Zucker, 1987). Based on the theory, an institution has three main elements: regulative, normative, and cultural-cognitive elements that shape people's thinking and behaviour in societal and organisational settings (Berthod, 2018; Scott, 2014; 2005; Mayer, 2008). The three pillars are separated only for analytical purposes in theory, though they are used in tandem in practice (Renner-Micah *et al.*, 2020; Scott, 2014).

The regulative element of the theory is concerned with how the regulatory frameworks (for this study, various laws, rules, and regulations for health insurance) guide and regulate the institutions and their actors' behaviours (Scott, 2014; Mignerat & Rivard, 2009). The theory's normative element concerns the actors' values and norms in fulfilling social obligations that aim to direct and support specific desirable

behaviours based on the existing regulative framework (Connolly *et al.,* 2012; Scott, 2014). For this study, the normative element involves established norms, traditions, and practises in the national health insurance fund associated with Ushirika Afya operations. As Effah (2016) put it, cultural-cognitive elements refer to the assumed practices, traditions, and assumptions that guide social actors' thinking and actions (in this case, the patterns of thinking and decision-making tendencies of the health insurance stakeholders). Perceptions and responses of actors (which can be individuals or groups, organisations or associations of people; in this case, co-operative members) toward these elements in their institution may facilitate or limit policy intervention relating to health services (Freeman *et al.,* 2021; Gokalp Aras *et al*., 2021; Scott *et al*., 2000).

The institutional theory was chosen as the theoretical foundation in this study because of the critical notions it contains for analysing the influence of an institution's normative, regulative, and cultural-cognitive elements in health insurance operations (Javanparast *et al*., 2018). This theory enables analysis of how co-operative members relate various forms, designs and conduct of co-operatives in all dimensions and how such informs their knowledge, ability and confidence regarding Ushirika Afya operations. Also, the theory guides the study in examining how existing health insurance laws, rules, and regulations may strengthen or weaken co-operative members' abilities to participate in health insurance. The theory also echoes how the established norms, traditions, and practices about Ushirika Afya operations can relate to the co-operative members' knowledge, skills and understanding of health insurance. For effective participation in Ushirika Afya, co-operative members should satisfy themselves with their institutions' normative, regulative, and cultural-cognitive elements. Thus, an institution deemed strong in such aspects is expected to stimulate co-operative members' HIL and thus motivate them to participate in Ushirika Afya.

4.4 Conceptual Framework

The relationship between HIL, co-operative institution capabilities (CIC), and participation in health insurance (PHI), as seen in Figure 6, is drawn from the literature and the Institutional Theory of Organizations (Meyer & Rowan, 1977). Initially, the study conceptualises that co-operative members' health insurance literacy is expected to influence participation in the Ushirika Afya scheme.

Impliedly, knowledge of health insurance in various aspects stems as the motivational factor or impediment towards participation in health insurance among co-operative members. However, such a conceptualised relationship is further expected to be moderated by co-operative institutions' capabilities in handling health insurance issues. Depending on the level, such capabilities can be a pushing or pooling factor for participation in health insurance among co-operative members.

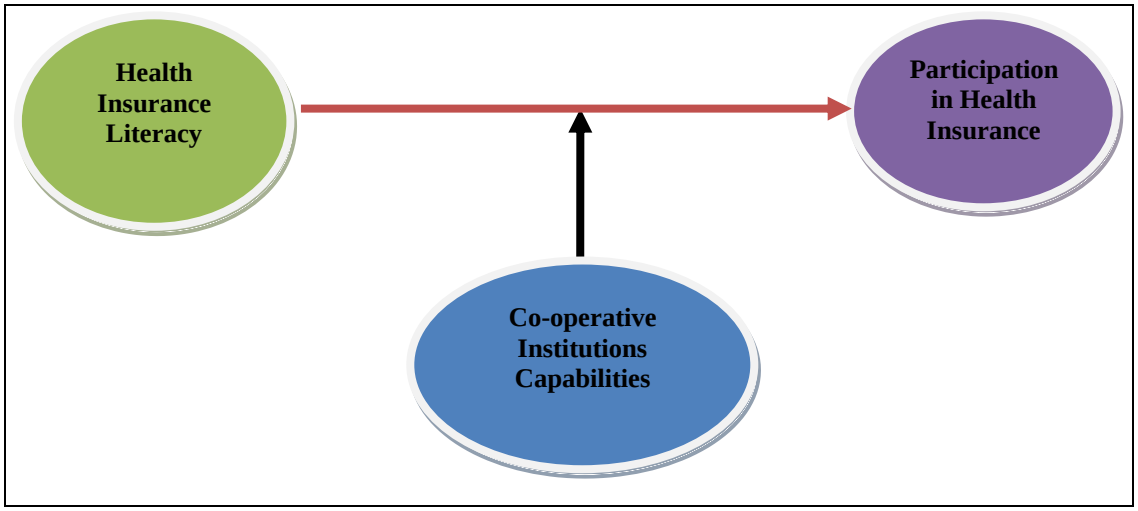

Figure 7 : Conceptual framework of the study

4.5 Health Insurance Literacy

Health insurance literacy is a significant factor in disparities in independent choices among individuals in accessing, joining, and using health insurance services that affect their welfare (O'Connor & Kabadayi, 2020). It forms the base for knowledge and understanding of the health insurance packages and operations that influence different outcomes of individuals' interactions with insurance systems (Edward *et al.*, 2019; Ståhl *et al.*, 2019). It also facilitates the design and delivery of health insurance systems. Thus, adoption, enrolment, or participation decisions in health insurance are likely to be low if not matched with the HIL of the population in concern (Bartholomae *et al.*, 2016). This is to say, HIL determines effective participation in health insurance by increasing knowledge and awareness among individuals. This leads to the proper functioning of the health and health insurance systems (Edward *et al.*, 2019).

Other studies report that HIL affects decisions regarding selecting, understanding, and utilising health insurance plans. Thus, any design of the health insurance

packages and benefits should go hand in hand with increasing HIL for the intended recipients to make appropriate and informed decisions (Bartholomae *et al.*, 2016; Nobles *et al.*, 2018). It facilitates accessible and timely communication among health insurance stakeholders and paves the way for proper access and use of protective and preventive health insurance services (Call *et al.*, 2021; Williams *et al.*, 2021). This also increases awareness of the costs, benefits, and knowledge of the value of health insurance services among individuals (Embrey *et al.*, 2021; Tipimeni *et al.*, 2018). Thus, lower levels of HIL among individuals have adverse outcomes in health insurance operations, leading to ineffective use of health insurance and healthcare systems (Yagi, 2022). Also, it increases the possibility for individuals to postpone and fail to participate in appropriate health and health insurance plans (Dorn, 2011), failure of health insurance and healthcare markets (Cebul, 2011; Gruber, 2009; Quincy, 2012), and poor health status across the population (McCormack, 2009). Despite the above literature debate on HIL and health insurance operations, it has not touched on and explained how it relates to co-operative institutions. We believe that a lack of basic understanding, proper skills and confidence in a health insurance plan (Ushirika Afya in particular) among co-operative members is more likely to limit and weaken their ability to decide to participate effectively in the plan. Thus, we think it is important to add to the discussion about co-operative members HIL and its association with participation in health insurance. Therefore, it is hypothesised that;

H1: ***HIL positively influences participation in health insurance among co-operative members***

4.6 Institutional Capabilities

An institution's capability determines the success or failure in the co-production and co-creation of public care services, particularly health insurance (Annear *et al.*, 2013; Renner-Micah *et al.*, 2020). For health insurance to operate effectively, the institutions responsible for it must ensure adequate capabilities in such aspects as leadership (Naranjo-Valencia *et al.*, 2017), technical expertise (Nayak *et al.*, 2021; Sung *et al.*, 2018); level of bureaucracy, resources, support systems and communication lines (Holand-Hart, 2019) and sufficiency in human and technological capabilities (Wang *et al.*, 2020). Altogether, the institutional theory of organisations articulates that the institution needs to have sufficient capabilities in regulative, normative, and cultural-cognitive dimensions to shape people's thinking

and behaviour in various aspects, such as health insurance (Renner-Micah *et al.*, 2020). Additionally, institutional capabilities enable effective design and increase trust among players in health insurance services (Nayak *et al.*, 2021; Amorim Lopes & Alves, 2020). Also, it allows effective interaction and dynamic relationships among users and providers of the service by increasing efficiency and effectiveness in responding to health emergencies for the insured (Nayak *et al.*, 2021; Amorim Lopes & Alves, 2020; Wang *et al.*, 2020).

Moreover, institutional capabilities form a significant base for increased participation in health insurance, especially when the target is to reach the underserved population and the informal economy workers (Osei Afriyze *et al.*, 2022; Nsiah-Boateng *et al.*, 2019; Quen & Wen, 2021). This indicates that institutional capabilities may fail the planned and expected targets in health insurance participation among individuals. Based on the literature and this study, we are convinced that the relationship between co-operative members' HIL and participation in health insurance schemes varies depending on the levels of co-operative institutions' capabilities in operating and/or facilitating the schemes. Thus, this is to say the relationship between co-operative members' HIL and participation in health insurance schemes (Ushirika Afya) is moderated by co-operative institutions' capabilities. The relationship between HIL and participation in health insurance is hypothesised to be strong when the institution's capabilities level is high and weak when the institution's capabilities level is low. Thus, it is hypothesised that;

> **H2:** ***Co-operative institutions' capabilities moderate the relationship between HIL and participation in health insurance among co-operative members.***

4.7 Methods

4.7.1 Study Design and Setting

The quantitative research method was adopted to analyse how institution capability moderates the relationship between HIL and participation in health insurance among co-operative members. In this study, a cross-sectional survey design was applied. The design allowed for collecting and analysing data on HIL and PHI at a single point in time. Kilimanjaro and Arusha were chosen to provide respondents for the study, reflecting other regions of Tanzania where health insurance for co-operatives

has been implemented. Arumeru and Moshi Districts were selected from these regions because co-operatives fitting the parameters of this study were available.

Nonetheless, these areas were conveniently chosen due to their excellent co-operative movements and activities history. The agricultural and marketing co-operatives selected were Aranga, Mrimbo Uuwo, Marangu East, Mamba South and Kikarola SACCOS. Regarding health insurance participation, the members of the selected co-operatives in the region have varying degrees of health insurance literacy. In addition, insurers have or are integrating these co-operatives within their health insurance operations.

4.8 Data Collection and Sampling

Using questionnaires, data were collected from co-operative members who voluntarily decided to participate in the study in Arumeru and Moshi districts. The requirements for participation in this study were that the respondent was a member of a co-operative society who was once or currently a beneficiary of any health insurance scheme operated through the respective co-operative society. Before collecting data, a pilot study was undertaken to evaluate respondents' relevance and understanding of questions. This was carried out to ensure the reliability of the data collection tools. As Viechtbauer *et al*. (2015) suggested, the pilot included 50 respondents, accounting for 10% of the total study sample size. Following the pilot study, modifications were made to the questions to mirror and accommodate respondents' understanding. As part of these revisions, terminology and phrases irrelevant to the respondents' understanding levels were altered. This enabled the collection of sufficient and relevant information on the HIL-PHI relationship among co-operative members.

In total, 550 co-operative members filled out the questionnaire. Among them, 70 members were not able to fill out the questionnaire appropriately in the sections related to HIL and participation in health insurance. Hence, the final sample for the study consisted of 480 co-operative members. Out of the 480 co-operative members, 331 (68.96) % were men, and 149 (31.04%) were women, with an average age of 50.31 years (SD = 12.14). Moreover, the average membership time was 8.57 years (SD = 6.97). Co-operative members in this study had attained different education levels, of which primary education level accounted for 33%, secondary level 18%,

certificate level 14.8%, and diploma level and above (34.1%). The members' employment statuses included government employees (19%), private sector employees (19.6%), self-employed (60.8%), and unemployed (0.6%).

4.9 Measures and Procedure

To analyse participation, five (5) items that used 5 points Likert scale were developed to determine co-operative members' perceptions of participating in health insurance. For example, in the item "*Without hesitations, I will be fully participating and using health insurance through co-operatives to meet my health needs*." Members were supposed to respond from 1 = strongly disagree to 5 strongly agree.

Members' HIL was measured through self-reporting questionnaires that were adopted from McCormack *et al*. (2009), Huston (2010), Paez *et al*. (2014), and Qunicy (2012) and customised to suit co-operative members' context as to health insurance participation. An example of an item used to evaluate HIL among co-operative members was "*I understand operations, and I can explain benefits associated with our health insurance plan (Ushirika Afya)*". Co-operative members responded to the questions on a 5-point Likert scale basis. The scale ranged from 1= strongly disagree to 5 = strongly agree, where 5 indicated higher HIL and 1 lower HIL on the matter of concern.

Through self-reporting questionnaires, co-operative members assessed co-operative institutions' capabilities as a moderating factor. The study by Ansah *et al*. (2020) and Krammer *et al*. (2018) inspired the questionnaire development that tested the moderation effect of co-operative institutions' capabilities on the HIL-PHI relationship. One of the items used to assess CIC was "*I am confident that co-operatives can adapt and sustain to any changes in the market relating to health insurance operations, financing, regulations and alike".* Co-operative members were asked to rate the capabilities of their co-operative institutions using a 5-point Likert scale varying from 1= strongly disagree to 5 strongly agree on how such institutions are capable of running and operating health insurance.

4.10 Data Analysis

The collected data were analysed using the partial least squares structural equation modelling (PLS-SEM) algorithm with the aid of SmartPLS 3.3.3-6 software. At first, SPSS version 24 was used to analyse descriptive statistics, and the PLS-SEM

algorithm was used to analyse and test for variable relationships, as Ringle *et al.* (2015) recommend. Since the constructs were formative, the measurement model was evaluated for validity and reliability, where convergent validity, collinearity between indicators, and significance and relevance of outer weights were determined, as shown in Table 13 and Table 14 (Hair *et al.*, 2017). Then, the structural model relationship of this study was tested by following the procedures stipulated by Hair *et al.* (2017) when analysing data using PLS-SEM in SmartPLS 3.3.3-6. Since the constructs were formatively measured, moderation analysis was performed using the two-stage approach, as the aim was to identify the statistical implication of the moderator (Hair *et al.*, 2017) in analysing the relationship between HIL and PHI among co-operative members.

4.10.1 Formative Measurement Model Criteria

This study employed a formative measurement model in examining the linkage between HIL and PHI as moderated by CIC. The formative measurement was adopted because each indicator used in the model was meant to capture exclusive information about the construct's domain (Hair *et al.*, 2017). When constructs are formatively measured, convergent validity, collinearity between indicators, significance, and relevance of outer weights need to be ascertained. The benchmark for assessing convergent validity, collinearity between indicators, and significance and relevance of outer weights are stipulated by Hair *et al.* (2017) and Chin (1998). They recommend a score above 0.70 appropriate after redundancy analysis in the formative indicator construct for convergent validity. After redundancy analysis, Table 13 shows the formatively measured constructs HIL, PHI, and CIC counts to 0.781, 0.839, and 0.701, respectively. Since all of the constructs have a score greater than 0.70, they conform to convergent validity. This means the constructs do not positively correlate with other measures of the construct when different indicators are used (Hair *et al.*, 2017).

Moreover, the variance inflation factor (VIF) is considered a proxy measure of collinearity among indicators (Hair *et al.*, 2017). An indicator shows no potential collinearity threat if the VIF score is less than 5 (Hair *et al.*, 2017). Collinearity test results for all indicators are shown in Table 13, where all indicators score VIF less than 5. Therefore, there is no potential threat of collinearity among formative

constructs that might affect the estimation and evaluation of the structural model when evaluating the association between HIL and PHI.

Table 13 : Convergent Validity and Collinearity Statistics

Formative Construct	Convergent Validity	Indicator	VIF
Co-operative Institution Capabilities	0.701	CIC_1	1.178
		CIC_2	1.257
		CIC_3	1.812
		CIC_4	2.467
		CIC_5	1.344
		CIC_6	1.733
		CIC_7	1.173
		CIC_8	1.507
		CIC_9	2.753
		CIC_10	2.066
		CIC_11	2.019
		CIC_12	2.048
		HIL * CIC	1.000
Participation in Health Insurance	0.839	PHI-1	1.045
		PHI -2	1.223
		PHI -3	1.037
		PHI -4	1.340
		PHI -5	1.317
		PHI -6	1.158
Health Insurance Literacy	0.781	HIL-1	1.324
		HIL-2	1.484
		HIL-3	2.019
		HIL-4	1.878
		HIL-5	1.639
		HIL-6	2.000
		HIL-7	2.251
		HIL-8	2.511
		HIL-9	2.756
		HIL-10	2.710
		HIL-11	3.095
		HIL-12	1.348
		HIL-13	1.906
		HIL-14	2.360
		HIL-15	1.605

Furthermore, the indicators' outer weight, outer loading significance, and relevance were assessed. The assessment measures indicators' unique significance and relevance in explaining the constructs (Hair *et al.*, 2017). The recommended principle is that formative indicators' outer weights should be significant at $\rho < 0.05$ or the formative indicators' outer loading value > 0.5 for it to be kept for analysis. Otherwise, it should be removed from the analysis (Hair *et al.*, 2017; Cenfetelli & Bassellier, 2009). Table 14 shows that all the indicators have met the recommended

cut-off points. This means the indicators are significant and relevant in informing about the key constructs of the model, therefore, kept in the study for further analysis.

Table 14 : Formative Constructs Outer Weights Significance Testing Result

Indicator	Outer Weights	Outer Loadings	Standard Deviation	97.5% BCa C.I	T Statistics	P Values
CIC_1-> CIC	-0.237	-0.634	0.106	-0.533, 0.017	2.234	**0.013**
CIC_2-> CIC	0.408	0.400	0.173	0.192, 0.738	2.355	**0.019**
CIC_3-> CIC	-0.499	-0.477	0.186	-0.655, -0.019	2.680	**0.003**
CIC_4-> CIC	0.597	0.334	0.275	0.203, 0.996	2.173	**0.030**
CIC_5-> CIC	0.339	0.424	0.142	0.239, 0.319	2.386	**0.009**
CIC_6-> CIC	0.274	0.541	0.207	-0.232, 0.586	1.322	**0.934**
CIC_7-> CIC	-0.326	-0.007	0.154	-0.347, -0.265	2.115	**0.017**
CIC_8-> CIC	0.558	0.657	0.241	0.228, 0.935	2.320	**0.020**
CIC_9-> CIC	-0.666	-0.080	0.315	-1.178, -0.237	2.111	**0.035**
CIC_10-> CIC	0.434	0.289	0.180	0.199, 0.506	2.410	**0.008**
CIC_11-> CIC	0.100	0.589	0.204	-0.292, 0.496	0.491	**0.623**
CIC_12-> CIC	0.310	0.367	0.124	-0.627, -0.857	2.501	**0.006**
HIL * CIC <- Mod Effect (CIC)1	1.000	1.024	0.000	1.000, 1.000		
PHI-1 -> PHI	0.843	0.882	0.326	0.474, 1.009	2.583	**0.010**
PHI-2 -> PHI	0.470	0.373	0.200	0.005, 0.731	2.351	**0.009**
PHI-3 -> PHI	0.200	0.536	0.164	-0.103, 0.528	1.217	**0.224**
PHI-4 -> PHI	-0.319	-0.191	0.107	-0.525, -0.306	2.983	**0.001**
PHI-5 -> PHI	-0.082	0.504	0.232	-0.513, 0.396	0.352	**0.725**
PHI-6 -> PHI	0.259	0.648	0.334	-0.479, 0.816	0.776	**0.438**
HIL-1 -> HIL	0.317	0.110	0.137	-0.111, -0.421	2.314	**0.011**
HIL-2 -> HIL	-0.419	0.174	0.179	-0.549, -0.081	2.341	**0.009**
HIL-3 -> HIL	-0.497	-0.016	0.241	-0.781, -0.062	2.061	**0.019**
HIL-4 -> HIL	0.118	0.880	0.318	-0.491, 0.736	0.373	**0.709**
HIL-5 -> HIL	-0.361	0.623	0.178	-0.444, 0.268	0.344	**0.731**
HIL-6 -> HIL	0.479	0.126	0.204	-0.247, -0.816	2.347	**0.009**
HIL-7 -> HIL	0.284	0.057	0.112	-0.485, -0.332	2.535	**0.005**
HIL-8 -> HIL	-0.082	-0.795	0.206	-0.477, 0.316	0.398	**0.690**
HIL-9 -> HIL	1.136	0.860	0.386	0.975, 1.451	2.945	**0.003**
HIL-10 -> HIL	-0.133	0.864	0.323	-0.712, 0.541	0.410	**0.682**
HIL-11 -> HIL	-0.042	0.556	0.228	-0.493, 0.413	0.184	**0.854**
HIL-12-> HIL	0.372	-0.035	0.131	-0.189, 0.526	2.839	**0.002**
HIL-13 -> HIL	-0.289	-0.082	0.105	-0.707, -0.007	2.752	**0.003**
HIL-14-> HIL	0.487	0.031	0.225	-0.352, 0.498	2.163	**0.015**
HIL-15 -> HIL	0.346	0.182	0.163	-0.313, -0.323	2.121	**0.017**

4.11 Findings and Discussion

This segment presents the findings and discussion on HIL and PHI among co-operative members. The findings and discussion of the structural model and hypothesis testing are presented in the following sections.

4.12 Structural Model Measurement

The structural measurement model was analysed to test for the total effects of the exogenous construct HIL to show its relationships to the endogenous construct PHI. Moreover, an interaction term, Co-operative Institution Capabilities (CIC), was created to assess how it moderates the relationship between HIL and PHI among co-operative members.

4.12.1 Health Insurance Literacy and Participation in Health Insurance Among Co-Operative Members

The study hypothesised that health insurance literacy positively influences participation in health insurance among co-operative members (H1). In testing the hypothesis, an analysis was conducted to assess the influence of health insurance literacy on participation in health insurance among co-operative members. The findings (Table 15) show that HIL has a significant positive impact on PHI among co-operative members ($\beta = 0.222$ $t = 2.270$ $\rho = 0.023$). Hence, H1 is supported. This indicates that health insurance literacy among co-operative members significantly influences their participation in health insurance, particularly in Ushirika Afya.

Table 15 : Total Effects

Relationship	Hypothesis	B	Standard Deviation	T Statistics	P Values	Supported?
HIL -> PHI	**H1**	0.222	0.098	2.270	**0.023**	**Yes**
CIC -> PHI		0.204	0.092	2.218	**0.027**	
Moderating Effect (CIC) 1 -> PHI	**H2**	0.105	0.052	2.025	**0.043**	**Yes**

From these findings and following our hypothesis, as the co-operative members' literacy on health insurance increases, they are more likely to increase participation in the Ushirika Afya health insurance plan. Since health insurance requires individuals (in this case, co-operative members) to pay premiums before receiving actual service, it is clear that co-operative members' adequate knowledge, skills, understanding and confidence in the health insurance plan (Ushirika Afya) is more likely to increase their participation in such plan. This is to say, an increase in HIL in such aspects as the insurance costs and risks, benefits, operations and procedures, and coverage, among others, is essential for increased co-operative members' participation in Ushirika Afya.

Although it is in the co-operative members' context, this study finding broadly supports the work of other studies in this area linking HIL and PHI. These findings mirror those of Edward *et al*. (2022), Koh (2022), Embrey *et al*. (2021), Mamun *et al*. (2021), Liu *et al*. (2021), Call *et al.* (2021), Williams *et al*. (2021), O'Connor and Kabadayi (2020), Tipimeni *et al.* (2018), Nobles *et al.* (2018) and Bartholomae *et al.* (2016) who altogether found a relationship between HIL and HIP among individuals in different contexts such as information intermediaries; rural households; working adults and community health staff. Based on the findings of this study, as the co-operative members' knowledge, ability, confidence, and information regarding Ushirika Afya increases, their likelihood of choosing and using Ushirika Afya as their health insurance plan also increases. This indicates that an increase in the co-operative members' HIL increases their awareness, understanding, and confidence in Ushirika Afya, enabling them to make effective and efficient decisions to participate in the scheme.

4.12.2 Moderating Effect of Co-operative Institution Capabilities on HIL- PHI Relationship

The study assessed if co-operative institution capabilities moderate the relationship between HIL and PHI among co-operative members. The study hypothesised that co-operative institutions' capabilities moderate the relationship between HIL and participation in health insurance among co-operative members. The findings revealed that co-operative institution capabilities positively moderate the relationship between HIL and PHI, as shown in Table 16. This means the relationship between HIL and PHI is strong when the institution's capabilities level is high and weak when the institution's capabilities level is low. Hence, H2 is supported.

Table 16 : Moderation effect of CIC on HIL-PHI relationship

Variable	HIL	CIC	Moderating Effect (CIC) 1	PHI
HIL				**0.222**
CIC				**0.204**
Moderating Effect (CIC) 1				**0.105**
PAT				

From the findings in the Table above, the interaction term (Moderating Effect (CIC) 1) has a positive effect on PHI (0.105), whereas HIL has a simple effect of 0.222 on PHI. This implies that the magnitude of the relationship between HIL and PHI is 0.222 for a co-operative institution with average capabilities. For the co-operative

with higher capabilities regarding health insurance, the extent of the relationship between HIL and PHI increases by the size of the interaction term and becomes 0.327 (i.e., 0.222 + 0.105 = 0.327). Nonetheless, for the co-operative institutions with lower capabilities in health insurance, the magnitude of the relationship between HIL and PHI decreases by the size of the interaction term. It becomes 0.117 (i.e., 0.222 - 0.105 = 0.117). This relationship can be better depicted in the simple slope plot, as seen below.

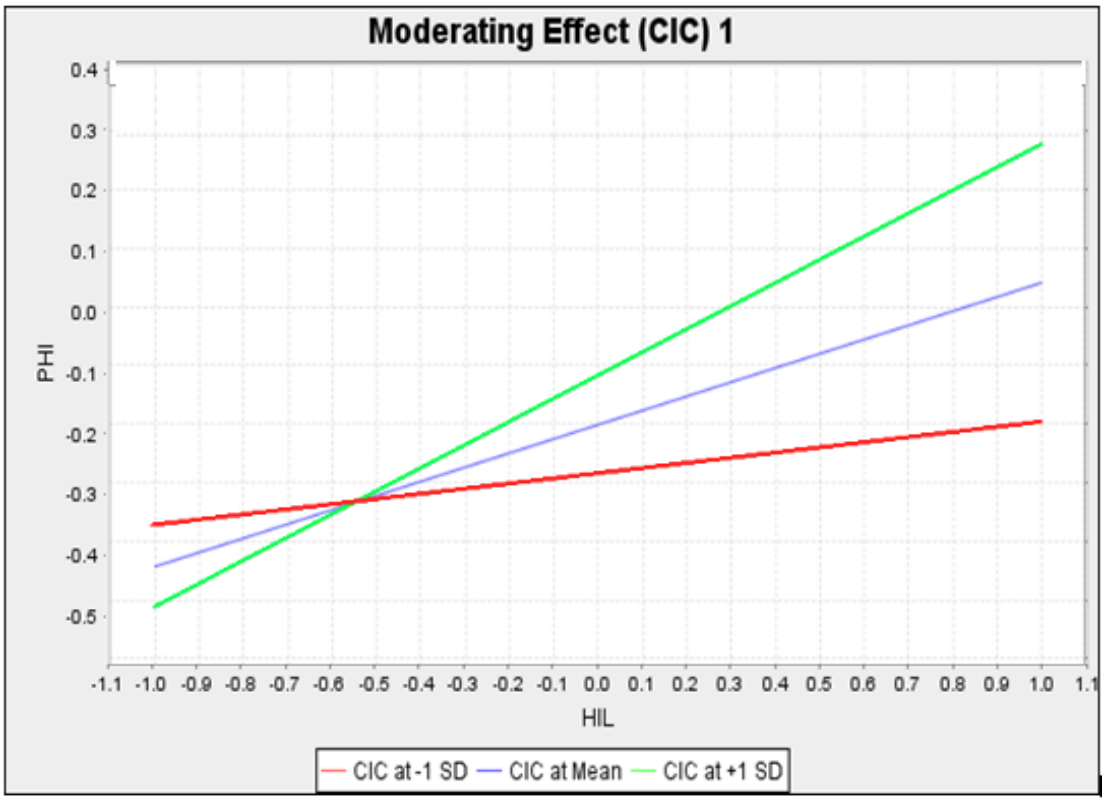

Figure 8 : Simple slope plot of the moderating effect of CIC

The simple slope plot (Figure 8) visualises the two-way interaction effect. The three lines in Figure 8 represent the relationship between HIL (x-axis) and PHI (y-axis). The middle line represents the link for an average level of the moderator variable CIC. The other two lines symbolise the link between HIL and PHI for a co-operative institution with higher capabilities (i.e., the average value of CIC plus one standard deviation unit) and lower capabilities (i.e., the average value of CIC minus one standard deviation unit). As seen in the sketch, the relationship between HIL and PHI is positive for all three lines, depicting a positive slope. A positive slope indicates that as CIC levels increase, it goes hand in hand with an increased PHI among co-operative members.

In addition, if an analysis of the moderating effect's slope is done in greater detail, it gives more insights into the relationship between HIL and PHI. From Figure 8, the upper line, which represents a higher level of the moderator construct CIC, has a steeper slope, while the lower line, which represents a lower level of the moderator construct CIC, has a relatively flatter slope. This makes sense since the interaction effect is positive. Hence, the simple slope plot parallels our previous positive interaction term discussion. Higher capabilities of the co-operative institutions entail a stronger relationship between HIL and PHI. In comparison, lower capabilities of the co-operative institutions lead to a weaker relationship between HIL and PHI as far as co-operative members are concerned.

Overall, these results clearly support that co-operative institutions' capabilities exert a significant and positive effect on the relationship between HIL and PHI, as seen in Table 16 (H3) ($\beta = 0.105$ $t = 2.025$ $\rho = 0.043$). This study's findings suggest that when co-operative members satisfy themselves with the co-operative institution capabilities in such dimensions as normative, regulative, and cultural-cognitive in Ushirika Afya, it is more likely to strengthen the relationship between HIL and PHI among them. More specifically, aspects such as leadership; human, financial, and technological resources; support systems; the level of regulatory mechanisms; bureaucracy and communication lines, and complaints handling relating to Ushirika Afya operations intensify the HIL-PHI relationship among co-operative members. These findings reflect and agree with previous studies (e.g., Osei Afriyze *et al*., 2022; Nayak *et al.*, 2021; Rashmi *et al*., 2021; Amorim Lopes and Alves, 2020; Holand-Hart, 2019; Sung *et al.*, 2018; Naranjo-Valencia *et al.*, 2017) who generally found that institutional capabilities positively influence participation in health insurance. This is to say, higher levels of co-operative institutions' capabilities enable effectiveness in the design and increase trust and effective interaction and dynamic relationship among co-operative members in matters relating to Ushirika Afya. Comparatively, co-operative institutions with lower capabilities may hinder the effective relationship between HIL and PHI among co-operative members.

4.13 Conclusion and Implications

4.13.1 Academic Implications

The relationship between HIL and PHI among co-operative members was analysed in this study. The findings show that HIL enlightens and exposes co-operative members to health insurance costs, risks, benefits, operations, procedures, and coverage issues. HIL increases co-operative members' knowledge, ability, confidence, and information regarding Ushirika Afya, allowing them to make an informed decision for participation in the scheme. Although this is the case, the findings indicate that the HIL-PHI relationship becomes stronger and weaker when the CIC level is high and low, respectively. This study's findings support the institutional theory of organisations. Whenever co-operative members gauge and are satisfied with co-operative institution capabilities in normative, regulative, and cultural-cognitive relating to Ushirika Afya, they are more likely to increase participation. Relative co-operative institution incapability in leadership; human, financial, and technological resources; support systems; level of regulatory mechanisms; bureaucracy and communication lines, and complaints handling relating to Ushirika Afya operations will likely decrease co-operative members' participation in the scheme. For sustainable participation and increased coverage in health insurance among co-operative members and other individuals in the country, some efforts must be made. Such efforts should focus on formulating awareness programs and other continuous training initiatives to increase HIL among individuals. Also, efforts to build institutional capabilities in various dimensions relating to health insurance for all key institutional players should be a continuous program to cope and adapt to the fast-changing world.

4.13.2 Practical Implications

The findings of this study can significantly contribute towards the realisation of universal health insurance coverage (UHIC) in Tanzania. Health insurance literacy should be a key aspect in designing the structure and operations of universal health coverage programs in the country. Inadequate knowledge, understanding, and skills of health insurance among individuals are expected to significantly impinge the effectiveness and sustainability of universal health insurance coverage programs. Adequate HIL is more likely to enlighten people about the importance of health

insurance and increase their likelihood of fully engaging and participating in initiatives for realising universal health insurance coverage.

Moreover, UHIC is likely not to be realised if stakeholders' institutions fall short of its normative, regulative, and cultural-cognitive dimensions relating to health insurance. Taking a co-operative institution as a representative of other institutions, individuals' satisfaction with such institutions' capabilities in abiding by the existing health insurance laws, rules, and regulations may stimulate them to participate effectively in health insurance. Also, such institutions' effectiveness in dealing with the established norms, traditions, and practises about health insurance catalyses individuals' morale towards utilising health insurance services. The resultant outcome of all of the above is the speedy attainment of the UHIC and improved peoples' wellbeing.

4.14 Limitations and Suggestions for Further Studies

For other future studies, some limitations need to be delineated. Even though the study has shown practical and theoretical implications on HIL-PHI relationships as far as CIC is concerned, the data and analysis of this study were based on co-operative members only in selected districts (Arumeru and Moshi Districts) in Tanzania. Thus, when generalising this study's findings, one should make such a generalisation cautiously. As the concept of HIL cuts across diverse populations when it comes to PHI, the study suggests that future studies take into account larger areas, including different categories of populations, for better conclusions. However, the limitations mentioned above do not invalidate the findings and implications of this study. It forms the base and point of departure for future empirical studies.

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CHAPTER FIVE

5.0 PARTICIPATION IN HEALTH INSURANCE AND CHANGES IN THE WELL-BEING STATUS OF CO-OPERATIVE MEMBERS IN TANZANIA

5.1 Abstract

This paper analyses the association between participating in health insurance and improvements in the well-being status of co-operative members. It is expected that individuals, co-operative members, in particular, participate in health insurance schemes with expectations of changing and improving various dimensions of well-being. The analyses using Partial Least Squares Structural Equation Modelling (PLS-SEM) revealed that participation in health insurance significantly positively impacts change in the well-being status of co-operative members. Further, members' expectations mediate the relationship between participation in health insurance and changes in their well-being status. The study also found that expectations levels positively moderate the relationship between health insurance participation and changes in co-operative members' well-being status. These findings imply that co-operative members with higher positive expectations out of health insurance participation are in an advantageous position to make and allow positive decisions that positively impact their well-being.

***Keywords*: *Co-operatives, Health Insurance, Well-being, PLS-SEM, Expectations, Theory of Dispositional Optimism*.**

5.2 Introduction

This study analyses the relationship between participating in health insurance and changes in the dimensions of the well-being status of co-operative members and their household members. Nonparticipation in health insurance, among others, exposes individuals to improper medical care. It increases the fiscal burden on the uninsured and families, leading to poor health outcomes affecting their well-being (Bovbjerg & Hadley, 2007). Participation in health insurance catalyses the attainment of 2030 (goal 3) and 2063 global and African agendas in promoting equity in accessing and using health facilities among individuals to improve their health status and well-being (United Nations, 2015; African Union Commission, 2015). The importance of participating in health insurance has called for various actors and key players to be involved in the race toward realising this agenda. One of the actors identified is co-operative institutions. Identifying co-operatives, especially in developing economies, is based on their objectives when serving its members. The core objective of co-operatives is to address common members' economic and social needs and, at most, well-being through collective actions (Borda-Rodriguez & Johnson, 2020; Rosmimah *et al*., 2011).

Apart from the socio-economic services co-operatives provide their members, they have been providing support relating to health services (Ma, 2022a; International Labour Organisation (ILO), 2017). Thus, at the global level, various well-being improvement initiatives (e.g., financial, education, and health) have been in place through co-operatives targeting members (Consejero & Janoschka, 2022; Liu *et al.*, 2022; van Rijn, 2022; Sarker *et al*., 2016). Therefore, within this context, one of the well-being initiatives through co-operatives is health insurance (Ma, 2022a). Through co-operatives, various health insurance schemes and initiatives reach and cover most individuals. Whereas there is extensive research on health insurance among the population worldwide, there has been limited study on whether co-operative members' participation in health insurance has impacted their well-being.

International agencies such as ILO regard co-operative institutions as a conduit for realising universal health coverage and improving peoples' well-being (ILO, 2021; ILO, 2017). In Tanzania, co-operatives are recognised as one of the institutions forming the bottom of the pyramid in providing and improving social health

protection. The government is on the top (United Republic of Tanzania (URT), 2003). This is why in July 2018, the government of Tanzania officially reinstated establishing a special health insurance scheme called “Ushirika Afya” in the national health insurance fund (NHIF) to serve co-operative members. Ushirika Afya operates under Act No. 8 of 1999, National Health Insurance Fund Act. Ushirika Afya was formulated to help co-operative members with no formal and conventional access to formal health insurance schemes (URT, 2001). Thus, the anticipation is that co-operative members participating in any health insurance scheme (in this case Ushirika Afya) will likely improve their well-being status in various dimensions (Rehman, 2020). Still, in the context of co-operatives and Tanzania in particular, literature has not related participation in health insurance and improvement in dimensions of well-being status. The core of the available literature pertaining to health insurance and wellbeing in co-operatives relies on subjective well-being (Wu *et al*., 2021) and a healthy lifestyle (Elley & Elley, 2022), just a few to mention. Although policies and laws support co-operatives as one of the key actors in facilitating health insurance to co-operative members, it is sceptical in the literature that health insurance initiatives through co-operatives have contributed to changing their well-being status. Moreover, to the authors’ knowledge, it is not yet stated what might stimulate and cause variations in well-being status among and between co-operative members due to participation in health insurance.

This study argues that the direct relationship between health insurance participation (PHI) and changes in dimensions of well-being status (CWBS) cannot guarantee 100% reliability. There might be some other factors that might influence this link. In the previous literature, it is hardly found how the PHI-CWBS link can be mediated or moderated. In complementing the existing literature, this study adopts the theory of dispositional optimism to understand how expectations can mediate the PHI-CWBS relationship. The theory of dispositional optimism describes that expectations about the future decide one’s circumstances and make them consistent with one's fundamental belief (Stosny, 2011; Scheier & Carver, 1985).

Some studies also show that expectations motivate or discourage people from working harder and sticking to their goals, affecting the sense and ability to attain predetermined levels of well-being, particularly physical health (Lu *et al.*, 2021; Rasmussen *et al*., 2009; Krizan & Windschitl, 2007). It also influences individuals to

feel a real sense of attaining various aspects of well-being in life (Lu *et al.*, 2021). Expectations significantly impact decision-making, leading to a significant change in outcomes relating to improving dimensions of well-being status (Rasmussen *et al.*, 2009; Krizan & Windschitl, 2007; Chambers & Windschitl, 2004). It forms the base and acts as a self-fulfilling prophecy by increasing a sense of future well-being and development (Sollner *et al.*, 2022; Levy & Leifheit-Limso, 2009). However, in the literature, as mentioned above, what remains unclear is the mediating role of expectations in the relationship between PHI and CWBS, particularly in the co-operative members' context. We expect the link between PHI and CWBS to be mediated by expectations when an individual joins and during their membership in health insurance schemes.

In addition, the strength of the relationship between PHI and CWBS could vary with varying co-operative members' expectation levels. More precisely, the link between PHI and CWBS is expected to be moderated by co-operative members' expectations levels. Co-operative members' expectation levels form a benchmark for the PHI against which decisions for CWBS are made. Impliedly, the degree of expectancies may impact how decisions are made to improve various dimensions of well-being status (Sollner *et al.*, 2022; Lu *et al.*, 2021; Rasmussen *et al.*, 2009). The assumption is that the higher the levels of expectations in PHI, the higher the likelihood for positive CWBS and vice versa. Impliedly, the PHI-CWBS relationship is likely to be weaker for members with lower-level expectations but stronger for members with higher-level expectations. In this study, we propose the moderating role of expectations levels to be added to the link between PHI and CWBS to fully understand beyond a simple association of these variables among co-operative members.

In filling the identified gaps in the literature, the study adopted the structural equation modelling to analyse how participation in health insurance relates to changes in the dimensions of the well-being status of co-operative members. Further, the study examined the mediation role of members' expectations on the PHW-CWBS relationship. Lastly, the study assessed the moderation effect of members' expectations levels on the PHW-CWBS relationship. The paper is structured as follows in studying such relationships; the next section covers the literature review.

After that, methodology, findings and discussions follow, and lastly, conclusions and recommendations of the study.

5.3 Literature Review

5.3.1 Conceptual Background

The conceptualised relationship between variables (Figure 9) is drawn from the literature and the Theory of Dispositional Optimism (Scheier & Carver, 1985). Participation in the Ushirika Afya health insurance scheme will likely influence co-operative members to change their well-being statuses. Implicitly, by being insured, individuals are expected to be in a better position to engage in various well-being improvement initiatives as health care is assured. Nonetheless, health insurance reduces unexpected and catastrophic healthcare expenditures, allowing the insured to reallocate such funds to other productive and well-being improvement activities. However, the realisation of this relationship can be influenced and governed by members' expectations at varying levels.

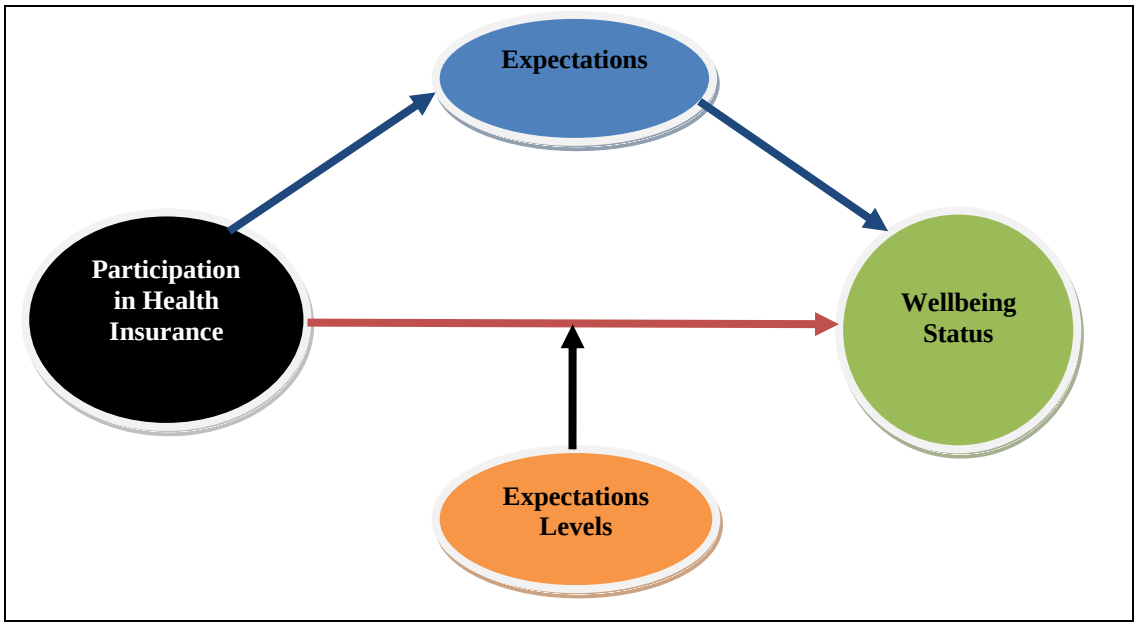

Figure 9 : Conceptual model of the study

5.4 The Link between PHI and CWBS

In analysing the relationship between participation in health insurance and variations in the well-being status of co-operative members, the study confines itself to the dimensions of well-being as stated by the Australian Institute of Health and Welfare (AIHW) (2021) and the Organisation for Economic Cooperation and Development

(OECD) (2015). Such dimensions include health status, stabilised life and work-life balance; education and skills; social connection; civic duties and taking part in governance duties. Further, it involves changes in the sense of personal security, housing and related facilities; securing jobs and sources of earnings; creating and maintaining quality environments and participation in income-generating activities and increasing wealth (AIHW, 2021; OECD, 2021, 2015). Impliedly, one participates in the health insurance scheme with expectations of changing either of the dimensions of well-being aforementioned. Nevertheless, evidence on this is scanty, hence the demand for more studies to prove the relationship between health insurance participation and household well-being status changes.

Few studies that exist relatively and partially show the relationship between participation in health insurance and changes in household well-being status, considering individuals' expectations while joining the schemes. Some studies, such as Manchanda and Rahut (2021), Kipo-Sunyehzi (2020) and Sommers *et al*. (2017b), found that participation in health insurance is positively related to changes in individuals' health status as one of the crucial dimensions of well-being. In that regard, individuals (including co-operative members) with health insurance are better positioned to meet healthcare needs that improve their health status and well-being (Elley & Elley, 2022; Winetrobe *et al*., 2016). Nonetheless, with a stabilised health status, individuals effectively attain education targets and acquire considerable skills. Having health insurance assures individuals of how to deal with their health condition, thus increasing focus on achieving education and skills that smoothen life and improve their well-being (Gaudette *et al*., 2018; Cohodes *et al*., 2016).

Moreover, health insurance operated in co-operative models such as the new rural co-operative medical scheme in China influenced well-being among the elderly and higher income groups (Ma, 2022a; Wang, 2010). Health insurance has enhanced individuals' well-being by minimising financial distress associated with healthcare expenditures and reducing medical debts (Batty *et al*., 2022; Pouw & Bender, 2022; Cuong, 2013). Thus, the saved money and peace of mind can be a catalyst to improving other well-being dimensions such as housing, education, and the alike. In the United States, for example, Kim and Koh (2022) established that reforms in the health sector aiming to increase access to health insurance revealed to play a pivotal role in improving the well-being of individuals. This is said to be through reduced

financial losses resulting from unexpected sickness (Sommers *et al*., 2017a). Also, health insurance increases peace of mind as it is a protective investment (Ashoke, 2021), thus giving room to think and be involved in other productive activities, thus improving general well-being. Also, participation in health insurance schemes improved the well-being statuses of vulnerable groups in Ghana compared to none participants (Kipo-Sunyehzi, 2020). This means individuals with access to health insurance have lower health risks and reduced unexpected costs of illness, thus improving financial well-being and welfare (van Rijn, 2022; Liu *et al*., 2021). It reduces out-of-pocket expenditure, allowing the insured to reallocate money to other aspects to improve their well-being (Ma, 2022b).

Regarding securing jobs, stabilised life, and work-life balance as another dimension of well-being, Cardullo (2021) and Kennelly and Odekon (2016) opine that co-operatives enable members to have bargaining power in labour markets in securing jobs. This increases individuals' probability of securing employment and decreases labour turnover while increasing workers' retention, productivity, and performance, improving their well-being (Tsolmon & Ariely, 2022; Wang *et al.,* 2022). Various studies have established that participation and access to health insurance are related to increasing the ability of individuals to invest in multiple sources of earnings (Wang *et al*., 2022; Cardullo, 2021; Sommers *et al*., 2017b; Boudreaux *et al*., 2016). Moreover, participation in health insurance stimulates individuals to engage in various income-generating activities that, in turn, increase wealth (Batty *et al*., 2022; Ma, 2022b). The significant outcomes for all mentioned above are improving and stabilising individuals' well-being.

Participation and access to health insurance significantly impact individuals' social connection as one dimension of well-being. The insured have a greater chance to increase their social capital (Wu *et al*., 2021), enabling them to connect with significant others to reap various opportunities that improve their well-being. Thus, the social connection among individuals having access to and participating in health insurance is likely to increase and improve, contrary to that of the uninsured. Nonetheless, studies claim that participation in health insurance may stimulate and increase involvement in civic and governance duties. Since one of the core co-operative principles is democratic member control, members have the freedom and opportunity to engage in all democratic processes within these institutions (Kaswan,

2021). Nonetheless, various social movements within the co-operative institutions (e.g., health insurance) strengthen and contribute to effective participation in civic and governance duties among members (Consejero & Janoschka, 2022; Berry & Bell, 2018; Gaudette *et al*., 2018). It also encourages members to actively engage in governance and leadership in their societies (Kaswan, 2021). This also is expected to increase the sense of personal security among individuals as they feel part of the society and can make and influence decisions within the community (Gaudette *et al*., 2018).

Despite Saloner (2013) who did not find any relationship between participation in health insurance and changes in housing and related facilities, Jaramillo and Willging (2021), Lee *et al.* (2020), Winetrobe *et al.* (2016) and DiPietro and Klingenmair (2013) reported a positive contribution in improving and securing housing facilities among individuals. These studies pointed out that older homeless people and youth were likely to secure and enhance housing facilities after accessing health insurance. Such a relationship is hypothesised because health insurance makes the insured reduce money lost in sickness and use it to improve and secure housing facilities. In relation to housing facilities, the environment is also related to co-operatives and participation in health insurance. Co-operative members create and maintain quality environments (Bamanyisa, 2019). Nonetheless, individuals adopt health insurance as a means and backup strategy to deal with the consequences of air pollution (Wang *et al*., 2022).

However, most studies mentioned above did not directly involve co-operative members when analysing participation in health insurance and changes in well-being status. Instead, they studied such relationships in vulnerable groups (Kipo-Sunyehzi, 2020) and individuals in rural areas (Ma, 2022a), just a few to mention. Few studies that involve co-operatives (e.g., Elley & Elley, 2022, Ma, 2022b, van Rijn, 2022, Wang *et al*., 2022 and Kaswan, 2021) dealt with either well-being or health insurance involving co-operatives rather than relating the two concepts. Thus, to the authors' knowledge, neither of the studies took on board co-operative members and respective households' participation in health insurance and its impacts on their well-being status. Therefore, if any relationship exists, it will likely differ for co-operative members and other groups covered in the studies above. Thus, this study analysed how co-operative members' well-being status dimensions probably changed due to

participation in health insurance. This study provides evidence that clearly shows the relationship and direction among co-operative members in developing economies, taking Tanzania as the case. Thus, the study hypothesises that;

H1: Participation in health insurance positively influences changes in dimensions of the well-being status of co-operative members.

5.5 The Role of Expectations and Expectations Levels in the Link Between PHI and CWBS

The relationship between PHI and CWBS is not necessarily linear and direct. We cannot assume that co-operative members' participation in the Ushirika Afya health insurance scheme directly improves their well-being statuses. Some other factors may influence such a relationship. For example, expectations during joining and continued membership to a particular health insurance scheme may influence the PHI-CWBS relationship. To better apprehend this, the study adopted the Theory of Dispositional Optimism. Scheier and Carver (1985) proposed the theory of dispositional optimism, which asserts that one's expectations about the future determine one's circumstances. The theory describes a person's dispositional trait in terms of their ability to act with positive expectations for future events consistent with their fundamental beliefs (Stosny, 2011). Thus, optimism is linked to various beneficial outcomes for individuals, including improved personal well-being (Marelich & Piercy, 2020; Diener *et al*., 1999). Optimism is a state of mind or attitude connected with a positive mindset on the social or material future that the evaluators consider socially desirable for their benefit (Marelich & Piercy, 2020; Peterson, 2006; Tiger, 1979).

In that context above, this suggests how one thinks about their decision or action dramatically impacts one's well-being. Also, if treated correctly, optimism in various community groups with comparable characteristics can positively impact their well-being (Peterson, 2006; Schneider, 2001; Ben Ze'ev, 2000). This implies that having more prominent and optimistic expectations can significantly impact individuals' decisions in specific situations and their well-being (Rasmussen *et al*., 2009; Chambers & Windschitl, 2004; Taylor & Brown, 1988). Consequently, an optimistic person may relax in a range of situations, allowing positive expectations to take over and waiting for positive outcomes that lead to beneficial changes in well-being (Radcliffe & Klein, 2002; Armor & Taylor, 1998).

Against this backdrop, it can be seen how optimism can be used as a powerful coping strategy and even a method of motivation by providing hope that something can be achieved. Based on this theory, it can be stated that a confident co-operative member looking at participation in the Ushirika Afya scheme in a positive way can potentially experience a brighter life and positively impact their well-being status. In this case, positive expectation from participating in such a health insurance scheme among co-operative members is expected to make them see themselves in the best possible position to transform their wellbeing. However, members with negative expectations towards participation in the Ushirika Afya scheme will likely experience no significant change in well-being status. A key element of expectations is that it puts one in a better position to improve well-being because they feel responsible for themselves (Liu *et al.,* 2020; de Meza & Dawson, 2020). Based on the above assertions, we expect that co-operative members' expectations to play a role in the link between PHI and CWBS. Thus, this study hypothesises that;

H2: Co-operative members' expectations mediate the relationship between PHI and CWBS.

In addition, based on the Theory of Dispositional Optimism, it is expected that expectation levels about participating in the Ushirka Afya scheme can be an effective coping tactic and even a method of motivating co-operative members to change their well-being status. Thus, a confident co-operative member with higher expectations levels for participation in the Ushirka Afya scheme can potentially live a brighter life, resulting in a favourable impact on their wellbeing status. In this instance, optimistic co-operative members are projected to have a higher and more advantageous position to improve their well-being status out of participation in health insurance under the Ushirka Afya scheme. Contrary to that, members with lower levels of expectations about participation in health insurance under the Ushirka Afya scheme are unlikely to see changes in their overall wellbeing status. Based on these arguments, this study assumes that the level of expectations among co-operative members can moderate the PHI-CWBS relationship. Hence, the study hypothesises that;

H3: Expectations levels moderate the PHI-CWBS relationship among co-operative members.

5.6 Methods

5.6.1 Study Design and Setting

Quantitative method research was adopted to analyse the relationship between an independent variable (participation in health insurance) and a dependent variable (changes in dimensions of well-being status). The method was also adopted to analyse the mediation role of expectation and the moderation effect of expectation levels on the relationship between PHI and CWBS. A cross-sectional survey design was used in this study. The design enabled the collection and analysis of data on the variations in independent variables to the dependent variable at a single point in time. Kilimanjaro and Arusha were selected to give out respondents for the study representing other regions of Tanzania where health insurance has been introduced to co-operatives. Arumeru and Moshi Districts were selected from the selected regions because co-operatives suiting this study's demands were available. The area was chosen conveniently because of its extraordinary history of co-operatives movements and practices. Also, the selected areas have co-operatives engaging in coffee farming, which have been identified by the government as a priority when coming to the Ushirika Afya scheme. The co-operatives selected were Aranga AMCOS, Mrimbo Uuwo AMCOS, Marangu East AMCOS, Kikarola SACCOS, and Mamba South AMCOS. Also, these co-operatives are currently or have been integrated by insurers into health insurance operations, Ushirika Afya in particular.

5.7 Data Collection and Sampling

Using questionnaires, data were collected from co-operative members who voluntarily decided to participate in the study in Arumeru and Moshi districts. The requirements for participation in this study were that the respondent was a member of a co-operative society who was once or currently a beneficiary of the Ushirika Afya scheme operated through the respective co-operative society.

To ensure the reliability of the tools used for data collection, a pilot study was conducted to test the relevance and understanding of questions among respondents. The pilot involved a sample of 50 respondents, who accounted for 10% of the total sample size for the study, as Viechtbauer *et al*. (2015) recommend. After pilot testing, alterations were made to the questions to reflect and fit respondents understanding. This enabled collecting sufficient and relevant information on

participation in health insurance and changes in well-being status among co-operative members. Such modifications included changing the terms and language that were not relevant to the respondents' level of understanding.

In total, 550 co-operative members filled out the questionnaire. Out of them, 71 members could not fill the questionnaire appropriately in the sections related to participation in health insurance and changes in dimensions of well-being status. Hence, the final sample for the study consisted of 479 co-operative members, of which 69 % were men and 31% were women. Their average age was 50.31 years (SD = 12.14). They had been members of their respective co-operatives for 8.57 years on average (SD = 6.97). Education level attained by members of co-operative ranges from primary (33%), secondary level (18.5%), certificate level (14.3%) and diploma and above (34.1%). The co-operative members' current employment statuses include government employees (18.9%), private sector employees (19.7%), self-employed accounted for 60.8%, and unemployed members 0.6%.

5.8 Measures and Procedure

To analyse participation, 6 items that used 5-point Likert scale were developed to determine co-operative members' perceptions of participating in health insurance. Participation in health insurance was conceptualised from the work of Rifkin (1986), and the tools were borrowed from Mladovsky (2014) and Liu *et al.* (2014) then customised to reflect co-operative members' context. For example, in an item, "*Without hesitations, I will be fully participating and using health insurance through co-operatives to meet my health needs*." Members were supposed to respond from 1 = strongly disagree to 5 strongly agree.

Members' expectations were measured through self-reporting questionnaires modified from the life orientation test (LOT-R) developed by Scheier *et al.* (1994) and customised to suit co-operative members' context regarding health insurance participation and changes in well-being status. Co-operative members responded to the questions on a 5-point Likert scale basis. The scale ranged from 1=not at all to 5=very much, where 5 indicated higher and positive expectations and 1 lower and negative expectations in changing well-being status as the result of participating in health insurance.

Changes in the wellbeing status of co-operative members and respective households were self-reported by reflecting the well-being dimensions as per AIHW (2021) and OECD (2021, 2015). Co-operative members were asked to show their level of agreement using a 5-point Likert scale from 1= strongly disagree to 5 strongly agree on how participation in health insurance has changed each dimension of well-being.

5.9 Data Analysis

The collected data were analysed using the partial least squares structural equation modelling (PLS-SEM) algorithm with SmartPLS 3.3.3-6 software. At first, SPSS version 24 was used to analyse descriptive statistics, and the PLS-SEM algorithm was used to analyse and test for variable relationships, as Ringle *et al.* (2015) recommended. Since the constructs were formative, the measurement model was evaluated for validity and reliability where convergent validity, collinearity between indicators, and significance and relevance of outer weights were determined (Hair *et al.*, 2017). Then, the structural model relationship of this study was tested by following the procedures stipulated by Hair *et al.* (2017) when analysing data using PLS-SEM in SmartPLS 3.3.3-6. Since the constructs were formatively measured, moderation analysis was performed using the two-stage approach as the aim was to identify the statistical implication of the moderator (Hair *et al.*, 2017), that is, expectations levels in the link between participation in health insurance and changes in co-operative members' well-being status.

5.9.1 Formative Measurement Model Criteria

This study adopted a formative measurement model to analyse the relationship between health insurance participation and co-operatives' well-being status changes. The formative measurement was adopted because each indicator in the model was meant to have no close substitute for capturing the construct's domain (Hair *et al.*, 2017; Hair *et al.*, 2011). In formatively measured constructs, convergent validity, collinearity between indicators, and significance and relevance of outer weights are to be determined. Hair *et al.* (2017) and Chin (1998) lay out the benchmark for assessing convergent validity, collinearity between indicators, and significance and relevance of outer weights. They recommend a score above 0.70 appropriate after redundancy analysis in the formative indicator construct for convergent validity. In Table 17, the formatively measured constructs *HI-Participation* and *Expectations* scored 0.839 and 0.791, respectively. Thus, all of the constructs conform to

convergent validity; that is, the constructs positively correlate with other measures of the construct when different indicators are used.

Moreover, the variance inflation factor (VIF) is considered a proxy measure of collinearity among indicators (Hair *et al.*, 2017). An indicator shows no potential collinearity threat if the VIF score is less than 5 (Hair *et al.*, 2017). Collinearity test results for all indicators are shown in Table 17, where all indicators score VIF less than 5. Therefore, there is no potential threat of collinearity among formative constructs that might affect the estimation and evaluation of the structural model when evaluating the association between participating in health insurance and changes in co-operatives' well-being status.

Table 17 : Convergent Validity and Collinearity Statistics

Formative Construct	Convergent Validity	Formative indicators	VIF
Expectations	0.791	Expct1	1.261
		Expct2	1.259
		Expct3	1.913
		Expct4	2.031
		Expct5	2.165
		Expct6	1.473
		Expct7	1.311
WB-Status	0.863	WBCivDty	4.665
		WBEdSk	4.754
		WBHSt	2.140
		WBHous	1.617
		WBIGA	2.991
		WBPeSec	1.604
		WBEvn	4.934
		WBJobs	2.129
		WBSocC	4.617
		WBLif	2.492
HI-Participation	0.839	PAT-1	1.045
		PAT-2	1.223
		PAT-3	1.037
		PAT-4	1.340
		PAT-5	1.317
		PAT-6	1.158

Regarding the indicators' outer weight and outer loading significance and relevance, the assessment intends to measure the indicators' exclusive importance and relevance in specifying contents and explaining the constructs (Hair *et al.*, 2017). The rule of thumb is that formative indicators' outer weights should be significant at $\rho < 0.05$ or the formative indicators' outer loading value > 0.5 for it to be kept for analysis. Otherwise, it should be removed (Hair *et al.*, 2017; Cenfetelli & Bassellier, 2009).

Table 18 shows the indicators' estimates for outer weights, outer loadings, *t* and *p* values, and confidence intervals obtained by the percentile method (BCa).

Table 18 : Formative Construct Outer Weights Significance Testing Results

Relationship	Outer Weights	Outer Loadings	97.5% BCa C.I	T Statistics	P Values	Significance
Expct1 -> Expectations	-0.313	-0.470	-0.465, -0.187	4.418	**0.000**	**Yes**
Expct2 -> Expectations	-0.051	-0.545	-0.202, 0.105	0.648	**0.517**	**No**
Expct3 -> Expectations	0.398	0.648	0.206, 0.595	3.956	**0.000**	**Yes**
Expct4 -> Expectations	0.106	0.867	-0.048, 0.265	1.348	**0.178**	**No**
Expct5 -> Expectations	0.490	0.749	0.328, 0.683	5.326	**0.000**	**Yes**
Expct6 -> Expectations	-0.384	-0.389	-0.544, -0.241	4.955	**0.000**	**Yes**
Expct7 -> Expectations	-0.227	-0.167	-0.358, -0.086	3.168	**0.002**	**Yes**
HI-Participation * Expectations <- Moderating Effect-ExpLevel	1.000	0.852	1.000, 1.000			
WBCivDty -> WB-Status_	0.081	0.653	-0.136, 0.303	0.727	**0.468**	**No**
WBEdSk -> WB-Status_	0.368	0.854	0.153, 0.581	3.357	**0.001**	**Yes**
WBHSt -> WB-Status_	0.333	0.840	0.19, 0.4818	4.627	**0.000**	**Yes**
WBHous -> WB-Status_	0.096	-0.759	-0.033, 0.225	1.478	**0.139**	**No**
WBIGA -> WB-Status_	-0.007	0.654	-0.185, 0.156	0.078	**0.938**	**No**
WBPeSec -> WB-Status_	-0.315	0.284	-0.447, -0.186	4.697	**0.000**	**Yes**
WBEvn -> WB-Status_	0.039	0.815	-0.177, 0.241	0.362	**0.717**	**No**
WBJobs -> WB-Status_	-0.144	0.589	-0.304, 0.019	1.734	**0.083**	**No**
WBSocC -> WB-Status_	0.253	0.808	0.001, 0.505	1.996	**0.046**	**Yes**
WBLif -> WB-Status_	0.327	0.806	0.170, 0.504	3.868	**0.000**	**Yes**
PAT-1 -> HI-Participation	0.599	0.695	0.225, 0.902	2.752	**0.006**	**Yes**
PAT-2 -> HI-Participation	0.381	0.893	-0.045, 0.811	1.657	**0.098**	**No**
PAT-3 -> HI-Participation	0.312	0.650	-0.044, 0.694	1.610	**0.107**	**No**
PAT-4 -> HI-Participation	-0.096	0.518	-0.601, 0.421	0.367	**0.714**	**No**
PAT-5 -> HI-Participation	0.490	0.624	0.065, 0.915	2.055	**0.040**	**Yes**
PAT-6 -> HI-Participation	-0.150	0.731	-0.572, 0.281	0.697	**0.486**	**No**

From Table 18 above, with all the indicators having met the threshold, they are significant and relevant in informing about the key constructs of the model and, therefore, kept in the study.

5.10 Findings and Discussion

5.10.1 Structural Model Measurement

The analysis of the structural model measurement involved the total effects of each exogenous construct *HI-Participation* to show its relationships to the endogenous construct WB-Status. Further, specific indirect effects were measured to assess the

mediation role of Expectations on the well-being status of co-operative members. Also, an interaction term, *ExpLevel*, was created to determine how it moderates the relationship between health insurance participation and changes in the well-being status of co-operative members.

5.10.2 Participation in Health Insurance and Changes in Well-being Status of Co-operative Members

Analysis was performed to assess the influence of health insurance participation on the changes in the well-being status of co-operative members. The hypothesis (H1) was that participation in health insurance positively influences changes in dimensions of the well-being status of co-operative members. The findings (Table 19) revealed that participation in health insurance significantly positively impacts changes in dimensions of well-being statuses among co-operative members (β = 0.193 t = 3.510 ρ = 0.000). Hence, we fail to reject H1. This means that participation in health insurance contributed significantly to improving and changing co-operative members' well-being status.

Table 19 : Total Effects

Relationship	Hypothesis	β	Standard Deviation	T Statistics	P Values
HI-Participation -> WB-Status_	H1	0.193	0.055	3.510	**0.000**
HI-Participation -> Expectations		0.179	0.048	3.888	**0.000**
Expectations -> WB-Status_		0.703	0.039	18.061	**0.000**
Moderating Effect -ExpLevel -> WB-Status_	H3	0.161	0.036	4.472	**0.000**

From the findings, as the co-operative members participate in health insurance, the probability of changing well-being statuses in various dimensions increases by more than 19%. These findings reflect those of Elley and Elley (2022), Ma (2022b), van Rijn (2022), Cardullo (2021), and Kaswan (2021), who found participation in health insurance to impact various dimensions of well-being among individuals. This may indicate that health insurance minimises financial distress and healthcare expenditures, reduces medical debts and associated medical costs, and increases peace of mind. Altogether, these facilitate co-operative members to effectively focus on improving various dimensions of their well-being. However, such improvements were not universal to all members in all dimensions of well-being. The findings of this study revealed that participation in health insurance had more impact in

changing such dimensions as attaining education and skills, improving health status, increasing a sense of personal security, increasing social connection, and stabilising life and work-life balance among co-operative members and their households.

After analysing the outer weights, however, findings revealed that changes in other well-being dimensions, such as increasing participation in civic duties and taking part in governance duties; involvement in income-generating activities and increasing wealth; creating and maintaining quality environments, and securing jobs and source of earnings was not influenced by participation in health insurance. These findings are somewhat surprising given that other studies (e.g., Batty *et al*., 2022; Consejero & Janoschka, 2022; Wang *et al*., 2022 and Kennelly & Odekon, 2016) found that participation in health insurance has a significant positive relationship in such dimensions of well-being. Such contradicting results may be due to the differences in the context and nature of activities that co-operatives members are engaging in.

5.10.3 Mediation Role of Expectation on the Relationship Between PHI and CWBS

Moreover, the study tested if expectations out of participating in health insurance can mediate the relationship between PHI and CWBS among co-operative members. The hypothesis was that co-operative members' expectations mediate the relationship between PHI and CWBS.

At first, the findings in Table 19 reveal the relationship between the mediator and the independent and dependent variables. The findings show that participation in Ushirika Afya health insurance depends on co-operative members' expectations. These expectations, among others, are to improve their health and that of family members, reduce medical costs, increase the scope of treatment, and provide timely access to treatment. This means members without such expectations have no reason to participate in Ushirika Afya health insurance. However, members with the above aspirations are likely to see participation in health insurance through the co-operatives as part of achieving such expectations. This is why the study's findings show a positive and significant relationship between participation in health insurance and members' expectations (Table 19; $\beta = 0.179$ $t = 3.888$ $\rho = 0.000$). At the same time, co-operative members' expectations of Ushirika Afya play a key role in improving their well-being status. That is to say, members with certain expectations

in life are in a position to work harder to realise their aspirations, well-being improvements in particular. This is evident from the findings of our study as the relationship between expectations and the well-being status of members has been positive and significant (Table 19; $\beta = 0.703$ $t = 18.061$ $\rho = 0.000$).

The findings for the mediation effect of expectation on the relationship between PHI and CWBS are shown in Table 20.

Table 20 : Specific Indirect Effect

Relationship	Hypothesis	β	Standard Deviation	T Statistics	P Values
HI-Participation -> Expectations -> WB-Status_	H2	0.127	0.039	3.285	**0.001**

Mediation analysis was performed, and the findings (Table 20) revealed that expectations mediate the impact of PHI on CWBS ($\beta = 0.127$ $t= 3.285$ $\rho = 0.001$). Hence, H2 was supported, meaning co-operative members' expectations mediate the relationship between PHI and CWBS. Since Table 19 findings revealed a significant direct effect between health insurance participation and changes in the wellbeing status of co-operative members ($\beta = 0.193$ $t = 3.510$ $\rho = 0.000$), expectations partially mediate such a relationship. These findings uphold the ideas of Rasmussen *et al*. (2009), Krizan and Windschitl (2007), and Peterson (2006). They stated that well-treated expectations in communities with similar characteristics could significantly impact and shape decisions in specific situations such as well-being. The findings of this study imply that positive change and improvements in the well-being status of co-operative members, among others, do not depend alone on participation in health insurance. Co-operative members' expectations out of such participation in health insurance also count in such changes. Such expectations in aspects as fair treatment in the health insurance scheme and health facilities; reduced barriers in access to health facilities and coverage of the health insurance in concern; reduced health expenditure, and general improvements in health status, among others, form the base towards striving to improve well-being status of co-operative members. Such expectations influence and catalyse decision-making that aligns with other initiatives to improve co-operative members' wellbeing.

5.10.4 Moderating Effect of Expectations Level on PHI-CWBS Relationship

The study intended to assess if the expectations levels among co-operative members moderate the relationship between PHI and CWBS among co-operative members. The study found that expectations levels positively moderate the relationship between PHI and CWBS, as shown in Table 21. As the hypothesis was that expectation levels moderate the PHI-CWBS relationship among co-operative members, H3 is supported.

Table 21: Moderation Effect of Expectations Leves on PHI-CWBS relationship

Variable	Expectations	HI_Participation	Moderating Effect- ExpLevel	WB_Status
Expectations				0.710
HI_Participation	0.179			0.165
Moderating Effect-ExpLevel				0.161
WB_Status				

From the findings above, the interaction term (Moderating Effect- ExpLevel) positively affects WB-Status (0.161), whereas HI-participation has a simple effect of 0.165 on WB-Status. This implies that the magnitude of the relationship between PHI and CWBS is 0.165 for an average level of expectations. For positive higher levels of expectations, the extent of the relationship between HI-participation and WB-Status increases by the size of the interaction term and becomes 0.326 (i.e., 0.165 + 0.161 = 0.326). On the contrary, for negative lower levels of expectations, the magnitude of the relationship between HI-participation and WB-Status decreases by the size of the interaction term. It becomes 0.004 (i.e., 0.165 - 0.161 = 0.004). This relationship can be better depicted in the simple slope plot in Figure 10.

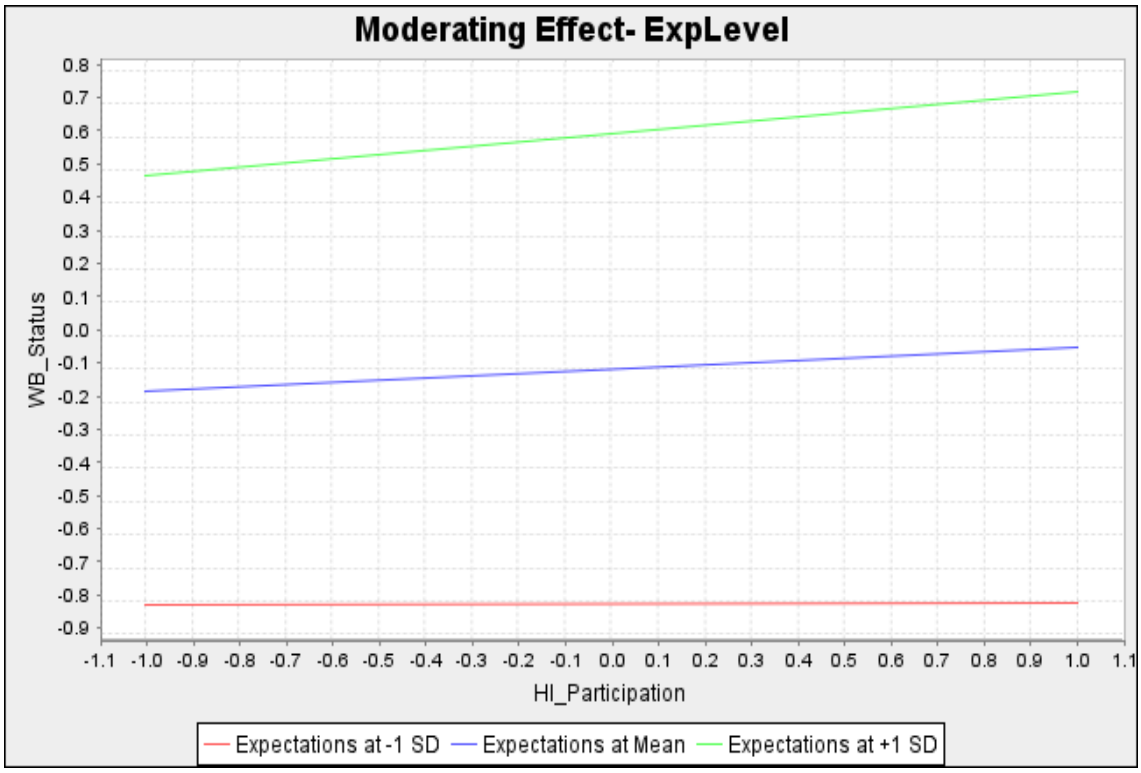

Figure 10 : Simple slope plot of the moderating effect of expectations levels

The simple slope plot (Figure. 10) visualises the two-way interaction effect. The three lines in Figure. 10 represents the relationship between PHI (x-axis) and CWBS (y-axis). The middle line represents the relationship for an average level of the moderator variable Expectations Levels. The other two lines represent the relationship between PHI and CWBS for higher (i.e., the mean value of ExpLevel plus one standard deviation unit) and lower (i.e., the mean value of ExpLevel minus one standard deviation unit) levels of the moderator variable Expectations levels. As we can see, the relationship between HI-participation and WB-Status is positive for all three lines, as indicated by their positive slope. Hence, higher levels of co-operative members' expectations go hand in hand with higher levels of changes in well-being status.

In addition, if an analysis of the moderating effect's slope is done in greater detail, it gives more insights into the relationship between PHI and CWBS. From Figure. 10, the upper line, which represents a higher level of the moderator construct *ExpLevel*, has a steeper slope, while the lower line, which represents a lower level of the moderator construct ExpLevel, has a flatter slope. This makes sense since the interaction effect is positive. Hence, the simple slope plot supports our previous

discussion of the positive interaction term: Higher expectations levels entail a stronger relationship between PHI and CWBS, while lower levels of expectations lead to a weaker association between PHI and CWBS. These results support that expectation levels significantly and positively affect the relationship between PHI and CWBS, as seen in Table 19 (H3) ($\beta = 0.161$ $t = 4.472$ $\rho = 0.000$). Thus, the higher the expectations levels, the stronger the relationship between health insurance participation and changes in well-being status among co-operative members. This implies that a positive mindset and expectations of health insurance participation trigger co-operative members' abilities and beliefs to act positively in changing and improving their well-being status in various dimensions. These findings suggest that co-operative members with higher positive expectations levels out of health insurance participation are in an advantageous position to make and allow positive decisions that positively impact their wellbeing. Contrary to that, co-operative members with lower expectations limit themselves in making various effective decisions that benefit them when changing their wellbeing status.

5.11 Conclusion and Theoretical Implications

This study was set to assess the relationship between participating in health insurance and changes in the wellbeing status of co-operative members. The study also tested for the mediation role of expectations and the moderation effect of expectations levels on the relationship between participating in health insurance and changes in well-being status. Findings indicated that participation in health insurance significantly and positively influences changes in the wellbeing status of co-operative members. Nonetheless, expectations partially mediate the relationship between health insurance participation and changes in the well-being status of members. Overall, study findings revealed that having higher levels of expectations out of health insurance participation among co-operative members signifies potential positive changes and improvements to their well-being status.

On the contrary, members with a lower level of expectation out of participating in health insurance are less likely to change their well-being statuses. For this, the Theory of Dispositional Optimism is supported as findings indicate that optimistic co-operative members entrusting higher levels of expectations when participating in health insurance were likely to report positive change and improvements in their well-being status compared with their counterparts. Such expectations in

participating in health insurance were found to be an effective coping strategy and a motivation that provided hope and confidence to co-operative members about a brighter life and positively impacted their well-being status.

5.12 Limitations and Suggestions for Further Studies

This study is among the first empirical studies in Tanzania that assess the relationship between health insurance participation and changes in co-operative members' well-being. However, despite the practical and theoretical implications of the above discussions, some limitations must be delineated for other potential studies. To start with, the data for this study was collected from co-operative members only in selected districts (Arumeru and Moshi Districts) in Tanzania using a questionnaire survey. Thus, by involving co-operative members only from selected districts in this study, the findings must be generalised cautiously. Hence, the study suggests that future studies should consider larger areas and even include non-members of co-operatives to have a better conclusion.

Additionally, given that the effects of other variables, such as demographic characteristics of the co-operative members, were not considered in analysing the PHI-CWBS relationship, the study suggests future studies to investigate the impact of these factors. Finally, the study employed cross-sectional data that did not consider the well-being status before joining and compared it with the status after joining the insurance scheme. Hence, future studies may analyse the well-being status before and after joining the health insurance scheme. However, these limitations do not nullify the findings and implications of this study as it serves as an initial point for future empirical research.

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CHAPTER SIX

6.0 SUMMARY, CONCLUSIONS, RECOMMENDATIONS, IMPLICATIONS, AND AREA FOR FURTHER RESEARCH

6.1 Summary of the Findings

6.1.1 Co-operative members' traits and health insurance participation behaviour

In analysing the influence of co-operative members' traits on health insurance participation behaviour, findings indicated that members' behavioural control, characteristics, and attitudes positively and significantly influence participation in health insurance. The results revealed that member characteristics regarding age, knowledge of insurance operations, history of chronic diseases, income, household size, and education level are the primary drivers with a higher positive effect (more than 62%) in influencing co-operative members' participation in health insurance. Findings also show that co-operative members' positive attitude toward health insurance predicts and influences them to participate and encourage other members to join health insurance. However, any change in co-operative members' attitudes toward health insurance will likely change their likelihood to participate in response to the direction of that change. Similarly, members' behavioural control in terms of the beliefs and confidence in their capabilities and that of their leaders and other members in issues relating to health insurance increases members' likelihood to participate in health insurance. Thus, co-operative members' traits, as reflected in their characteristics, attitudes, and behavioural control patterns, play a pivotal role in influencing and increasing participation in health insurance, hence its sustainability.

6.1.2 Willingness to pay for health insurance among co-operative members

The study also analysed the co-operative members' willingness to pay for health insurance. The findings reveal that over 98% of co-operative members involved in this study were willing to pay for health insurance. Moreover, the study's findings indicate that 87.4% of co-operative members involved in this study were willing to pay above or below the current prices offered by health insurance funds or companies. Impliedly, members who benefited or integrated with the NHIF in the Ushirika Afya scheme were willing to pay an annual premium of TZS 76 800 for each co-operative member and their dependents (Spouse and parents) and TZS 50

400 for children below the age of 18. Nonetheless, about 12.6% (62) of the respondents, particularly those insured by private health insurance companies, were reluctant to continue paying the current price and were willing to pay relatively below the prevailing prices. Private health insurance companies charge annual premiums ranging from TZS 30 000 to TZS 220 000 per individual with varied healthcare service cover based on the premium paid.

Further, the analysis revealed that the price of health insurance in terms of premium paid significantly negatively impacts willingness to pay (β = -0.122 t = 2.311 ρ = 0.021). This indicated that whenever the price of health insurance increases by one unit, the willingness to pay decreases by more than 12%. Impliedly, a price increase jeopardises co-operative members' willingness to pay for health insurance and reduces the number of members who renew it. Also, this situation triggers dropout from health insurance schemes among co-operative members. However, it was revealed that the loan from commercial banks (NMB, CRDB, and TCB) to finance health insurance seemed to reduce the burden of costs for premiums, stimulating willingness to pay for "Ushiraka Afya" among co-operative members. After running a mediation analysis to assess the mediating role of trust issues in the linkage between price and willingness to pay for health insurance, the findings show that trust issues do not mediate the link (β = 0.057 t= 1.100 ρ = 0.271). This study's findings suggest that willingness to pay for health insurance is influenced by co-operative members' ability to pay the premiums rather than how they trust the insurers and health facilities.

Moreover, the study assessed the role of quality attributes of the health insurance provider and health facilities on willingness to pay for health insurance. Findings reveal that the relationship between quality and willingness to pay is insignificant (β = 0.118 t = 1.895 ρ = 0.058). Even if it is a surprising finding, this means that variations in quality attributes of health insurance services do not influence co-operative members' willingness to pay for health insurance. For this study, these findings imply that quality attributes of health insurance and health facilities reflect what co-operative members expect in relation to the amount or costs paid for health insurance. However, the relationship between quality and willingness to pay is fully mediated by trust. Co-operative members' willingness to pay for health insurance is not just based on how much they appreciate and enjoy the quality of the services they

receive; instead, they need to trust the healthcare facilities, personnel, and tools employed to treat them.

In analysing WTP for health insurance among co-operative members, the study also assessed the influence of access criteria on the link. The findings indicate that access significantly positively impacts willingness to pay ($\beta = 0.136$ $t = 2.552$ $\rho = 0.011$). Whenever access criteria vary by one unit, willingness to pay varies by 13.6% in response to such variations. From these findings, willingness to pay for health insurance increases when access criteria favour the insured co-operative members in such aspects as guaranteed service to near public/government or private hospitals and specialised clinics and unrestricted use of insurance cards per day. On the other hand, the relationship between access and willingness to pay is partially mediated by trust. Based on these findings, having access alone does not guarantee an increased willingness to pay for health insurance but rather a prevalence of trust among individuals and the institutions offering health insurance and health services. Co-operative members should not fear being serviced by unfamiliar individuals or institutions for them to pay for health insurance willingly.

6.1.3 Health insurance literacy and participation in health insurance among co-operative members

The findings revealed that HIL significantly positively impacts PHI among co-operative members ($\beta = 0.222$ $t = 2.270$ $\rho = 0.023$). These findings indicated that as the co-operative members' literacy on health insurance increases by 1 unit, the probability of participating in Ushirika Afya increases by more than 22%. These findings reflect that increased co-operative members' knowledge, ability, confidence, and information regarding Ushirika Afya increases their likelihood of choosing and using Ushirika Afya as their health insurance plan. In relation to that, the study tested if co-operative institution capabilities moderate the relationship between HIL and PHI among co-operative members. The findings revealed that co-operative institution capabilities positively moderate the relationship between HIL and PHI.

For co-operative institutions with average capabilities, the magnitude of the relationship between HIL and PHI is 22.2%. In contrast, for co-operatives with higher capabilities regarding health insurance, the magnitude of the relationship between HIL and PHI is strengthened and becomes 32.7%. Nonetheless, the

relationship between HIL and PHI weakens for the co-operative institutions with lower capabilities and becomes 11.7%. These findings imply satisfaction with the co-operative institution's capabilities in aspects such as leadership; human, financial, and technological resources; support systems; the level of regulatory mechanisms; bureaucracy and communication lines; and complaints handling relating to Ushirika Afya operations intensify the HIL-PHI relationship among co-operative members. Contrarily, co-operative institutions with lower capabilities may hinder and weaken the effective relationship between HIL and PHI among co-operative members.

6.1.4 Participation in health insurance and changes in wellbeing status of co-operative members

The study hypothesised that participation in health insurance positively influences changes in the wellbeing status of co-operative members. The findings revealed that participation in health insurance contributed positively and significantly to improving and changing the wellbeing status of co-operative members ($\beta = 0.193$ $t = 3.510$ $\rho = 0.000$). Generally, as the co-operative members participate in health insurance, the probability of changing wellbeing statuses in various dimensions increased by more than 19%. However, not all dimensions of wellbeing seemed to be affected by participation in health insurance. The findings revealed that such dimensions as attaining education and skills; improving health status; increasing personal security; increasing social connection; and stabilising life and work-life balance among co-operative members and their households were more affected. These findings imply that whenever co-operative members participate in health insurance, they minimise financial distress and reduce healthcare expenditures, medical debts, and associated medical costs and increase peace of mind that triggers effective focus on improving various dimensions of wellbeing. Nonetheless, findings revealed that such dimensions as increasing participation in civic duties and taking part in governance duties, participation in income generating activities and increasing wealth, creating and maintaining quality environments and securing jobs and source of earnings was not influenced by participation in health insurance.

Moreover, the study tested if expectations and expectations levels out of participating in health insurance can mediate and moderate, respectively, the relationship between participation in health insurance and changes in wellbeing status among co-operative members. Findings revealed that expectations partially mediate the relationship

between participation in health insurance and changes in wellbeing status of co-operative members ($\beta = 0.127$ $t= 3.285$ $\rho = 0.001$). Such expectations in aspects as fair treatment in the health insurance scheme and health facilities; reduced barriers in access to health facilities and coverage of the health insurance in concern; reduced health expenditure, and general improvements in health status, among others, serve as the pillar for efforts of improvement in wellbeing status of co-operative members.

Furthermore, the study found that co-operative members' expectations levels positively moderate the relationship between PHI and CWBS. Findings indicate that, for an average level of expectations, the magnitude of the relationship between participation in health insurance and changes in wellbeing status stands to be 16.5%. Comparatively, with positive higher levels of expectations, the magnitude of the relationship between participation in health insurance and changes in wellbeing status increases and becomes 32.6%. On the contrary, for negative lower levels of expectations, the magnitude of the relationship between participation in health insurance and changes in wellbeing status decreases to 0.4%. These findings signify that a positive mindset and higher expectations of health insurance participation trigger co-operative members' abilities and beliefs to act positively in changing and improving their wellbeing status. Nonetheless, lower expectations limit co-operative members from making effective decisions that benefit them in changing their wellbeing status in various dimensions.

6.2 Conclusion and Recommendations

6.2.1 Co-operative members' traits and health insurance participation

The first manuscript covering the study's first objective was to analyse how co-operative members' traits influence health insurance participation in co-operatives. The findings indicated that co-operatives members' characteristics, attitudes, and behavioural control positively influence participation in health insurance. Expressly, results regarding members' characteristics showed a stronger positive significant influence on participation than that of attitudes and behavioural control. To promote and sustain participation in health insurance through co-operatives, it is necessary to understand the traits of co-operative members in all dimensions that have the potential to influence their decision-making patterns. Thus, inadequate understanding of co-operative members' traits in such aspects as their characteristics, attitudes, and behavioural control has implications for health insurance providers since it will lead

to improper design and, ultimately, failure of insurance plans meant for co-operative members. This study, therefore, suggests and recommends that;

i. Insurers should further assess and consider members' traits that strengthen and increase their likelihood of participating in health insurance. Specifically, insurers should devise health insurance packages that accommodate all kinds of individuals by reflecting age, history of chronic diseases, income, and household size to increase the number of participants in health insurance.
ii. Insurers, government, and co-operatives should invest more in creating awareness programs that increase individuals' knowledge and understanding of health insurance operations. Hence, they make an effective and informed decision for participation.
iii. Co-operative leaders and insurers should increase transparency and accountability in dealings relating to health insurance to maintain co-operative members' beliefs and confidence in participating in health insurance.

6.2.2 Willingness to pay for health insurance among co-operative members

The second manuscript analysed co-operative members' willingness to pay for health insurance. Given that they trust the scheme and that access barriers are manageable, most co-operative members are willing to pay for health insurance at the current price or even a somewhat higher price. In contrast, as long as co-operative members do not raise trust issues, their willingness to pay for health insurance remains unchanged regardless of the quality attributes. This is to say; trust fully mediates quality as to willingness to pay for health insurance among co-operative members. Moreover, based on the study findings, access criteria alone do not guarantee willingness to pay for health insurance, but rather, it goes hand in hand with a high level of trust between co-operative members and the institutions providing health insurance and health services. This is generally to say co-operative members should not fear being serviced by unfamiliar individuals or institutions for them to willingly pay for health insurance at a given price, quality attributes, or access criteria. Therefore, the study recommends that for an increased willingness to pay for health insurance among co-operative members;

i. Firm trust is needed among and between co-operators, management, health insurers, and health facilities.

ii. Co-operative leaders, in corroboration with health insurance providers and health facilities, must ensure the quality of health insurance packages and the services of the health facilities accredited to serve the insured co-operative members.

iii. Health insurance providers should make efforts to reduce barriers and guarantee access to nearby health facilities and frequency of insurance card usage per day.

iv. For an increased willingness to pay and continued development in health insurance in Tanzania, there should be awareness programs to sensitive and educate individuals that health insurance's primary focus is improving health status rather than mare treatment and cure during health eventualities.

6.2.3 Health insurance literacy and participation in health insurance among co-operative members

The third manuscript analysed the relationship between HIL and PHI among co-operative members. HIL was found to enlighten and expose co-operative members to issues relating to health insurance costs, risks, benefits, operations, procedures, and coverage. Also, HIL increases co-operative members' knowledge, ability, confidence, and information, allowing them to make an informed decision about participation in health insurance. Moreover, the HIL-PHI relationship becomes stronger and weaker when the CIC level is high and low, respectively. With an adequate level of HIL, whenever co-operative members assess and are satisfied with CIC in such domains as leadership; human, financial, and technological resources; support systems; level of regulatory mechanisms; bureaucracy and communication lines and complaints handling relating to health insurance, they increase participation in health insurance. For sustainable participation and increased coverage in health insurance among co-operative members and other individuals, this study therefore, recommends that;

i. Co-operatives and health insurance providers should formulate awareness programs and other continuous training initiatives to increase HIL among individuals.

ii. Stakeholders of the health insurance and co-operatives sector should create and increase continuous programs and efforts that build institutional capabilities in various dimensions relating to health insurance for all key institutional players.

6.2.4 Participation in health insurance and changes in wellbeing status of co-operative members

The fourth manuscript was set to assess the relationship between participating in health insurance and changes in dimensions of wellbeing status among co-operative members. From the findings, whenever co-operative members decide to participate in health insurance, their wellbeing status is likely to positively and significantly change and improve. Participation in health insurance, among others, minimises financial distress and reduces healthcare expenditures; reduces medical debts and associated medical costs and increases peace of mind that triggers effective focus on improving various dimensions of wellbeing. In the same vein, co-operative members with higher expectations out of health insurance participation were in a better position to positively change and improve their wellbeing statuses. Expectations from health insurance were reported to be a useful coping mechanism and a source of motivation that gave co-operative members hope and confidence about a better life, positively affecting their wellbeing.

On the contrary, members with lower levels of expectation out of participating in health insurance were in a lesser position to change their wellbeing statuses. Thus, expectations that include fair treatment in the health insurance scheme and medical facilities, fewer barriers to accessing healthcare, lower medical costs, and general improvements in health status, among others, act as the cornerstone for the initiatives to improve the wellbeing status of co-operative members. For effective change and improvement in wellbeing status as a result of participating in health insurance among co-operative members, the study recommends that;

i. In partnership with cooperative leaders, health insurance providers should design and offer health insurance packages that minimise health and healthcare stresses and increase peace of mind among co-operative members for them to effectively focus on improving various dimensions of wellbeing.
ii. Any health insurance product or service should ensure fair treatment, cut barriers to accessing healthcare, lower medical costs, and improve the health status of co-operative members, which will eventually change and improve their wellbeing status.

6.3 Contributions of the Study

6.3.1 Theoretical Contributions

The theory of planned behaviour was adopted to analyse the influence of co-operative members' traits on participation in health insurance. Two conventional elements of the theory, attitude and behavioural control, were used to analyse co-operative member participation behaviour in health insurance. In line with the theory's assertions, positive attitude and behavioural control tend to influence co-operative members' participation behaviour in health insurance. In contributing to the body of knowledge and supplementing TPB, an additional element, "member characteristics", was devised to accompany further the two stated dimensions in predicting co-operative members' participation behaviour in health insurance. It was also confirmed that member characteristics have a significant influence on predicting co-operative members' participation behaviour in health insurance. Hence, the study has applied, contributed, and validated the applicability of the theory to predict behaviour in the context of co-operatives in emerging economies.

The study also adopted the social capital theory to understand better the determinants of willingness to pay for health insurance among co-operative members. This study has added and contributed to the theory by applying one key and important dimension of the theory, trust, to mediate determinants of willingness to pay for health insurance among co-operative members. There are two interesting theoretical inferences for scholars coming out of the findings of this study based on the hypotheses laid down. First, even though social capital theory hypothetically emphasises trust to mediate the relationship between price and willingness to pay, this study's findings disagree with the theory as trust has no role in the co-operative members' context. However, the price itself negatively and significantly influences the willingness to pay for health insurance among co-operative members. The second implication of the study is the absence of a direct relationship between quality and willingness to pay in the structural model, while mediation analysis incorporating trust revealed a relationship between quality and willingness to pay for health insurance. This supports the social capital theory as trust issues among co-operative members proved to dictate and regulate bonding and capabilities as to willingness to pay for health insurance. The overall implication of the theory in this study is that the

degree of trust among and between co-operative members facilitates their actions and collaborations as to their willingness to pay for health insurance. Thus, whenever individual co-operative members or groups of members incline a huge trust in health insurance actors, they will expect health insurance services to be of reasonable quality with minimum barriers to access to pay for it at a given price willingly.

The institutional theory of organisations was also adopted for this study to inform the relationship between HIL and PHI among co-operative members. Using the institutional theory of organisations, the study analysed how the co-operative institution capabilities in normative, regulative, and cultural-cognitive dimensions can moderate the relationship between HIL and PHI in the co-operative members' context. The study findings revealed that co-operative institution capabilities moderate the HIL-PHI relationship supporting the institutional theory of organisations. The implication is that the HIL-PHI relationship is strengthened whenever co-operative members gauge and satisfy with co-operative institution capabilities in such dimensions as normative, regulative, and cultural-cognitive relating to Ushirika Afya. Specifically, co-operative institutions' incapability in leadership; human, financial, and technological resources; support systems; level of regulatory mechanisms; bureaucracy and communication lines, and complaints handling relating to Ushirika Afya operations will likely weaken the link between HIL-PHL. Thus, this study has contributed to the body of knowledge by applying and validating the applicability of the institutional theory of organisations to the relationship between HIL and PHI in co-operatives and developing economies context.

The Theory of Dispositional Optimism was adopted to analyse the mediation role of expectations and the moderation effect of expectations levels on the relationship between participating in health insurance and changes in dimensions of wellbeing status among co-operative members. This study is among the first empirical studies in Tanzania that assess the relationship between participation in health insurance and changes in wellbeing dimensions of co-operative members adopting the Theory of Dispositional Optimism. Previous studies and this study found the link between participation in health insurance and change in wellbeing status among co-operative members to be positive and significant. Based on the Theory of Dispositional Optimism, this study adds to the literature that expectations out of participation

partially mediate health insurance participation and changes in wellbeing status among members. Moreover, having higher levels of expectations out of health insurance participation among co-operative members signifies potential positive changes and improvements to their wellbeing statuses. On the contrary, members with lower levels of expectation out of participating in health insurance are in a lesser position to change their wellbeing statuses. For this, the Theory of Dispositional Optimism is supported and validated in the co-operative members' context.

6.3.2 Empirical Contributions

This study is a step toward filling research gaps by extending prior discussions to in-depth underlying theoretical perspectives and practices concerning health insurance. The findings of this study contribute to the body of knowledge by offering significant implications to the global and local context of health insurance literature, particularly to the co-operative members' context as one segment of the population. First, literature that has adopted TPB has suggested and proved that individuals' attitudes and behavioural control positively relate to health insurance participation. Besides, this study's findings come with an additional element (i.e., member characteristics) to test the theory in the context of co-operative members. Specifically, this study finds that individual (i.e., co-operative member) characteristics also shape participation behaviour in health insurance. Thus, the study findings contribute to the current literature by adding a new perspective that other studies can base on studying and understanding health insurance participation behaviour among individuals.

Second, this study found that individuals (i.e., co-operative members) are willing to pay for health insurance. Besides, the prevailing price negatively affects individuals' willingness to pay for health insurance. Moreover, improved quality attributes and favourable access criteria on the health insurance scheme stem as promoters of willingness to pay for health insurance among individuals. Further, the findings of this study, except for the relationship between price and willingness to pay for health insurance, trust issues fully and partially mediate quality attributes and access criteria, respectively, in that relationship. These findings of the study chain and complement existing literature on willingness to pay for health insurance.

Third, the finding of this study complements previous research on health insurance literacy. The argument is that health insurance literacy is key to increased participation in health insurance across populations. In addition, at given levels of HIL, individuals in institutions with higher capabilities concerning health insurance are likely to increase participation in health insurance than their counterparts in institutions with lower capabilities in health insurance. Thus, this study's findings also shed light on the health insurance literature by giving insights into how institutions' capabilities moderate the relationship between health insurance literacy and participation in health insurance.

Fourth, it is uncommon to find plenty of literature that relates participation in health insurance and changes in the wellbeing status of individuals. This study's findings supplement the existing scarce literature by analysing and showing how participation in health insurance contributes to changing individuals' wellbeing statuses. This study finds that participation in health insurance among individuals (i.e., co-operative members) significantly and positively influences changing their wellbeing status. Further, this study's findings enrich the existing literature on how individuals' expectations and expectations levels can respectively mediate and moderate the PHI-CWBS relationship across populations. The study finds that individual expectations on participation in health insurance partially mediate the PHI-CWBS relationship, whereas higher levels of expectations on health insurance participation are more likely to suggest a positive change in wellbeing status, contrary to those with lower levels of expectations.

6.3.3 Policy and Practical Contributions

The findings of this study are significant in informing all stakeholders involved in the realisation of universal health insurance coverage (UHIC) in Tanzania. The findings of this study inform policymakers, the Ministry of Health, NHIF, private health insurance companies, co-operatives, and other development partners about important aspects that need to be taken on board in initiatives for realising UHIC. This study's findings inform these policymakers and other stakeholders about the effects and importance of individuals' traits in stimulating, maintaining, and increasing participation in health insurance.

Also, the study findings enlighten policymakers and other stakeholders about health insurance literacy as a key aspect in designing, organising, and operating universal

health coverage initiatives in the country. Being informed about the need for health insurance literacy, policymakers and other stakeholders can devise relevant training programs and other initiatives to increase HIL across populations for feasible UHIC initiatives.

Further, this study's findings pinpoint the need for preparedness and responsiveness among policymakers and other stakeholders in building institutional capabilities on normative, regulative, and cultural-cognitive dimensions relating to health insurance. This will stimulate the institutions responsible for health insurance to provide effective and quality health insurance services that will likely increase individuals' confidence in participating and utilising health insurance.

Lastly, since the findings of this study report that participation in health insurance contributes positively to the change and improvement in the wellbeing status of individuals (i.e., co-operative members), it is one of the contributions geared towards strengthening the wellbeing initiatives as one crucial component of the global sustainable development agenda.

6.4 Limitations and Area for Further Research

This study has some limitations emanating from conceptualisation, data collection, and interpretation of the findings. First, this study analysed and reported a direct link between co-operative members' traits (member characteristics, attitude and behaviour control) and participation behaviour in health insurance. The study suggests the thought of other studies that consider other variables that might intervene and explain more about participation behaviour, taking into account laws, policies, and regulations that govern insurance and co-operative industries in emerging economies like Tanzania.

Second, while this study capitalised on analysing the willingness to pay for health insurance, the focus was only on co-operative members; future studies can capitalise on different industries and different categories of individuals to complement the findings of this study. Also, future studies can relate willingness to pay with the effectiveness of the health insurance schemes in meeting members' expectations.

Third, even though this study has shown practical and theoretical implications on HIL-PHI relationships as far as CIC is concerned, the data and analysis of this study were based on co-operative members only in selected districts in Tanzania. As the

concept of HIL cuts across diverse populations when it comes to PHI, the study suggests that future studies consider larger areas, including different categories of populations, for better conclusions.

Lastly, the study employed cross-sectional data to analyse the relationship between participation in health insurance and changes in the wellbeing status of co-operative members. The data did not consider the wellbeing status before joining and compared it with the status after joining the insurance scheme. Future studies may analyse wellbeing status before and after joining the health insurance scheme.

APPENDICES

Appendix I : Data Collection Tools

My name is Petro G Nzowa. I am a PhD candidate at Moshi Co-operaive University (MoCU). As part of my PhD studies, I am researching "***Antecedents and Consequences of Participation in Health Insurance among Co-operative Members***". Kindly assist me in completing this questionnaire as objectively as possible. It will take about 60 minutes to fill all the necessary information. The information given out is solely for academic purposes and would be treated as confidential. Thank you.

You can communicate with my supervisors if you need any explanation:

Dr Nandonde, F.A.: e-mail address **nandonde@sua.ac.tz**
Dr Seimu, S.M.L.: **seimusml@gmail.com**

Write or tick the appropriate response to each of the following questions or statements.

Questionnaire number		Name of a surveyor	
Respondent's code		Type of Co-operative	
Name of the Co-operative			

A: Respondents' demographic characteristics

Please provide answers according to the instructions given

1. Gender: Male [ ] Female [ ]
2. Your marital status: Married [ ] Single [ ] Divorced [ ] Widowed [ ]
3. Age……..years
4. Education level: Primary Education [ ] Secondary education [ ] Certificate course [ ] Diploma [ ] Advanced diploma [ ] Bachelor degree [ ] Others (specify)…..……
5. What is your employment status?

Government employee	
Private sector employee	
Self-employed	
Unemployed	

6. Who is the household head? **Father** **Mother**
7. What is the employment status of the household head?

Government employee	
Private sector employee	
Self-employed	
Unemployed	

8. What is the size of household members? ……
9. The number of dependants in your household?.....
10. How long have you been a member of your co-operative? …….
11. Are you aware of the existing health insurance schemes/funds in Tanzania? Yes [ ] No [ ]
12. If your answer is yes in question 11, mention the health insurance scheme(s) you heard.
    1. ……
    2. ……
13. Are you a member of any health insurance scheme/fund? Yes [ ] No [ ]
14. What is the nature of that health insurance service offered in your co-operative?

Compulsory and Universal to all members	
Voluntary	
Others (specify)……..	

15. Are the health insurance strategies in your Co-operative related/affiliated to other health insurance fund/scheme? Yes [ ] No [ ]

    If yes, which health fund/scheme is your organization affiliated with?

National Health Insurance Fund (NHIF)	
Community health fund (CHF)	
Others (kindly mention them) ……	

16. Who are Eligible beneficiaries?

Co-operative Members only	
Co-operative Members and their dependents	
Anyone with health needs, as long as they contribute the required amount	

17. How much do you contribute to be given health insurance in relation to your health needs?.....
Is that amount equal for all members? Yes [ ] No [ ]
If No, what is the nature of such contributions?

A single amount is applied irrespective of the number of dependents of a member.	
Equal amount for a member and his/her dependents	
The dependants' amount is reduced compared to the member's amount.	
Others (kindly specify) ……	

18. How is the health insurance operated in your co-operative?

Cash is given to members/beneficiaries whenever they become sick.	
There is a special card for members/beneficiaries.	
Others (kindly specify) ……	

19. Apart from membership in health insurance through your co-operative, are you a member of any other insurance scheme/fund? Yes [ ]No[ ]
If yes, what are the reasons for joining such a scheme/fund?
    1. ……
    2. ……
    3. ……

20. **Co-operative Members' Characteristics and Participation in Health Insurance**

The following statements are about the member and household characteristics and their effect on participation in health insurance. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables. Please rank it from 1 to 5, where 1 means strongly disagree, 2 means disagree, 3 means neutral, 4 means agree, and 5 means strongly agree on how this statement affects your participation in health insurance offered through co-operative.

SNO	***STATEMENTS***	**EXTENT OF RESPONSE**				
GIC	Co-operative members' characteristics in all aspects determine their participation in health insurance	**1**	**2**	**3**	**4**	**5**
1	The age of co-operative members and households limits active participation in health insurance through co-operative	**1**	**2**	**3**	**4**	**5**
2	Among others, the income level of cooperative members encourages effective participation in health insurance initiatives offered	**1**	**2**	**3**	**4**	**5**
3	Co-operative member's education level limits their ability to make informed decisions about involvement in health insurance	**1**	**2**	**3**	**4**	**5**
4	Co-operative members with a history of chronic, inherited diseases are more likely to participate in health insurance through co-operatives than others	**1**	**2**	**3**	**4**	**5**
5	Co-operative members are well informed and know a lot about health insurance operations; hence, they make effective decisions to participate in it.	**1**	**2**	**3**	**4**	**5**
6	Large household size deters effective participation in health insurance as it calls for higher costs in terms of premiums paid	**1**	**2**	**3**	**4**	**5**

21. **Members' Health Insurance Literacy and its Influence on Health Insurance Participation**

*The following statements are about co-operative members' health insurance literacy and its influence on participation in health insurance. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables. Please rank it from 1 to 5 where **1** means strongly disagree, 2 means disagree, 3 means neutral, 4 means agree, 5 means strongly agree on how your health insurance literacy influence your participation in health insurance offered through co-operatives.*						
SNO	***STATEMENTS***	***AGREEMENT LEVEL***				
GIHIL	Co-operative members have adequate health insurance literacy, enabling them to make informed and effective decisions concerning health insurance	1	2	3	4	5
1	I understand, and I can confidently explain the benefits related to my health insurance plan	1	2	3	4	5
2	I understand the scope of covered services and the cost-sharing provisions associated with broad categories of health insurance services	1	2	3	4	5
3	Without any doubt, I can compare the key features of several health plans related to me	1	2	3	4	5
4	I find financing health insurance through co-operative less costly, easy and safe than using out-of-pocket means	1	2	3	4	5
5	I know how to assess the adequacy and fit of the provider network for me and my household health insurance plan related to co-operatives	1	2	3	4	5
6	I understand my appeal rights related to my health insurance plan under co-operatives	1	2	3	4	5
7	I can assess the quality of my health insurance plan in terms of measures that are important to me, such as processing claims or customer service	1	2	3	4	5
8	Without any doubt, I can compare the key features of several health plans related to me	1	2	3	4	5
9	I realize that the means of paying premium/contribution for health insurance in a co-operative is cheaper and affordable compared to other alternatives	1	2	3	4	5
10	I consider paying premium/contribution for health insurance in co-operative when a member is sick and needs medical attention, not otherwise	1	2	3	4	5
11	I see saving part of my income for health emergencies as appropriate rather than paying contribution/premium to the co-operative for health insurance financing	1	2	3	4	5
12	I would rather take a loan to finance my health needs than be involved in health insurance in a co-operative	1	2	3	4	5
13	I don't find any necessity for the co-operative to engage in health insurance financing as it is costly, and the services offered to the insured are not of standard	1	2	3	4	5
14	I see health insurance as best suited for people with formal jobs and assured income rather than co-operative members	1	2	3	4	5
15	I know where to turn for more information and help related to my health insurance plan if needed.	1	2	3	4	5

22. **Co-operative Capabilities Influence on Members' Health Insurance Participation**.

The following statements are about co-operative institutions' capabilities and their effect on members' participation in health insurance. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables in the statements. Please rank your agreement level from 1 to 5 where 1-means strongly disagree, 2-means disagree, 3-means neutral, 4-means agree, 5-means strongly agree on how you see co-operative capabilities influence members' health insurance participation.

SNO	***STATEMENTS***	***AGREEMENT LEVEL***				
GICIC	I am confident with our co-operative capabilities in all dimensions concerning health insurance initiatives for members	1	2	3	4	5
1	I am confident that my co-operative will manage to run health insurance despite reported cases of misuse of funds by leaders from various co-operatives across the country	1	2	3	4	5
2	I am confident with our co-operative's line of communication and that it can supply us with appropriate information about the health insurance operations	1	2	3	4	5
3	I believe our co-operative leaders will abide by good governance principles in managing the health insurance scheme through our co-operative	1	2	3	4	5
4	I believe in our co-operative leaders' ability to manage members health insurance finance	1	2	3	4	5
5	I am confident our co-operative can adapt and sustain to technological requirements for effective health insurance operations	1	2	3	4	5
6	I believe our co-operative leaders cannot tolerate any misuse of health insurance among members	1	2	3	4	5
7	I am sure that co-operative can listen more effectively to members' health insurance needs than any other institution	1	2	3	4	5
8	I am confident co-operative can adapt and sustain to any changes in the market relating to health insurance operations, financing, regulations and alike	1	2	3	4	5
9	I am assured of our co-operative ability to meet necessary legal and regulative requirements for effective health insurance operations through co-operatives	1	2	3	4	5
10	I can always depend on my co-operative to manage and solve members' difficult health insurance-related problems.	1	2	3	4	5
11	I believe my co-operative can handle health insurance operations without beaurocracy	1	2	3	4	5
12	I am confident that my co-operative can remain calm when facing health insurance difficulties because they can rely on available coping strategies.	1	2	3	4	5

23. **Members' Attitudes and Behavioural Control Influences on Participation Behaviour in Health Insurance Offered Through Co-operatives**

The following statements are about members' attitudes and behavioural control and their influence on participation in health insurance offered through the co-operative. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables in the statements. Please rank your agreement level from 1 to 5 where 1-means strongly disagree, 2-means disagree, 3-means neutral, 4-means agree, 5-means strongly agree on how your attitudes and behavioural control influences your participation in health insurance offered through co-operatives.

SNO	***STATEMENTS ON ATTITUDE***	***AGREEMENT LEVEL***				
GIAt	Co-operative members' attitudes contribute significantly to their health insurance participation behaviour	1	2	3	4	5
1	My co-operative should not be concerned about health insurance for members as I do not worry about my future health status given that I manage my health	1	2	3	4	5
2	Health insurance through co-operative is not necessary for members and their households because we are well-off to cover medical expenses through other means	1	2	3	4	5
3	As a co-operative member, I think after deciding to participate in health insurance, I will worry too much about my health status.	1	2	3	4	5
4	As a co-operative member, I like to pay my medical bills in cash using other credit facilities available in my co-operative.	1	2	3	4	5
5	I am willing to spend money on things that are important and relevant to my co-operative institution, such as buying shares, farm inputs and increasing savings rather than contributing to health insurance	1	2	3	4	5
SNO	***STATEMENTS ON BEHAVIOURAL CONTROL***	***AGREEMENT LEVEL***				
GIBC	Co-operative members' behavioural control determines their participation behaviour in health insurance	1	2	3	4	5
1	I find out-of-pocket health spending cheaper, affordable and more convenient than involving co-operative in meeting my health needs using health insurance	1	2	3	4	5
2	I find using co-operative health insurance initiatives cheaper, affordable and convenient than out-of-pocket spending in meeting my health needs	1	2	3	4	5
3	Health insurance through co-operative will not be appropriate for me as I have a health needs spending/budget plan, and I often ask for financial support from my family or friends to pay and meet my health needs in case of deficit	1	2	3	4	5
4	I consider health insurance through co-operatives as one kind of investment as when I get sick, I am assured of the treatment	1	2	3	4	5
5	I would rather acquire a loan to pay for health insurance through co-operative rather than acquire other physical assets or any other household spending	1	2	3	4	5

2.4. Members' Expectations and Participation in Health Insurance Offered Through co-operatives

The following statements are about members' expectations and its effect on the decision to participate in health insurance offered through co-operative. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables in the statements. Please rank your agreement level from 1 to 5 where 1-means strongly disagree, 2-means disagree, 3-means neutral, 4-means agree, 5-means strongly agree on members' expectations and how they affect their decision to participate in health insurance offered through co-operatives.

S/NO	***STATEMENTS***	***AGREEMENT LEVEL***				
GIEx	Overall, I expect more good things from health insurance through our co-operatives	**1**	**2**	**3**	**4**	**5**
1	When I am uncertain about my health status, I usually expect the best treatment from the health insurance that I have	**1**	**2**	**3**	**4**	**5**
2	It is easy for me to relax and enjoy because I have health insurance cover from our co-operative	**1**	**2**	**3**	**4**	**5**
3	I am always optimistic about my future health just because I am assured about my health status with the health insurance through our co-operatives	**1**	**2**	**3**	**4**	**5**
4	With my fellow co-operative members, we enjoy being treated fairly in all health centres accepting health insurance	**1**	**2**	**3**	**4**	**5**
5	I hardly ever expect good health services using the health insurance under co-operatives	**1**	**2**	**3**	**4**	**5**
6	I don't get upset too easily after being denied health services just because I have health insurance	**1**	**2**	**3**	**4**	**5**
7	I rarely count on getting good health services out of health insurance through our co-operatives as I am worried the health fund we are affiliated with will not treat us as normal fund beneficiaries	**1**	**2**	**3**	**4**	**5**

24. Effect of Co-operative Members' Trust Issues on Participation in Health Insurance

The following statements are about members' trust issues and its effect on participation in health insurance offered through co-operative. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables in the statements. Please rank your agreement level from 1 to 5 where 1-means strongly disagree, 2-means disagree, 3-means neutral, 4-means agree, 5-means strongly agree on trust issues and how it affects members' participation in health insurance offered through co-operatives.

SNO	***STATEMENTS***	***AGREEMENT LEVEL***				
GITRT	All in all, I have a complete trust in health insurance initiatives through co-operative	**1**	**2**	**3**	**4**	**5**
1	I trust the honesty of the leadership of the co-operative in making initiatives for health insurance for their members	**1**	**2**	**3**	**4**	**5**
2	I trust the management of health insurance scheme in relation to the services they offer to co-operative members, and I believe they will pay for everything it is supposed to, even really expensive treatments.	**1**	**2**	**3**	**4**	**5**
3	I trust the credibility of health insurance scheme staff and hospitals accredited for health insurance to co-operative members	**1**	**2**	**3**	**4**	**5**
4	I trust the support and co-operation of other co-operative members in handling and dealing with any unexpected health insurance instances	**1**	**2**	**3**	**4**	**5**

25. **Participation in Health Insurance and Changes in Wellbeing Status of Co-operative Members**

The following statements concern participation in health insurance offered through co-operative and members' wellbeing status. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables in the statements. Please rank your agreement level from 1 to 5 where 1-means strongly disagree, 2-means disagree, 3-means neutral, 4-means agree, 5-means strongly agree on health insurance participation and how it effects co-operative members wellbeing status.

SNO	***STATEMENTS***	**AGREEMENT LEVEL**				
GIWBS	All I know is that participation in health insurance significantly impacts my wellbeing status and that of my colleagues.	**1**	**2**	**3**	**4**	**5**
1	Participation in health insurance through our co-operative has given room for my family to access health services, leading to improved members' household health status	**1**	**2**	**3**	**4**	**5**
2	As I am guaranteed my health status through health insurance, I can live a stabilized life and increased work-life balance	**1**	**2**	**3**	**4**	**5**
3	Health insurance helped to improve my household's health state, allowing them to effectively engage in attaining education and skills	**1**	**2**	**3**	**4**	**5**
4	Participation in health insurance has created a sense of social connection among members as we share resources in dealing with our health issues/needs	**1**	**2**	**3**	**4**	**5**
5	The guaranteed health status through health insurance gives me the confidence to engage in civic duties and take part in governance in my community	**1**	**2**	**3**	**4**	**5**
6	Health insurance through our co-operative has reduced health-related worries, bringing a sense of increased personal security among households	**1**	**2**	**3**	**4**	**5**
7	I can participate in various income-generating activities and save money to create wealth as I am assured about my health status through health insurance.	**1**	**2**	**3**	**4**	**5**
8	Health insurance through co-operatives has reduced out-of-pocket spending for health-related issues among members, enabling them to use the money for improving housing and related facilities for their households	**1**	**2**	**3**	**4**	**5**
9	Through co-operative health insurance participation, members are certain about receiving health services in case of ill-health boosting their spirit to secure jobs and other sources of earnings	**1**	**2**	**3**	**4**	**5**
10	Health insurance through co-operatives has helped increase households' access to basic health care services, influencing them to be involved in maintaining and creating quality environments	**1**	**2**	**3**	**4**	**5**

26. **Willingness to Pay for Health Insurance Services**

1. Are you willing to pay for the health insurance scheme provided through cooperatives**? (1)** ***Yes [ ] (2) No [ ]***

2. If yes, how much are you willing to pay as a contribution per month? (a) 10000-30000 *[ ]* (b) 30001-60000 *[ ]* (c) 60001-90000 *[ ]* (d) 90001-120,000 *[ ]*

The following statements are about determinants of willingness to pay for health insurance services. There are no right or wrong statements. My interest is to know how you see the relation among the stated variables in the statements. Please rank your agreement level from 1 to 5 where 1-means strongly disagree, 2-means disagree, 3-means neutral, 4-means agree, 5-means strongly agree on the determinants of willingness to pay for health insurance services.

SNO	**ATTRIBUTES FOR WILLINGNESS TO PAY**	**AGREEMENT LEVEL**				
GIWTP	Without hesitation, I am willing to pay for health insurance through co-operatives	1	2	3	4	5
	WTP in relation to Quality Attributes					
GIQal	I will be willing to pay for health insurance if quality is assured and maintained in all aspects	1	2	3	4	5
1	I will join and pay for the health insurance scheme provided through co-operative if modern medical equipment is available in all health facilities that accept the insurance	1	2	3	4	5
2	I will join and pay for the health insurance scheme provided through co-operative if the healthcare centres that accept the insurance are modernised.	1	2	3	4	5

3	I will join and pay for the health insurance scheme provided through co-operative if members are served by polite staff in all health facilities that accept the insurance.	1	2	3	4	5
4	I will join and pay for the health insurance scheme provided through co-operative if skilled staff are employed to handle my health-related issues in facilities that accept the insurance	1	2	3	4	5
	WTP in relation to Access Criteria					
GIAccs	Given unrestricted access, I will pay for health insurance willingly	1	2	3	4	5
1	I would prefer to pay for health insurance scheme through co-operatives if I can get services at all reputable government and private hospitals	1	2	3	4	5
2	I would prefer to pay for the health insurance scheme through co-operatives if I can use my insurance to get all clinic services and get medicines at a respected pharmacy.	1	2	3	4	5
3	I would prefer to pay for the health insurance scheme through co-operatives if there are no limits on using a health insurance card per day	1	2	3	4	5
	WTP in relation to PRICE					
GIPr						
1	I would prefer to join the health insurance scheme through co-operatives if its price would be relatively cheaper compared to other service providers	1	2	3	4	5
2	I would not prefer to join the health insurance scheme through co-operatives as its price is cheap, so the service provided would not be of the accepted standard	1	2	3	4	5
3	I would prefer to join the health insurance scheme through co-operatives as I'm confident with the price offered that is of value to cover all costs of health services	1	2	3	4	5

27. **Participation in Health Insurance Among Co-operative Members**

SNO	**Aspects of participation**	***Agreement level***				
GIPAT	Without hesitations, I will be fully participating in health insurance through co-operatives	1	2	3	4	5
1	I will continue to pay and enjoy the benefits of the health insurance program in our co-operatives	1	2	3	4	5
2	I am willing to continue to offer any co-operation relating to participation in health insurance through a co-operative society	1	2	3	4	5
3	I am ready to be involved in planning, implementing, monitoring and evaluating health insurance initiatives in our co-operatives.	1	2	3	4	5
4	I am willing to share information and encourage other members and non-members to enrol in health insurance through co-operatives	1	2	3	4	5
5	Even if I move to another area, I will not hesitate to continue participating in health insurance through co-operatives	1	2	3	4	5
6	I will attend all the meetings to make important resolutions about health insurance through our co-operatives	1	2	3	4	5

Appendix II : Ethical and Data Collection Approvals

MOSHI CO-OPERATIVE UNIVERSITY (MoCU)
CHUO KIKUU CHA USHIRIKA MOSHI

Sokoine Road,
P.O. Box 474,
Moshi, Tanzania.
Tel:+255 272754401
Fax:+255 272750806
e-mail: info@mocu.ac.tz
Website: www.mocu.ac.tz

OFFICE OF THE VICE CHANCELLOR
P.O. Box 474,
Moshi, Tanzania.
Tel: +255 27 2751833
Fax: +255 27 2750806
E-mail:vc@mocu.ac.tz

Our Ref. No: MoCU/UGS/3/41 **Date:** 26 Machi, 2019
Your Ref. No:

Katibu Tawala,
Mkoa wa Arusha,
ARUSHA.

YAH: KIBALI CHA KUFANYA UTAFITI KWA WANATAALUMA NA WANAFUNZI WA CHUO KIKUU CHA USHIRIKA MOSHI (MoCU)

Madhumuni ya barua hii ni kumtambulisha kwako **Ndugu Petro G. Nzowa** mtafiti/mwanafunzi wa Chuo Kikuu cha Ushirika Moshi ambaye kwa sasa anatarajia kufanya utafiti katika eneo lako.

Maombi haya yamezingatia Waraka wa Serikali wenye Kumb. Na. MPEC/R/10/1 wa tarehe 7 Julai, 1980 pamoja na Hati Idhini ya Chuo Kikuu Cha Ushirika Moshi (MoCU). Moja ya majukumu ya Chuo ni pamoja na kufanya utafiti na kutumia matokeo ya tafiti hizo katika kufundishia. Aidha, wanafunzi hufanya utafiti kama sehemu ya masomo yao wakiwa Chuoni.

Ili kufanikisha utekelezaji wa tafiti hizo, Makamu wa Mkuu wa Chuo hutoa vibali vya kufanya utafiti nchini kwa wanafunzi, waalimu, na watafiti wake kwa niaba ya Serikali na Tume ya Sayansi na Teknolojia.

Hivyo basi, tunakuomba umpatie mwanafunzi/mtafiti aliyetajwa hapo juu msaada atakaohitaji ili kufanikisha utafiti wake. Gharama za utafiti atalipia mwenyewe. Msaada anaouhitaji ni kuruhusiwa kuonana na viongozi na wananchi ili aweze kuzungumza nao na kuwauliza maswali aliyo nayo kuhusiana na utafiti wake.

Madhumuni ya utafiti wa mwanafunzi/mtaalamu aliyetajwa hapo juu ni: **"The Role of Co-operative Societies in Social Protection: The Case of Protective and Promotive Social Protection Financing in Arusha, Tanzania."**

Sehemu atakazofanyia utafiti huo ni: **ARUSHA**

Ikiwa kuna Sehemu ambazo zinazuiliwa, ni wajibu wako kuzuia zisitembelewe.

Muda wa Utafiti huo ni kuanzia tarehe **26/03/2019** hadi **31/12/2019.**

Ikiwa utahitaji maelezo zaidi tafadhali wasiliana nami.

Wako katika ujenzi wa Taifa,

Dr. K. C. Malamsha
Kny: MAKAMU MKUU WA CHUO

Nakala kwa: Mtafiti

MOSHI CO-OPERATIVE UNIVERSITY (MoCU)
CHUO KIKUU CHA USHIRIKA MOSHI

Sokoine Road,
P.O. Box 474,
Moshi, Tanzania.
Tel: +255 272754401
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Website: www.mocu.ac.tz

OFFICE OF THE VICE CHANCELLOR
P.O. Box 474,
Moshi, Tanzania.
Tel: +255 27 2751833
Fax: +255 27 2750806
E-mail:vc@mocu.ac.tz

Our Ref. No: MoCU/UGS/3/41 **Date:** 3rd January, 2020
Your Ref. No:

Katibu Tawala,
Mkoa wa Kilimanjaro
KILIMANJARO.

YAH: KIBALI CHA KUFANYA UTAFITI KWA WANATAALUMA NA WANAFUNZI WA CHUO KIKUU CHA USHIRIKA MOSHI (MoCU)

Madhumuni ya barua hii ni kumtambulisha kwako **Ndugu Petro G. Nzowa** mtafiti/mwanafunzi wa Chuo Kikuu cha Ushirika Moshi ambaye kwa sasa anatarajia kufanya utafiti katika eneo lako.

Maombi haya yamezingatia Waraka wa Serikali wenye Kumb. Na. MPEC/R/10/1 wa tarehe 7 Julai, 1980 pamoja na Hati Idhini ya Chuo Kikuu Cha Ushirika Moshi (MoCU). Moja ya majukumu ya Chuo ni pamoja na kufanya utafiti na kutumia matokeo ya tafiti hizo katika kufundishia. Aidha, wanafunzi hufanya utafiti kama sehemu ya masomo yao wakiwa Chuoni.

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Hivyo basi, tunakuomba umpatie mwanafunzi/mtafiti aliyetajwa hapo juu msaada atakaohitaji ili kufanikisha utafiti wake. Gharama za utafiti atalipia mwenyewe. Msaada anaouhitaji ni kuruhusiwa kuonana na viongozi na wananchi ili aweze kuzungumza nao na kuwauliza maswali aliyo nayo kuhusiana na utafiti wake.

Madhumuni ya utafiti wa mwanafunzi/mtaalamu aliyetajwa hapo juu ni: **"The Role of Co-operative Societies in Social Protection: The Case of Protective and Promotive Social Protection Financing in Arusha and Kilimanjaro."**

Sehemu atakazofanyia utafiti huo ni: **Arusha and Kilimanjaro.**

Ikiwa kuna Sehemu ambazo zinazuiliwa, ni wajibu wako kuzuia zisitembelewe. Muda wa Utafiti huo ni kuanzia tarehe **26/03/2019** hadi **31/03/2020.**

Ikiwa utahitaji maelezo zaidi tafadhali wasiliana nami.

Wako katika ujenzi wa Taifa,

Prof. F.T.M Kilima
MAKAMU MKUU WA CHUO

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

KILIMANJARO REGION
Telegrams `REGCOM`
KILIMANJARO
Tel. No. 027-2754236/7, 2752184
Fax No.027 – 27-54430
E-mail ras.kilimanjaro.go.tz
Ras.kilimanjaro@tamisemi.go.tz

OFFICE OF THE REGIONAL COMMISSIONER,
P. O. BOX 3070,
MOSHI

In reply please quote:
Ref. No. FA.228/276/03/241

13th January, 2020

District Administrative Secretary,
MOSHI, ROMBO HAI.

Re: **RESEARCH PERMIT**

Refer to the above subject.

2. I would like to introduce to you **Petro G. Nzowa** who is a bonafide Researcher from **Moshi Co-operative University (MoCU).**

3. He expects to conduct research on "***The Role of Co-operative Societies in Social Protection the Case of Protective and Promotion Social Protection Financing in Arusha and Kilimanjaro".***

4. The permission has been granted for him to collect data from **4th May, 2020 to 4th August, 2020.**

5. Please give him the required Co – Operation and make sure that he abides by all Government regulations and directives.

Thank you for your cooperation.

Antony T. Kitali
For: Regional Administrative Secretary,
KILIMANJARO

Copy to: Regional Administrative Secretary,
KILIMANJARO (*To see in the file*)

,, Peter G. Nzowa,
Researcher

UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

Telegrams: **"REGCOM"**
Telephone:**2545608/2544950/2544802**
Fax No. **2545239/254486**
E-Mail: ras@arusha.go.tz
E-Mail: ras.arusha@tamisemi.go.tz
Website: www.arusha.go.tz
In reply please quote:

REGIONAL COMMSSIONER'S OFFICE,
P.O. Box 3050,
ARUSHA.

Ref. No. FA.195/232/01'M' **31 March, 2020**

District Administrative Secretary,
Arumeru District,
P. O. Box 434,
USA - RIVER.

RE: RESEARCH PERMIT

Reference is hereby made to the letter dated 03rd January, 2020 from Moshi Co-operative University (MoCU) concerning the above underlined subject.

I hereby taking this opportunity to introduce to you **Mr. Petro G. Nzowa** from Moshi Co-operative University (MoCU). At the moment he is conducting a research study concerning the ***"The Role of Co-operative Societies in Social Protection: The Case of Protective and Promotive Social Protection Financiang in Arumeru District".***

Permission is granted to conduct his research at **Arumeru District** from **26th March, 2020** to **22nd April, 2020.**

Please give him any necessary administrative assistance.

Thank you for your cooperation.

David F. Lyamongi
For: **REGIONAL ADMINISTRATIVE SECRETARY**
ARUSHA

Copy to:

KATIBU TAWALA WA MKOA
ARUSHA.

Mr. Petro G. Nzowa – Researcher

JAMHURI YA MUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA ARUSHA:
Simu Na.2553734/3
Unapojibu tafadhali taja

OFISI YA MKUU WA WILAYA
WILAYA YA ARUMERU
S.L.P 434
USA RIVER

Kumb. Na. AB/174/249/03/VOL.V/204 **01/04/2020**

Mkurugenzi Mtendaji,
Halmashauri ya Wilaya,
ARUSHA.
MERU.

YAH: KIBALI CHA KUFANYA UTAFITI

Tumepokea barua kumb. **Na FA.195/232/01'M'** ya tarehe **31/03/2020** kutoka kwa Katibu Tawala Mkoa wa Arusha, Ikitambulisha **Mr. Petro G. Nzowa** Kutoka Chuo Moshi Co-operative University (MoCU) ikimpa kibali cha kufanya Utafiti katika Halmashauri yako.

Utafiti huo ni juu ya ***"The Role of Co-operative Societies in Socia Protection: The Case of Protective and Promotive Social Protection Financiang in Arumeru District".***

Aidha, Kibali hiki ni kuanzia terehe 26/03/2020, hadi 22/04/2020.

Tunaomba apewe ushirikiano wa kutosha katika utafiti huo katika Halmashauri yako.

Ahsante.

A.J. Mushashu
Kny: **KATIBU TAWALA WILAYA**
ARUMERU

KATIBU TAWALA WILAYA
ARUMERU

Nakala:- Mr. Petro G. Nzowa,
Mtafiti.

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA JIJI ARUSHA

Baruazotezitumwekwa:

Simu: +255 27 2548072/2503494 (Director)
+255 27 2544330 (General)
Nukushi: +255 27 2545768
Unapojibutafadhalitaja:
Kumb.Na.**CD/I.40**

Mkurugenzi wa Jiji
20 Barabara ya Boma
S. L. P. 3013
23101ARUSHA
BaruaPepe: cd@arushacc.go.tz
Tovuti: www.arushacc.go.tz
Tarehe: **26.03.2020**

Watendaji wa Kata zote
Halmashauri ya Jiji la Arusha

YAH: KIBALI CHA KUFANYA UTAFITI MR. PETRO G. NZOWA

Husika na mada tajwa hapo juu.

Tumepokea barua kutoka kwa **Katibu Tawala Wilaya ya Arusha** kuomba Kibali cha **Mr. Petro G. Nzowa – Mwanafunzi kutoka Chuo Kikuu cha Ushirika Moshi** kufanya Utafiti kuhusiana na **"The Role of Co-operative Societies in Social Protection: The case of protective and promotive social protection Financing in Arusha District"** katika Kata zote za Jiji la Arusha kuanzia **26 Machi, 2020** hadi **22 Aprili, 2020.**

Tafadhali Watendaji wa Kata zote mpatieni ushirikiano katika shughuli zake.

Frank Sanga
Kny: MKURUGENZI WA JIJI
ARUSHA

K.H. y. MKURUGENZI WA JIJI
HALMASHAURI YA JIJI LA ARUSHA

Nakala kwa: - Mr. Petro G. Nzowa - kwa taarifa na ufuatiliaji

Jamhuri ya Muungano wa Tanzania
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA WILAYA YA MERU
(Barua zote za Kiofisi zitumwe kwa Mkurugenzi Mtendaji)

Mkoa wa Arusha
Telegram: Meru
Simu : (+ 255) 027- 297-0482
Faksi: (+ 255) 027- 297-0483
Baruapepe:ded@merudc.go.tz
Unapojibu tafadhali taja:-

Ofisi ya Mkurugenzi Mtendaji (W),
Halmashauri ya Wilaya ya Meru,
S. L. P. 462,
Usa- River,
Arusha.

Mtendaji wa Kata,
Kata ya Nkoaranga,
Halmashauri ya Wilaya ya Meru.

YAH: **KIBALI CHA KUFANYA UTAFITI KATIKA CHAMA CHA ARANGA AMCOS BW. PETRO G. NZOWA**

Husika na mada tajwa hapo juu.

Ofisi imepokea barua kutoka kwa Katibu Tawala Wilaya yenye Kumb.Na. AB/174/249/03/VOL.V/204 ya tarehe 01.04.2020 inayomtambulisha mtajwa hapo juu kutoka Chuo Kikuu cha Ushirika Moshi (MoCU) atakayefanya utafiti katika Kata yako kuanzia tarehe ya barua hii.

Kwa barua hii, unatakiwa mpokee na kumpa ushirikiano kwa atakachokihiaji kwako. Utafiti huo ataufanya Kata ya Nkoaranga kwenye Chama cha Aranga AMCOS.

Nakutakia kai njema.

F. Magubila Ngaile
Kny: **MKURUGENZI MTENDAJI**
HALMASHAURI YA WILAYA YA MERU

Kny. MKURUGENZI MTENDAJI
HALMASHAURI YA MERU

Nakala
Mwenyekiti,
Chama cha Ushirika ARANGA AMCOS,
NKOARANGA.

Afisa Ushirika (W),
Halmashauri ya Wilaya ya Meru.

UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

Telegrams: **"REGCOM"**
Telephone:**2545608/2544950/2544802**
Fax No. **2545239/254486**
E-Mail: ras@arusha.go.tz
E-Mail: ras.arusha@tamisemi.go.tz
Website: www.arusha.go.tz
In reply please quote:

REGIONAL COMMSSIONER'S OFFICE,
P.O. Box 3050,
ARUSHA.

Ref. No. FA.195/232/01'M'/64 **20 March, 2020**

District Administrative Secretary,
Arusha District,
P. O. Box 01,
ARUSHA.

RE: RESEARCH PERMIT

Reference is hereby made to the letter dated 03rd January, 2020 from Moshi Co-operative University (MoCU) concerning the above underlined subject.

I hereby taking this opportunity to introduce to you **Mr. Petro G. Nzowa** from Moshi Co-operative University (MoCU). At the moment he is conducting a research study concerning the ***"The Role of Co-operative Societies in Social Protection: The Case of Protective and Promotive Social Protection Financiang in Arusha District".***

Permission is granted to conduct his research at **Arusha District** from **26th March, 2020** to **22nd April, 2020.**

Please give him any necessary administrative assistance.

Thank you for your cooperation.

Polycarp L. Nkuyumba
For: **REGIONAL ADMINISTRATIVE SECRETARY**
ARUSHA

KATIBU TAWALA WA MKOA
ARUSHA

Copy to:

Mr. Petro G. Nzowa – Researcher

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKUU WA WILAYA:
Simu Na: **2545505/2545506**
Tovuti: www.arusha.go.tz
Barua pepe dcarusha@arusha.go.tz
Unapojibu tafadhali taja:

OFISI YA MKUU WA WILAYA,
S.L.P. 1,
ARUSHA.

Kumb. Na. AB.361/411/01/188 **24 Machi, 2020**

Mkurugenzi wa Jiji,
S.L.P. 3013,
ARUSHA

YAH: KIBALI CHA UTAFITI

Tafadhali husika na mada tajwa hapo juu.

Tumepokea barua kutoka kwa Katibu Tawala Mkoa yenye Kumb.Na. FA.195/232/01M/136 ya tarehe 21 Februari, 2020 inayohusu utafiti. Napenda kumtambulisha kwako **Mr Petro G. Nzowa mwanafunzi kutoka Chuo Kikuu cha Ushirika Moshi.**

Anaomba kufanya utafiti unaohusu ***"The Role of Co-operative Societies in Social Protection: The Case of Protective and Promotive Social Protection Financiang in Arusha District"*** katika Jiji la Arusha. Utafiti huo utafanyika katika Wilaya Arusha kuanzia mwezi 26 **Machi, 2020 hadi 22 Aprili, 2020.**

Unaombwa kumpa ushirikiano ili aweze kukamilisha utafiti wao.

N.L. Nailiba
Kny: KATIBU TAWALA WILAYA
ARUSHA.

Nakala: Mkuu wa Wilaya,
ARUSHA – Aione katika jalada

" Mr Petro G. Nzowa- Researcher

OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA WILAYA YA MOSHI
(Barua zote zitumwe kwa Mkurugenzi Mtendaji)

MKOA WA KILIMANJARO S.L.P. 3003,

Simu 2755172/2751865 Fax. 275430 **MOSHI**

Kumb.Na: MDC/E.10/16/VOL.XII/18 26/05/2020

Vyama vyote vya Ushirika,
Halmashauri ya Wilaya,
MOSHI.

YAH: KUMTAMBULISHA NDUGU PETRO G. NZOWA

Tafadhali husika na somo tajwa hapo juu.

Tumepokea barua kutoka Ofisi ya Mkuu wa Wilaya yenye Kumb.AB.316/373/03 ya mwezi Mei 2020 ikimtambulisha mtajwa hapo juu Mwanachuo kutoka Chuo Kikuu cha Ushirika Moshi.

Hivyo atafanya utafiti katika Halmashauri ya Wilaya ya Moshi ambapo amepewa kibali cha kufanya utafiti kuhusiana na ***The role of Cooperative Societies in Social Protection,*** hivyo atafanya utafiti kuanzia mwezi Mei hadi Agosti 2020.

Hivyo unaombwa umpe ushirikiano ili aweze kufanikisha utafiti wake.

Nakutakia kazi njema.

Mnyawi O.W.
Kny: MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA
MOSHI

Kny. Mkurugenzi Mtendaji
Halmashauri ya Wilaya
Moshi

Nakala:

Ndugu Petro G.Nzowa
Mwanafunzi ,
Chuo Kikuu cha Ushirika,
MOSHI.

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA KILIMANJARO:
Simu ya upepo: ADMIN MOSHI
Simu: 027-2752211
Fax: 027-2753248
E-Mail: ras@kilimanjaro.go.tz

OFISI YA MKUU WA WILAYA
S.L.P. 3042,
MOSHI.

Kumb. Na. AB.316/373/03/ 2020

Mkurugenzi Mtendaji,
Halmashauri ya Wilaya,
S.L.P. 3003,
MOSHI.

YAH: KIBALI CHA KUFANYA UTAFITI

Husika na kichwa cha habari hapo juu.

Namtambulisha kwako PETRO G. NZOWA ambaye anatok
Chuo Kikuu cha Ushirika Moshi (MoCU) Mwanachu
huyo anafanya utafiti unaohusu "The role of Cooperative Societies
Social Protection: The case of Protective and Promotive Is/protection Financing".
Utafiti utaanza May - Agosti 2020

Hivyo apewe ushirikiano unaostahili. Aidha anatakiwa kuzingatia Sheria, Kanuni n
taratibu za nchi.

Nashukuru kwa ushirikiano.

N.E. Mshana
Kny; KATIBU TAWALA WILAYA
MOSHI

KATIBU TAWALA WILAYA
MOSHI

Nakala; Mkuu wa Wilaya,
MOSHI. - Aione kwenye jalada.

" Petro G. Nzowa.,
Student.

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

KILIMANJARO REGION
Telegrams `REGCOM`
KILIMANJARO
Tel. No. 027-2754236/7, 2752184
Fax No.027 – 27-54430
E-mail ras.kilimanjaro.go.tz
Ras.kilimanjaro@tamisemi.go.tz

OFFICE OF THE REGIONAL COMMISSIONER,
P. O. BOX 3070,
MOSHI

In reply please quote:
Ref. No. FA.228/276/03/241

13th January, 2020

District Administrative Secretary,
MOSHI, ROMBO HAI.

Re: **RESEARCH PERMIT**

Refer to the above subject.

2. I would like to Introduce to you **Petro G. Nzowa** who is a bonafide Researcher from **Moshi Co-operative University (MoCU).**

3. He expects to conduct research on "***The Role of Co-operative Societies in Social Protection the Case of Protective and Promotion Social Protection Financing in Arusha and Kilimanjaro".***

4. The permission has been granted for him to collect data from **4th May, 2020 to 4th August, 2020.**

5. Please give him the required Co – Operation and make sure that he abides by all Government regulations and directives.

Thank you for your cooperation.

Antony T. Kitali
For: Regional Administrative Secretary,
KILIMANJARO

(for) Regional Administrative Secretary
KILIMANJARO

Copy to: Regional Administrative Secretary,
KILIMANJARO (*To see in the file*)

,, Peter G. Nzowa,
Researcher

Appendix III : Publications