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Editorial Note

Dear readers, on behalf of the Board of the Pan-African Journal of Business Management (PAJBM) and my co-editor, I am glad to present Volume 6, Issue 1 of the journal. This is a bi-annual journal of the Faculty of Business Management (FBM) at The Open University of Tanzania (OUT).

PAJBM endeavors to promote research publications and dissemination of research findings undertaken by Africans and international scholars from business and management related disciplines. The multidisciplinary approach of PAJBM in addressing business and management related researches aims to influence changes and participate in shaping business transformations in developing countries and particularly in Africa.

This current issue focuses in addressing concepts such as impact of state controlled consumptive management approach on community economic benefits from conserved natural resources in Tanzania: Case of the Great Mahale Ecosystem, financial service usage and rice commercialization of small holders farmer in Kilombero District: The role of institutional law and regulation, Individual investor's awareness and participation in the Dar es salaam stock exchange in Tanzania, relationship between banks' perception on bank of Tanzania regulatory reviews and financial performance: Evidence from selected commercial banks in Tanzania, influence of horizontal coopetition in outbound logistics on the profitability of Micro and Small Enterprises: A case of Arusha Handicraft industry, indirect effect of information and communication technology on business performance in Small and Medium manufacturing industries in Tanzania, Team work practices and employee performance in local government Authorities in Tanzania, clients demographics and strategies influence on loan repayment during COVID-19 Pandemic: Evidence from Tanzanian savings and credits cooperative societies (SACCOS) and challenges of implementing World Health Organisation measures on COVID-19 for People with Disabilities in Tanzania.

In due course of the time and processes, we expect the coming issue to be indexed by African Journal Online (AJOL). The indexing process is in its

final stages. Editorial board hopes that readers will find the articles in this current issue useful and contribute to the academic knowledge and debates in the respective areas.

Dr. Bukaza Chachage
Chief Editor

General Information

The journal is produced by the Faculty of Business Management at The Open University of Tanzania. It will accept theoretical, conceptual and research based papers in a wide range of topics on business management in Africa and the world at large. It also accepts cases, book reviews and summaries of dissertations.

Editors

Contact Information:

Impact of State Controlled Consumptive Management Approach on Community Economic Benefits from Conserved Natural Resources in Tanzania: Case of the Great Mahale Ecosystem

Deus D. Ngaruko
The Open University of Tanzania
ngarukoddp@gmail.com

ABSTRACT

This paper tried to answer the core question of whether protective management policies of natural resources can sustain the economic benefits expected from them by communities living around the natural resources in Tanzania. The paper is based on multiple linear regression analysis of cross-sectional data collected from 400 community members selected from 10 purposefully selected villages surrounding the Great Mahale Ecosystem in Western Tanzania, where a 3 A 1-4 scale questionnaire was administered. The findings revealed that, state-controlled consumption of firewood, logging and timbering had negative effects on potential community economic benefits from the natural resources. State-controlled access to firewood was the only variable that was found insignificant. The state-controlled consumptive policies on tourism and hunting, farming practices proximity to the conserved natural resource, wildlife games and wild fruits as well as access to medicinal plants were found to be beneficial to surrounding communities. The development of tourist hunting blocks would improve consumptive utilization not only under government managed natural resources but also under communal-indigenous approach. There should also be an integration of consumptive and non-consumptive approaches such as sustainable timber harvesting to maximize community economic benefit.

Keywords: Community Economic Benefits, State- Controlled Consumptive Management Approach, Natural Resources, Greater Mahale Ecosystem, Tanzania.

INTRODUCTION

Community Economic Benefit (CEB) is a wide term defined as value received by people such as food, energy, spiritual enrichment, recreation, and appealing experiences (Ribot, 2003; Murphree, 2009). DEFRA (2007) expanded the meaning by including direct use, indirect use, non-use, and option values to communities. While Venable (2016) stated CEB as any quantifiable gains in terms of money generated, saved, or cost reduced because of an action. Gains among others are revenues, profit, net income, creation of jobs, wealth creation, cash flow, lower cost of raw material and lower opportunity costs. Whereas the Millennium Ecosystem Assessment (MEA) (2005) defined CEB as "the gains people obtain from ecosystems" that include; leisure, entertainment, cultural activities, employment, tourist services and handicrafts. Economic Benefit Flow (EBF) which is synonymous but wider than CEB refers to the stream of shares gained that is controlled by a bundle of powers, rights, proximity, and social relationships (Ribot, 2003; Murphree, 2009). Furthermore, Milner-Gulland (2012) explained economic benefit flow as lines of complex social-economical-ecological interlinkages. Additionally, it is summarized as channels of gains that are affected by barriers, boundaries, and management approaches (Huton et al., 2005). This study examined the gain of community economic benefit from natural resources conservation to indigenous surrounding.

Most of the ecosystems in Tanzania such as the Greater Mahale Ecosystem (GME) contain vast terrestrial natural resources such as; forests, wildlife, and undulating landscapes. GME is among the World Biodiversity hotspots that in its undulating mountains, hosts endangered chimpanzees and supports more than one million human livelihoods (Leisher & Hess, 2017; TAWIRI, 2018). Unfortunately, its richness in natural resources is experiencing fast more degradation rate (10%) than the country's average rate of a country (6%) (William, 2018). The Greater Mahale Ecosystem applies consumptive or non-consumptive, government-state or communal-indigenous natural resources management approaches to conserve their nature (Pailler*et al.,* 2015; TAWIRI, 2018). Good management of Greater Mahale Ecosystem terrestrial resources that are forests and wildlife may decrease the degradation rate, improve the economy of people and contribution to the Tanzanian

economy. Benefiting the Tanzanian community economy from natural resources management is crucial and possible as it happened in Malaysia, Costa Rica and Thailand (Scherl *et al*., 2004; Andam *et al.,* 2010; Amira *et al.,* 2015). In 2021 there was a 3% increase in annual direct employment contributed from natural resources management. Direct employment from natural resources management was estimated at 377,000 direct jobs in 2010 and it was estimated to rise to 497, 000 jobs (3.9%) by 2021 (NESR, 2017). To ensure community benefits from natural resources management is necessary while managing natural resources degradation. In order to halt forest and wildlife losses and rising of domestication trend, Tanzania set aside 32.5% of her land as reserve lands (NESR, 2017). This achievement is beyond 30 by 30 goal of conservation and desire of the globe (COP 26, 2021) and is beyond the 17% proposed by the Aichi target (IUCN, 2017; NESR, 2017). It is argued in NESR (ibid)) that since the land reserved for conservation is bigger by 20% of the land used for agriculture; it should substantially address community economic benefit (NESR, 2017). However, the reserved lands do not guide land conversion and domestication in village or community lands. A stepwise study on Social Assessment of Protected Areas (SAPA) by Franks & Small (2016) indicated that empowerment of people and the reduction of inequalities in costs and benefits increase conservation effectiveness.

Furthermore, in Costa Rica and Thailand, Andam *et al.* (2010) studied modern natural resources management through existence of protected areas. The study found that there was improvement in community economy welfare around protected area and country. This finding is similar to later study conducted by Lewis *et al.* (2017) on the global dynamic on protected areas and the other by Keane *et al.* (2020) on impact of wildlife management areas to community. State Controlled Consumptive Management Approach (SCMA) to natural resources management practiced around Greater Mahale Ecosystem comprises of government custodianship of governance, organisation, control, directing and developing resources on reserved or protected lands (URT, 2009). With regard to natural resources management, SCMA is commonly practiced in all national parks, forest reserves, game reserves and game-controlled areas (URT, 2009). However, the focus of

SCMA slightly varies with the nature of the natural resources at hand. For example, the wildlife policy of Tanzania (URT, 1998a) considers SCMA as the retaining of the ownership and overall responsibility for management of wildlife resources by the state to ensure that national priorities are addressed, and abuses are controlled. Such management practices are noted around Nkamba forest reserve and Nkamba hunting blocks. Further, the wildlife policy strategy implies that SCMA is confined to wildlife core habitats of national parks, game reserves, and game-controlled areas. Such management practices are noted around Mahale Mountain National Park and Katavi National Park. In the forest policy of Tanzania (URT,1998b), SCMA is linked to efficient forest management and conservation, commonly practiced around Tongwe west forest reserve, Mpanda line forest reserve and Masito Ugala forest reserves. The recent increase in encroachments of reserved and protected natural resources by communities living around the resources has raised concern about whether the respective communities are benefiting from the resources. This has also raised questions on the appropriateness of SCMA for natural resources. Thus, there is a need to examine the costs and benefits as well as socioeconomic impacts arising from the establishment and maintenance of protected areas and their distribution to communities for sustained utilization of such vulnerable natural resources. The aim of this paper was to examine the impact of SCMA of natural resources on potential economic benefit that the communities living around Greater Mahale Ecosystem in western Tanzania.

Methodology

The Study Area

This paper is based on the study conducted in communities living around the proximities of the Greater Mahale Ecosystem (GME) which comprises the Mahale Mountains National Park in western Tanzania and the surrounding natural habitat (Figure 1). Together with the Gombe National Park to the north and the Southern part of Lake Tanganyika to the south, these areas are known as homes of Tanzania's chimpanzees. In the GME only 11% of the natural habitat is protected and this is in the Mahale Mountains National Park

together with the Tongwe East Forest Reserve1. Species of conservation concern in this landscape included the eastern chimpanzee which occurs in some of the driest habitat anywhere throughout its distribution, red colobus, elephant, lion, sable, Kungwe apalis – an endemic bird and several plant species are only found here particularly in the Sitebi highlands. Land cover is a mosaic of primarily miombo woodland, thin patches of riparian forest, larger patches of evergreen forest, and tracts of open grassland and seasonal swamps (Figure 2). The population living around GME is growing at a fast rate of 4.8% but with poor performing economic welfare of less than 150 USD per year per household (URT, 2012; Leisher& Hess, 2017; Hardee et al., 2018). The fast-increasing population and the heavy dependency on natural resources exert pressure on natural resource utilization which is linked to natural resources management approaches.
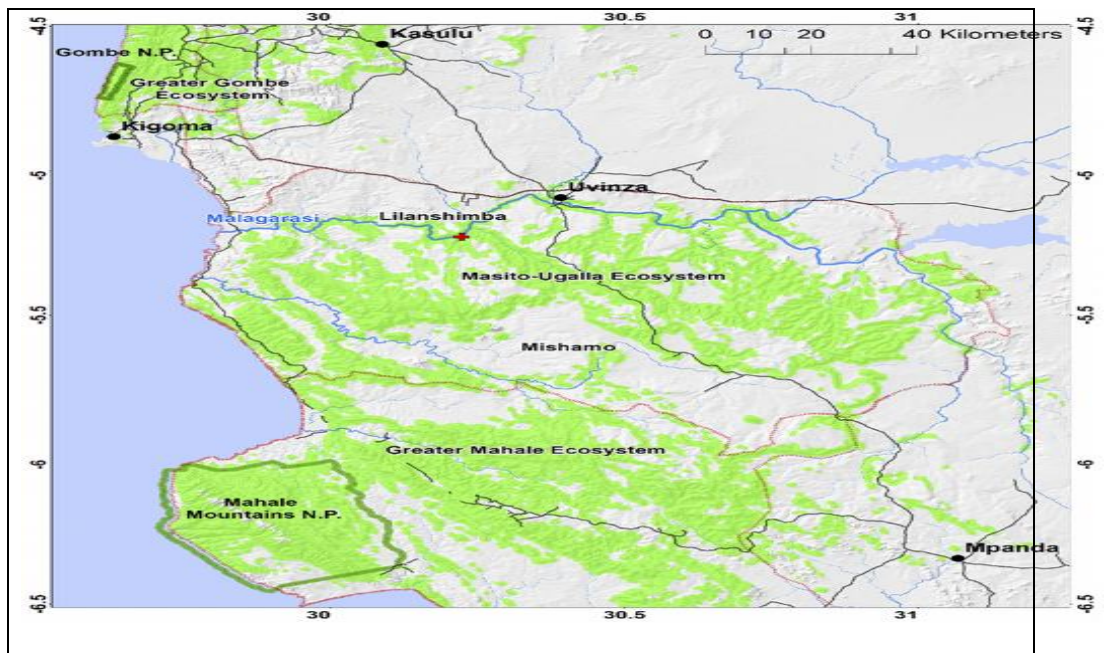
Figure 1: Map of the Greater Mahale Ecosystem

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[1] https://albertinerift.wcs.org/Wild-Places/Greater-Mahale-Ecosystem.aspx

Figure 2: Vegetation cover and Nkondwe water fall in the Greater Mahale Ecosystem

Study Design and Data Processing

Data from a cross sectional survey was collected from 400 randomly selected community adults from 10 villages surround the GME. Oral interviewees with selected key informants were also conducted with community elders and community leaders. Data collection used a 4 scale questionnaire in line with Parrish et al. (2003) for ecological studies where 1=Strongly Disagree, 2=Disagree, 3=Agree and 4=Strongly Agree. The study used the 4-point scale to avoid bias and respondents clustering at center (opt cit). Table 1 shows the number of items for each of the nine variables for CEB and the number of items for each of the six variables for SCMA where the total of items for CEB and SCMA were 42 and 17 respectively. Table 1 also shows how the total scores range for each variable and the respective total scores for CEB and SCMA. The study used mean scores to classify the interpretation of findings into two clusters for each variable i.e. weak score hence low levels of agreement with the statement if less than mean, and strong score or higher levels of agreement with the statement if the score is above the mean.

Table 1: Data Processing Matrix

Variables	Items	Range of the total scores	Interpretation of mean score by weak (Wk) and strong (St)
Community Economic Benefits (CEB)	**42**	**Scale 42 – 168**	**If M ≤ 83 Wk; > 83 St**
Personal Income	7	Scale 7 – 28	If M ≤ 13 Wk; > 13 St
Profit from small business	5	Scale 5 – 20	If M ≤ 9 Wk; > 9 St
Cash flow	4	Scale 4 – 16	If M ≤ 7 Wk; > 7 St
Job Creation	5	Scale 5 – 20	If M ≤ 9 Wk; > 9 St
Wealth Creation	5	Scale 5 – 20	If M ≤ 9 Wk; > 9 St
Material costs	4	Scale 4 – 16	If M ≤ 7 Wk; > 7 St
Opportunity cost	5	Scale 5 – 20	If M ≤ 9 Wk; > 9 St
Incentives	3	Scale 3 – 12	If M ≤ 5 Wk; > 5 St
Ecological	4	Scale 4 – 16	If M ≤ 7 Wk; > 7 St
State Controlled Consumptive Management Approach (SCMA)	**17**	**Scale 17 – 68**	**If M ≤ 33 Wk; > 33 St**
Tourism hunting	2	Scale 2 – 8	If M ≤ 3 Wk; > 3 St
Farming	4	Scale 4 – 16	If M ≤ 7 Wk; > 7 St
Food Meat and Fruit	3	Scale 3 – 12	If M ≤ 5 Wk; > 5 St
Firewood and energy	3	Scale 3 – 12	If M ≤ 5 Wk; > 5 St
Medicine	2	Scale 2 – 8	If M ≤ 3 Wk; > 3 St
Logging	3	Scale 3 – 12	If M ≤ 5 Wk; > 5 St

Analytical Model

Community Economic Benefits (CEB) is the accumulated sums from economic gains (EG) from natural resources. Economic gain is a function (f) of the natural resources management approach (NRMA). Mathematically this relationship is represented in equation 1.

$$CEB = \Sigma(EG) = f(NRMA) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots1$$

It is true that NRMA is the summation of resources utilization (RU) and resource controls and development (CD) as presented in equation 2.

$$NRMA = \Sigma(RU, CD)\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots2$$

Assuming that community CD is constant and provided by the state hence not controlled by communities benefiting from the natural resources, CD in equation 2 is assumed invariable. Hence combining equations 1 and 2 gives equation 3 where CEB becomes a function of resources utilization (RU).

$$CEB = f(RU) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

State controlled Consumptive Management Approaches (SCMA) of protected natural resources have a definitive RU and hence benefits to surrounding communities which comprises of perceived implications on policies imposed on potential gains from tourism hunting (TH), farming near conserved area (FM), access of meat and fruits for food (MF), firewood collection (FW), access to medicinal plants and wildlife (MD) and logging and timbering (LG). Equation 3 can be rewritten by substituting the composites as presented in equation 4.

$$CEB = f(RU) = f(SCMA)\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 4$$

Substituting composites of SCMA into equation 4, the functional form of CEB is as presented in equation 5:

$$CEB = f(TH, FM, MF, FW, MD, LG)\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 5$$

The analytical CEB model estimated in the current study was thus presented in a structural equation 6:

$$CEB = \beta^0 + \beta^1 TH + \beta^2 FM + \beta^3 MF + \beta^4 FW + \beta^5 MD + \beta^6 LG) + \varepsilon \ldots 6$$

Ordinary Least Squares multiple linear regression was used to examine linear relationships between determinants of government-state consumptive resources management approaches and community economic benefit.

Results and Discussions

Impactful Descriptors of State-Controlled Consumptive Management Approach

The selected impactful descriptors of state consumptive utilization approach of forests and wildlife resources management in this study included hunting tourism, farming near conserved area, access to timber, firewood, wild game, wild fruits, and medicinal trees and wildlife. Table 2 shows an impact mean score for state-controlled consumptive management approach of 32.31 which is slightly below the expected impact mean score of 33. This suggests that there was a weak impact of the approach on community economic benefit in the area. Poor road infrastructure was mentioned as contributing factor that caused weak economic benefits. Interviewed community members testified the findings. The majority of young respondents felt that the benefit they gained was comparatively less due to the remoteness of the area and strictness of their access to the controlled forests. One community member living in the lower village around Greater Mahale Ecosystem, when asked on the consumptive conservation economic benefit from government forest and wildlife conservation, narrated as follows:

> *"Even though we have hunting blocks such as Nkamba forest hunting block, we receive very few hunting tourists may be due to remoteness, and due to our roads been poorly developed. Even when we harvest timber and logs from our forests, always there are few buyers. We do not make good money because of those reasons"*

In addition, about one in three interviewed community members were of the opinion that the government controls were not beneficial to the community by mentioning areas of community interest. One village leader commented:

> *"...government should build primary schools using money it collects from forest hunting blocks.... Again, health centers should also be constructed from money collected after selling confiscated timber from Tongwe West Forest reserves. Conservation of government forests and wildlife can for sure, be paying us in an indirect way but so far it's difficult to see any benefits."*

These opinions on less community economic benefits from government-conserved areas diverge from the findings by Andam *et al.* (2010) who studied modern natural resources management under government management. These results are also different from the review report on global dynamic on protected areas conducted by Lewis *et al.* (2017). Furthermore, the results are also different from Keane *et al.* (2020) who studied impact of wildlife management areas (WMAs) to community. All the mentioned studies concluded that the more protected areas the bigger the revenue and improvement in community economy welfare around protected area. Remoteness and less developed infrastructure in the Greater Mahale Ecosystem may be among the contributing reasons for government conserved areas to produce less economic benefit than expected. This study is designed to examine impact of state-controlled consumptive management approach on economic benefits expected from the Greater Mahale Ecosystem.

Table 2: State Consumptive Natural Resources Management variables

Variables-composites	Calculated mean score	Std Deviation	Expected Impact mean score
State Consumptive Management Approach(SCMA)	32.31	12.317	33
Tourism and Hunting (TH)	3.47	1.639	3
Farming near conserved area (FM)	8.79	2.536	7
Access to Meat and Fruits for Food (MF)	4.90	2.399	5
Firewood collection (FW)	5.28	2.744	5
Access to Medicinal plants and Wildlife (MD)	4.53	2.044	3
Logging and timbering (LG)	5.33	2.583	5

Table 2 shows that the calculated impact mean for *hunting tourism* in state consumptive natural resources management approach was 3.47. The derived mean was slightly above the strong mean of 3 by 0.47 points. The finding suggests that the perceived community economic benefit from hunting tourism in government-managed forests and wildlife areas such as hunting blocks was strong. The other variables had mean scores slightly above the expected mean score except for one variable, *access to meat and fruits for food* which had a mean score (4.90) which is below the expected mean score of 5.

Benefits from Tourism and Hunting (TH) and Farming in Conserved Areas (FM)

Moreover, Figure 3 indicates that the majority of respondents strongly disagreed that hunting blocks in government natural resources managed areas are active and whether hunting quota and permits were issued. The farming impact computed mean was 8.79 with a computed mean of 1.79 points above the expected impactful mean score of 7. The data suggested a strong impact on the community economic from farming around government-protected areas. Response on detailed assessment of farming near government conserved area showed that 26.6% agreed that farms produce more harvest near government conserved areas (Figure 3). That was a bit surprising result but it was affirmed by interviewed people. One famous agro-pastoralist responded by saying:

> *"All of us wish to have a farm near Nkamba forest. Near Nkamba forest reserve, there are strong controls, more fertile land, and there is less fire occurrence". That is why many of us would prefer to have a farm near that land". Even though it is a long-distance walk from our villages, if you get a farm in that area, you are sure of bump harvest."*
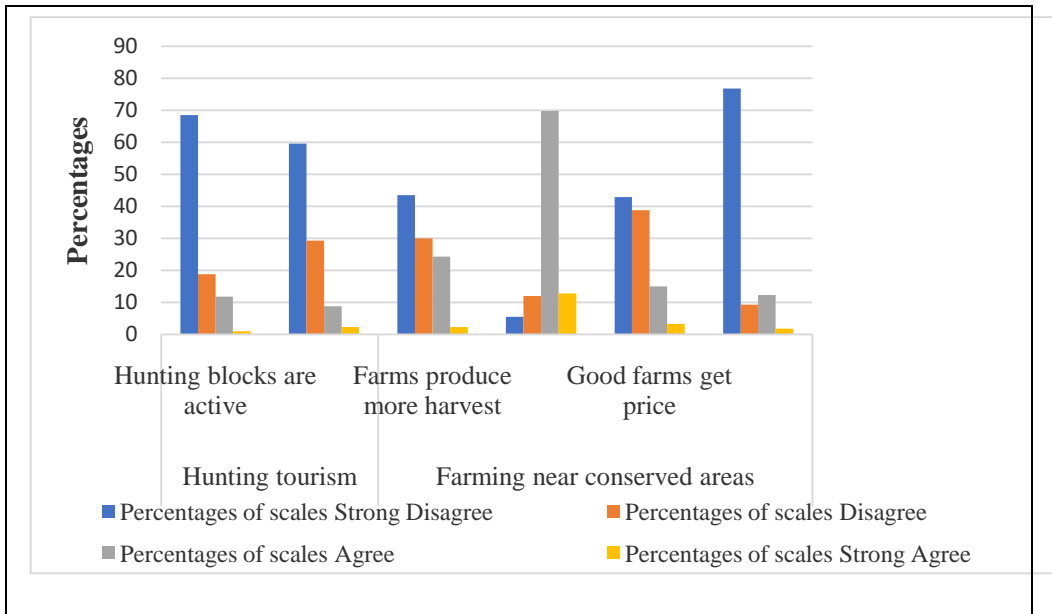
Figure 3: Benefits from Tourism and Hunting and Farming in Conserved Areas

However, there was a mixed feeling and response on compensation upon destructive wildlife. One of the interviewed key informants had a reservation that, the main challenge of farming in conserved areas was destructive wildlife such as baboons, as he said:

> *"The main challenges of farming near that forest are the struggle to protect crops from destruction of baboons and vervet monkeys. These wild animals feed on our crops yet we are not allowed to kill them since they are protected by state forces"*

Figure 3 shows that only 14.1% of the respondents agreed that they were compensated when crops were destroyed by wildlife. The finding is in line with some key informants. One farmer who lived in the area for more than 20 years, when asked whether farmers' crops were compensated when destroyed by wildlife, he said:

> *"Sometimes, we are compensated when our farm crops are destroyed by wildlife especially when the wildlife comes from National Park. For example, when hippo destroyed rice near Kasekese, we were paid". "Even though it is not every time we are compensated, for example, sometimes, chimpanzee enter our farms and take a few sugar canes, no one compensates that. Chimpanzees are not destructive wildlife compared to baboons".*

Benefits from Access to wild meat and fruits (MF) and Firewood Collection (FW)

Table 2 shows that impact of controlled access to wild meat and fruits from government-state managed natural resources had a mean score of 4.90 just below the expected mean of 5. Figure 4 shows that a few (12.1%) respondents agreed on the availability of enough bush meat implying that wild game and fruits are not much accessed in government conserved areas. Conservation impact of firewood and energy access in government-state managed natural resources had a mean score of 5.28 just above expected mean score of 5 (Table 2). Even though it was a strong mean, the difference was small. Majority of respondents (70%) disagreed that they accessed firewood, wood for charcoal and wood for sell from the government-conserved forests and wildlife-controlled areas (Figure 4). One interviewed

old woman who lived in the upper villages around Greater Mahale Ecosystem, when asked on access to firewood commented as:

> *"We collect firewood from our farms and from non-conserved forests that are general lands. Often, we do not collect firewood from government conserved forests because of fear of being attacked by wild animals. Sometimes the game officers are harsh and harassing…..it's not good to fight government….."*
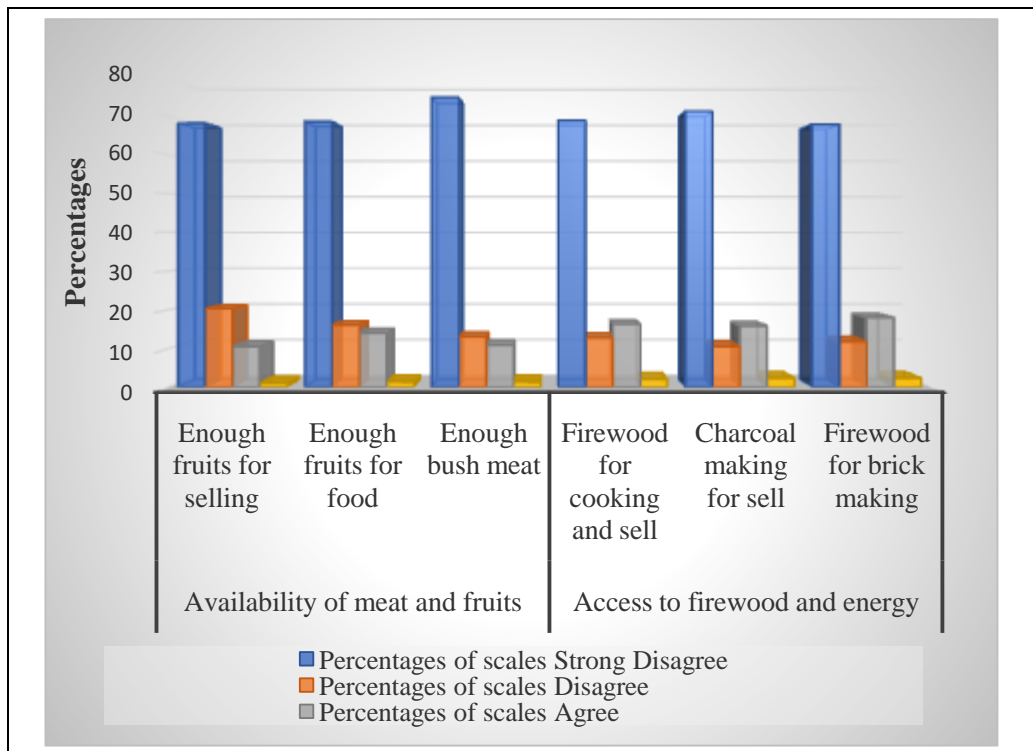
Figure 4: Benefits from Wild Meat and fruit and Firewood Collection

Benefits from Access to Medicinal Resources (MD) and Logging and Timbering (LG)

Conservation impact on community economy through access of medicinal plants, medicinal wildlife, timber, and logging found to be a most valued benefit in Greater Mahale Ecosystem. The medicinal benefits impact in

government conserved forests and wildlife management areas mean was 4.53 (Table 2). The mean was significantly stronger for 1.5 points above the strong mean of 3 (Table 2). Almost one third (30%) of respondents strongly agreed to access medicinal plants for cure and treatment (Figure 5). This is a substantial number to suggest that community depend on government forests and wildness to access traditional medicines. One elderly man who live in remote village that does not have a dispensary was asked on the economic benefit of medicinal resources extracted from GME had this to say:

> *"Not only village forests, but also government forests are very important to us for accessing medicinal plants…. You know, you cannot find all type of needed medicinal trees in one forest…..Some of them are in our farms, others in village forest, others in riparian forests and others are in government forests…..We normally go to all forests to get medicine…"*

Access to medicinal plants and medicinal wildlife seemed to be of a great value to remote community of Greater Mahale Ecosystem implying that this might be essential in the conservation compliance as also observed by Tchakatumba *et al.* (2019). Trees were not only accessed for medicine but also were accessed for timber and logging purpose.
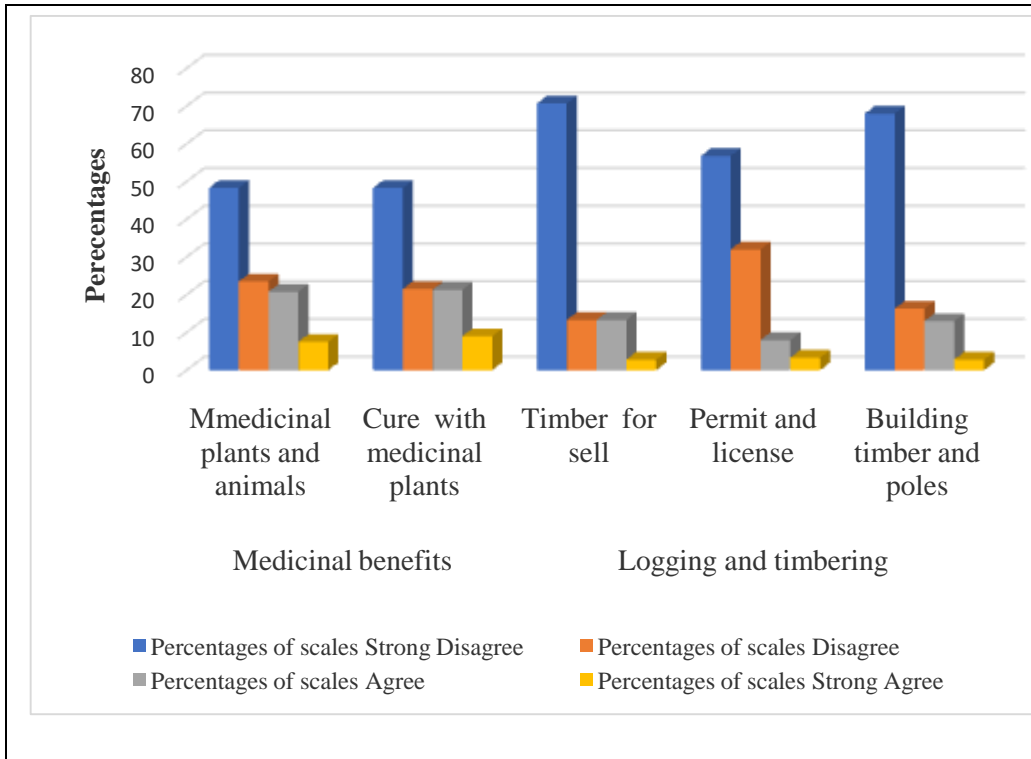
Figure 5: Benefits from Medicine resources and Logging and Timbering

Conservation impact on community economy through access of logging and timbering mean was 5.33 just 0.33 points above strong mean of 5 (Table 2). Although it was expected that community would have stronger conservation impact to community economy, from timbering and logging permit, it was not the case in this study. Majority (88.8%) of respondents strongly disagreed to access timbers and logs from government conserved forests (Figure 5). The finding implied that timber harvesting benefit was minimal to the studied community. Poor infrastructures such as poor road networks were associated with poor timber business even in government-state conserved forests. Moreover, some community members had concerns on how the little money they gained from timber business was utilized. One interviewed young man who was also a member of village natural resource committee in village around Greater Mahale Ecosystem when said:

> *"…Timber is harvested from the government forests for people with pay for the permits, however, I do not know if we get any share of that money and what that money is used for. I just recall one-time when logs were confiscated and sold at 600 million Shillings and the money was used to construct Karema health facility…"*

The information suggested that there was less transparency in financial matters and less financial accountability. The finding agreed with Child & Barnes (2010) and Galvin *et al.* (2018)'s findings which found some questionable financial management. The finding showed that questionable financial management was not only in communal natural resources management but also in government-managed natural resources.

Impact of SCMA of Natural Resources on CEB
Table 3 presents findings from the multiple regression analysis on impact of state consumptive natural resources management on community economic benefit. The findings are based on structural model 6. The model had a good fit of 0.63 and therefore it had strong predictive power. The linear correlation coefficient was $r = 0.79$, p<.001 implying a strong linear relationship between government-state consumptive natural resources management variables and community economic benefit.

Table 3: Multiple Regression Analysis Results

Variables	β	t	p	SE
Constant	36.927		.000	
Tourism and hunting (TH)	.124	.774	.043	.346
Farming near conserved area (FM)	.160	5.144	.000	.283
Access to Meat and Fruits for food (FM)	.082	2.394	.017	.336
Access to Firewood collection (FW)	-.029	-.776	.438	.322
Access to Medicinal plants (MD)	.150	4.467	.000	.379
Logging and timbering (LG)	-.120	-2.965	.003	.369
State Consumptive Management Approach (SCMA)	.791	34.667	.000	.043

R^2=0.68 p=0.05

Multiple regression analysis presented in Table 3 revealed that unlike other variables, state-controlled consumption of firewood collections (FW) and

logging and timbering (LG) had negative effects on potential community economic benefits from the natural resources. State controlled access to Firewood collection (FW) was the only variable that was found insignificant ($p=.438$) whereas the rest of the variables indicated to have significant impact on potential community economic benefits expected of natural resources around the state-controlled consumptive management approach. Overall, the aggregated State Controlled Consumptive Management Approach (SCMA) of Greater Mahale Ecosystem had a positive significant impact ($\beta=0.79$, $p=0.000$) on the expected potential benefits to the community living around the ecosystem.

Conclusion and Recommendations

This study concludes that state consumptive natural resource management approach has significant impact on community economic benefit. Irrespective of the fact that the Greater Mahale Ecosystem is remote with less developed economic infrastructures, the state consumptive utilization of natural resources positively impacts the community economic benefits. Controls on access to firewood was found negatively impacting community economic benefits. This implies that an increase in state controls on access to firewood would decrease even further the expected benefits of the resource to communities around the Greater Mahale Ecosystem. The state controlled consumptive policies on other variables such as; tourism and hunting, farming practices, wildlife games and wild fruits and access to medicinal plants are beneficial to surrounding communities.

State consumptive policies on natural resources utilization should focus more on the four variables i.e. tourism and hunting, Farming near conserved area, access to meat and fruits for food, access to medicinal plants with positive impact on community economic benefits. Benefits from tourists and hunting are expected to have a significant multiplier positive impact on communities which in turn gives assurance on community support to conserve the ecosystem. Development of tourist hunting blocks would improve consumptive utilization not only under government managed natural resources but also under communal-indigenous approach. To improve the tourist circuit, the development of infrastructures such as road networks is

necessary. There should also be the integration of consumptive and non-consumptive approaches such as sustainable timber and avoided carbon credit to maximize community economic benefit. Finally, there is a need for the state to undertake natural resources valuation in Greater Mahale Ecosystem and other alike conserved areas in the country. This would enhance the country's total economic valuation of its natural capital, natural asset, and real wealth.

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Financial Service usage and Rice Commercialization of Smallholders Farmer in Kilombero District: The Role of Institutional Law and Regulation

Francis. W. Mmari[1]
The Open University of Tanzania
williamfw15@gmail.com

Gwahula Raphael[2]
The Open University of Tanzania

ABSTRACT

This survey study was conducted in Tanzania to assess the effect of financial service usage on agriculture commercialization of smallholder rice growers in Kilombero District. Primary data were collected using survey questionnaires from 358 smallholder farmers. Data were analysed using hierarchical multiple regression analysis and Hayes PROCESS macro with the help of IBM SPSS software. The results obtained suggest that financial services usage had a positive effect on rice commercialization. The results also confirm that institutional law and regulation had a negative significant moderating effect on the relationship between financial service usage and agriculture commercialization. This implies that high laws and regulations in accessing and using financial services hinder smallholder farmers' usage of financial services. The study recommends that to improve the level of agriculture commercialization, policymakers and Government are required to set policies which reduce the cost of accessing and using financial services and improve the efficiency of rules and regulations governing financial services usage.

Keywords: Financial service usage, agriculture commercialization and institutional law and regulations

INTRODUCTION

Smallholder farming is a means of livelihood for majority of rural households in developing countries including Tanzania, and it has been the mainstay of the rural economy, mainly saving as the source of income and food supply

(Omiti et al., 2007). Similarly, smallholder farming dominates the agriculture sector which has significant contribution to the Tanzania economy. It contributes to 26.9% of the country's GDP, 65.5% of the employment and 30% of the export earnings (ASDP, 2017; BOT, 2021). Also agriculture sector provides 80.4% of the employment in Kilombero District (NBS, 2012). Despite of its significant role to national economy, majority of smallholder farmers in Tanzania are constrained by different problems (Tesso, 2017). Some of the problems are inadequate infrastructure (energy, water and market access), inadequate extension services, difficulty regulator system, inadequate land tenure system, planning and enforcement and limited access to credit or finance and insurance, (ASDP, 2017). Moreover, the sector's growth rate compared to other sectors had not been promising. Available data show that, between 2006-2014 average growth rates of the sector was 3.9% per annum compared to that of the service sector 8% and the industry sector 7.8% (ASDP, 2017).

In addition, among the 2.3 Million ha classified as high potential, only 461,326 ha had improved irrigation in 2015, accounting for only 1.6% of the total land with irrigation potential (ASDP, 2017). To address the problem facing smallholder farmers and the entire agricultural sector many countries have been focusing on modernization and commercialization of the agriculture sector in order to enhance food security and reduce poverty among smallholders farmer (Tesso, 2017; Chandio et al., 2020). Likewise, in Tanzania, the government established agriculture sector development programme (ASDP) phase I & II (URT Report, 2015). Among the objectives of ASDP II, which cover the period 2015-2025, is to achieve agriculture growth rate of 6% per annum, improve access to credit and transfer the sector into modern, high productive and commercial sector (ASDP, 2017). Also, efforts are made at international and national level to improve financial inclusion. World Bank made a call for universal financial access by require countries to ensure that they capture unbanked citizens into formal financial service by 2020 (Achugamonu et al., 2020). In Tanzania, the Government established the National Financial Inclusion Framework (NFIF) phase I & II (NFIF, 2018). Phase I of NFIF cover the period from 2014-2017 intend to increase financial service access and Phase II cover the period from 2018-

2022 intend to increase the level of financial service usage by 2022. Even with the effort made to improve financial service usage and agriculture commercialization, studies indicate that 1.7 billion adults globally remain unbaked, with most living in developing countries (Demirguc-Kunt et al., 2018). According to Demirguc-Kunt et al. (2018), account ownership is high in developing countries, where 94% of adults own accounts but less in developing countries, where in Tanzania, adults with accounts are 47%. Also, studies show that agricultural households use formal financial services at extremely low rates, with many households using no financial products or services at all (Mohammed et al., 2020). Prevailing data show that in Ghana more than half (56.4%) of the agricultural households do not use any formal financial service or product (Mohammed et al., 2020). While in Tanzania, the regions of Tabora, Simiyu, Kagera and Morogoro have 31% of committed farmers who are financially excluded (Jeckoniah et al., 2020). Studies suggest that availability of finance for Africa farmers could lead to an increase of over 300% of agriculture output i.e. from $280 billion to $ 880 billion by the year 2030 (McKinsey Global Institute, 2010).

However, high transaction costs such as bank fees, collateral requirement, minimum balance requirement, lack of physical access and strict documentation are mentioned as the challenges hinder smallholder farmer commercialization (Okeye et al. 2016; Bongomin et al., 2018). Existence of financial institutions like branches, offices and personal in rural areas where majority of smallholders farmer dwell can promote access to finance (Demirguc-Kunt et al., 2018; Bongomin et al., 2018). Because a bank in a community reduce transaction cost in accessing financial service such as long distance to financial institution cost associated with opening account, saving and requesting for credit (Abu and Haruna, 2017). So reduction of these costs may encourage smallholder farmers to access credit in order to finance their farming activities and participate in commercial farming. According to institutional theory (IT), Institutions' structure, political, economic or social interactions (North, 1990). According to North (1991) institutions are made up of formal constraints (rules, laws and constitutions) and informal constraints (norms, convention and self-imposed code of conduct). Financial institutions such as banks and microfinance institutions operate under certain

rules and regulations. The rules and regulations may act as incentives or disincentives for access and use of financial services. A study by Kodongo (2018) show that regulations such as agency banking improves financial inclusion but know your customer and capital and Liquidity macro-prudential regulation harm FI. Also, Naegels et al. (2017) show that female entrepreneurs in Tanzania mainly use informal sources because formal sources bear higher interest rates, require high collateral and personal guarantee, so they are more expensive compared to the informal source. Empirically significant number of studies has been done on financial inclusion and or agriculture commercialization. Studies on financial inclusion include those looks on determinant of financial inclusion (Asuming et al., 2018; Lott, 2018; Chikalipah, 2017), financial inclusion and rural development (Lal, 2019), mobile money and financial inclusion (Evans, 2018).

Also, include studies examine financial inclusion and economic growth (Sethi and Acharya, 2018), access to finance and firm growth (Adomako et al., 2016) and financial literacy and financial inclusion under moderating role of institutional pillars (Bongomin et al, 2020). On the other hand, studies on agriculture commercialization include those examine drivers of commercialization and productivity (Arymo et al., 2019), determinants of commercialization (Yaseen et al., 2018; Rubhara and Mudhara, 2019; Rabbi et al., 2019; Mihretie, 2020; Ayale et al., 2021). Other include those examine commercialization and food security (Radchenko and Correl, 2018; Kissoly et al., 2020; Bolarinwa et al., 2020). However, to the researcher best knowledge no studies look on the link between financial service usage and commercialization or the moderating effect of institutional law and regulation in the relationship between financial service usage and commercialization. So the current study intends to examine moderating role of institutional law and regulation in the relationship between financial service usage and commercialization. Furthermore, majority of studies done on commercialization (Abu & Haruna, 2017; Ayele et al., 2021; Kabit et al., 2016; Kissoly et al., 2020; Mihretie, 2020), use commercialization index as dependent variable, thus use Tobit or Logit regression analysis to analyse factors influence commercialization and commercialization intensity.

However, Tobit or Logit model is recommended when the dependent variable is censored from below, above or both (Kissoly et al., 2020). Since in this study dependent variable was not censored, the study switched from previous studies by employing hierarchical multiple regression technique to analyse the relationship between FI and AGC and the moderation effect of institutional law and regulation in such relationship. Also, the study is the first of its kind to apply Hayes PROCESS macro with the help of Johnson-Neyman to assess the moderating effect of institutional law and regulation in the relationship between FI and AGC. Johnson Neyman enables us to identify the conditional effect of the moderator in the relationship between independent and dependent variables.

Financial Service usage and Agriculture Commercialization

Financial service usage refers to the use of different available financial services (Demirguc-Kunt & Klapper, 2012). Also, according to Sarma (2008), as cited in Pham et al. (2018), usage indicates whether those available and accessible financial services are in fact, utilized. The existence of a bank in a community is like an implicit and explicit advertisement strategy for farmers to participate in financial services such as opening bank accounts, saving, and requesting access to credit (Abu and Haruna, 2017). This implies that the existence of financial institutions affects commercialization by providing a chance to receive and save proceeds from sales and eventually encourage farmers to engage with the institution to access credit. In addition, It has been demonstrated that having an account with a formal financial institution increases access to credit, savings, and consumption (Kasebele and Lopez, 2015; Demirguc-Kunt and Klapper, 2013). Also, it makes it simple to send and receive payments (Demirguc-Kunt and Klapper, 2013). Additionally, credit availability enables farmers to purchase seeds of improved variety, high efficiency pesticides, fertilizers and acquisition of machinery for farm operations (Akudugu, 2016; Abdul-Rehman et al., 2017). Thus uses of credit allow smallholder farmers to better utilize both fixed and working capital, as they are able to invest in better inputs and improve agriculture practice after controlling for other factors such as education, family size gender etc (Abdallah, 2016; Chandio et al., 2018; Martey et al. 2019; Rahman et al., 2014). Moreover, the use of savings account has been

shown to increase consumption, productivity, income and investments as well as reduce vulnerability to unexpected events (Dupas and Robison, 2013). Savings are therefore essential to farm household activities as they affect potential future production and consumption (Sand, 2002). Additionally, a study by Issahaku et al. (2020) discovered that joining a saving association raises smallholder chances of getting credit by 20%. Therefore, usage of financial services promote human capita and allow an individual to invest in different areas, including agriculture (Matekenya et al, 2020), thus encourage engage in commercial farming.

H1: Financial service usage positively affects agriculture commercialization

Moderating role of Institution Law & Regulation on the Relationship between Financial service usage and Agricultural Commercialization. Financial institutions are financial intermediaries which create link between the part with surplus funds and the part which face deficient (Candiya et al., 2017). However the institutions operate under certain rules and regulations set by international and national financial bodies, Government and financial institution themselves. The existing law and rules regarding financial market in a particular national environment promote certain types of behavior or restrict other for accessing and using financial services (Bongomin et al., 2015). World Bank, (2002) as cited in Bongomin et al. (2015), suggest that financial market can work efficiently if they have rules and laws which influence future behaviour. Know your customer (KYC) is one of the regulations governing financial institution operation set by IMF and World Bank (Mugarura, 2013). KYC require banks to identify who their customer are and continuously generate data about them (Mugarura, 2019).

Among the factors mentioned to affect account ownership in Cameroon include too much requirement such as proof of identification and other document needed to open account (Ojong, 2017). Thus, KYC may be one of the barriers for financial access, and usage as people with no official government document tend to be discriminated or prevented from access to mainstream banking services (Mugarura, 2019; Kodongo, 2018). Another factor caused by tight bank regulation is collateral requirement. According to Sekyi et al. (2017) lack of collateral in form of property and stable

employment reduce the possibility of accessing and using bank credit facilities offered by financial institutions due to the fact that financial institutions are often reluctant to lend money in absence of collateral. However, collateral requirement is important for financial institutions because they utilize it to clear borrowers' defaulted loans (Twumasi et al., 2019). Thus, farmers with no collateral are considered as risk clients to financial institutions and lack access to credit. Kodongo (2018) propose for simplification or exemption of regulation in certain category of financial services. For example, the legislative reform that permitted flexible agency banking in Kenya resulted in a notable expansion in supply of banking services, with the number of bank agents rising by 148.5% over the three years 2012 to 2015 (Kodongo, 2018).

However, the increase in banking agency service has not promoted credit facilities access or encouraged the use of investment products (Kodongo, 2018). According to Karikati et al. (2021), a national quality financial regulatory system helps to reduce opportunistic bank behaviour of profit-making, such as minimizing deposit interest rates and maximizing lending interest rates. Therefore regulations that allow a greater supply of financial services boost countries' formal financial inclusion efforts. Lastly, a change in government law, regulation and policy may support certain economic sectors. Among the strategies used to ensure farmers market for their produce is contract farming. Contract farming is the institutional arrangement under which agribusiness firm contracts the production of agriculture commodities output to farmers (Bellemare & Novak, 2017). A study by Reardon et al. (2019) show that contract farming is a mechanism which helps farmers overcome pervasive market failure. Studies also show that to reduce transaction cost, buyers of agriculture produce tend to sign contracts with formal or informal produces organisation or group of farmers (Mugwagwa, 2020).

H2:   Institutional laws and regulation significantly moderate the relationship   between financial usage and agriculture commercialization.
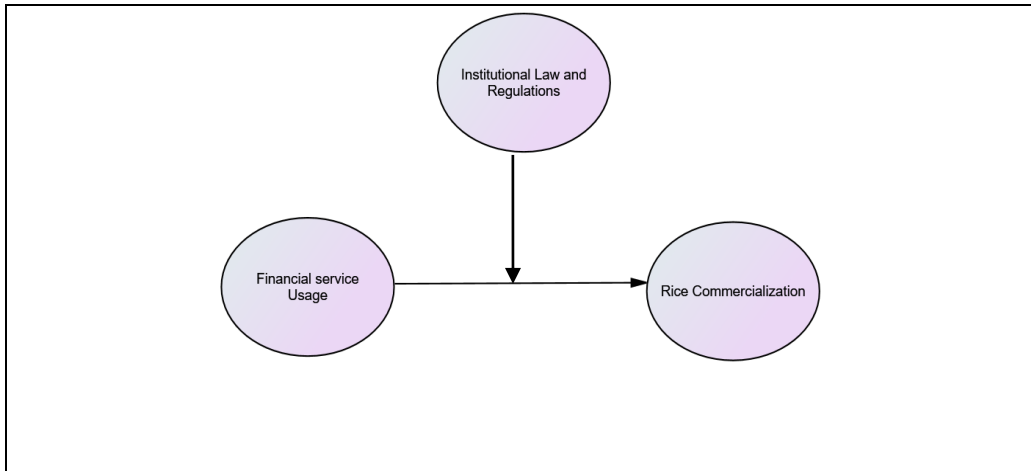
Figure 1: Coneptual framework.

Methodology

This study adopted post-positivism reach paradigm which is a refined version of positivism. The paradigm was adopted because it allows the researcher to make reasonable inference about the phenomena by combining both empirical and logical reasoning (Bhattacherjee, 2012). Also the paradigm sees research as never ending process, so other research can judge the validity of our findings in future studies (Rubin and Babbie, 2011). Also the study adopted cross-sectional research design as it enables to measure both independent and dependent variables at the same point in time. In addition, the design has the ability to capture and control for a large number of variables and to study the problem from multiple perspective using multiple theory (Bhattacherjee, 2012; Leavy, 2017). The population of this study comprises of smallholder rice growers in Kilombero district, which is estimated to be 55,484 households. The sample size was computed using the formula derived from Yamane (1973), given as n= [N/1+N (e) ^{2}] where n= sample size, N= targeted population, and e= tolerance error (5% or 95%). Therefore, a total of 397 smallholder rice grower farmers were selected. Multistage random sampling technique was used to select division, ward, village and household surveyed. The sample selection process involves four multistage clustering techniques. The first stage involves random selection of two divisions from the list of divisions with rice grower farmers were

Mangula and Kidatu division were selected. The second stage involves random selection of three wards from Mangula were Kiberege, Mkula and Mangula was selected. Then random selection two wards from Kidatu division were Kidatu and Sanje was selected. Third stage involve random selection of two village from each ward were a total of ten village were selected. Then the last stage involve random selection of around 35 to 47 smallholder rice growers from each village which resulting to a sample of 397 household rice growers. In addition Kilombero District was selected because among seven district of Morogoro Region, Kilombero lead in rice production in 2019 where more than half (57.4%) of region production comes from Kilombero (URT, 2019). In addition, it is sought that rice commercialization is the primary force behind economic growth, poverty reduction, and improvement of both men and women's standard of living in the study area (Jeckoniah et al., 2020). Rice production, account for 73% of the average total income in Kilombero (Mosha et al., 2018).

Variable Measurement

Financial service usage (FU): refers to how client use available financial services and frequency or extent of use of the available service (Midra& Moya, 2017, Mohammed et al., 2019). To measure financial service usage among smallholder rice growers in the study area we use four usage indicators used by Mindra and Moya (2017) and Mohammed et al. (2019). The indicators include (i) account ownership (ii) account usage (iii) saving (iv) sources of borrowing (i.e. formal or informal).

Law and regulations (LR): Refer to rules and regulations of financial institutions and other supporting institution which promote or discourage smallholder behaviour toward usage of financial services and commercialization (Scott, 2001). The variable was proposed by Scott (2001) and adopted by other scholar such as Bongomin et al. (2018). Institutional law and regulation was measure using nine items include (i) six items of Institutional law and regulative barriers or incentives for usage of financial services (ii) three items of institutional law & regulative for supporting commercialization and irrigation availability.

Agriculture commercialization: Refer to the proportion of agriculture production that is sold (Govereh et al., 1999). Scholars (Ochieng et al., 2016; Abu & Haruna, 2017; Rubhara & Mudhara, 2019; Ayele et al., 2021) measured commercialization using index proposed by Govereh et al., (1999), which is known as commercialization index. The index is given as a proportional of total crop output sold to the total output crop produced (Abu and Haruna, 2017; Ayele et al., 2021). However other scholars such as Yaseen et al. (2018) and Rabbi et al. (2019) use endowment of crop production and household market participation characteristics to measure commercialization. According to Rabbi et al. (2019) a farmer is said to commercialize if he sells part of his output in the market. Poor recording keeping by farmers resulted to difficulty in obtaining data on amount of rice produced and sold, thus led us to adopt market participation indicators.

Three items relating to reasons for involving in rice production were measured using five point Likert scale. *Control Variables*: Based on previous studies (Ademe et al., 2017; Kidane and Zegey, 2018; Mariyono, 2019; Rubhara and Mudhara, 2019; Sekyi et al., 2017), we tested for number of non-hypothesized variables to account for factors other than the theoretical construct of interest that can explain variance in the dependent variable (Agricultural commercialization). Farming experience and age have been found to influence agriculture commercialization. We measured farming experience as years spend in rice farming and Age as the age of the household head.

Table 1: **Summary of the Measurement Variables**

Variables	No of items	Code	Measurement items	Measurement	Source
Control variables	2	AGE	Age of household head	Years	Rubhara and Mudhara (2019), Mariyono (2019)
		FE	Farming experience	Years spend in rice farming	
Financial service usage	6	FU1-FU2	Account ownership	Ordinal scale 1= strongly disagree	Mindra& Moya (2019); Mohammed et al. (2019)
		FA3-FU4	Account usage	2=Disagree 3= Not sure	
		FA5-FU6	Source of borrowing	4= Agree 5=Strongly Agree	
Institutional law and regulation	9	LR1-LR6	Regulative barriers/incentives for accessing and usage of financial services	Ordinal scale 1= strongly disagree 2 = Disagree 3= Not sure 4 = Agree 5=Strongly Agree	Bongomin et al (2018); Silong and Gadanakis (2020)
		LR7-LR9	Law & regulation support commercialization/irrigation		
Commercialization	3	RC1-RC3	Reason for involving in rice production	Ordinal scale 1= strongly disagree 2 = Disagree 3= Not sure 4 = Agree 5=Strongly Agree	Rabbi et al. (2019); Yaseen et al (2018)

Data Analysis

Field data collection was checked for accuracy, precision, and mistakes. Serial numbers were assigned to the completed questionnaires before they were loaded into IBM SPSS/23. Then frequencies were generated to locate missing values, and a box plot was used to locate outliers in the data. The results obtained demonstrate that our data does not contain any outliers. Then, we use normality, linearity, Homoscedasticity, and multicollinearity to test the regression assumption. The histogram plot and the p-p plot of the standardized residual and standardized predicted value were used to test for normality and linearity. The results demonstrate that there were no problems with normality or linearity because the histogram was well-bell-shaped and all of the dots on the typical p-p plot were very close to one another and fell along the diagonal (Keith, 2019; Hair et al., 2014). Then, using a scatter plot of the standardized residual against the standardized predicted value, we checked for homoscedasticity. As all points fall within the threshold range of ±3, the results obtained show no significant homoscedasticity issues. In the end, we used the tolerance value (TV) and variance inflation factor (VIF) to test for multicollinearity. Researchers (Field, 2005; Hair et al., 2014) suggest a cutoff value for VIF 5 and TV > 0.2 to indicate absence of multicollinearity. These requirements were met, as shown in Table 2. So all the assumption was met and allows us to proceed with hierarchal multiple regression analysis.

Table 2: Multicollinearity Diagnoses

Variable	Collinearity Statistics	
	Tolerance (TV)	**VIF**
FE	0.800	1.250
Age	0.792	1.262
Cent_FU	0.987	1.013
Cent_LR	0.936	1.068
FUXLR	0.971	1.030

Reliability and Validity

We evaluate the issue of reliability and validity before conducting regression analysis and hypothesis testing. The degree of consistency between numerous measurements of a variable is known as reliability (Bongomin et al., 2018).

Cronbanch alpha was used in this study to evaluate the internal consistency of the instrument used (Cronbanch, 1951). Internal consistency is attained, when cronbanch alpha exceed 0.7 (Abdullahi et al., 2021; Jensen and Kristensen 2021). All values of cronbanch alpha for FU, LR and RC obtained in Table 3 below were above 0.7 so internal consistency was achieved. In addition, content and convergent validity was also achieved as the result of exploratory factor analysis obtained indicated that all the items correlated and loaded with each other refer Table 4.

Table 3: Reliability Analysis

Variables	No of items	Reliability
Financial service usage (FU)	4	0.882
Law and regulation (LR)	8	0.946
Rice commercialization (RC)	3	0.770

Table 4: Exploratory Factor Analysis

	Pattern Matrix[a]		
	Component		
	1	2	3
LR5	.948		
LR3	.922		
LR4	.903		
LR8	.896		
LR6	.893		
LR7	.893		
LR9	.845		
LR2	.605		
FU1		.884	
FU4		.856	
FU6		.856	
FU5		.839	
RC3			.889
RC1			.828
RC2			.759

Extraction Method: Principal Component Analysis.
 Rotation Method: Promax with Kaiser Normalization.
 a. Rotation converged in 5 iterations.

Hierarchical Regression Analysis

This study use interaction moderation analysis so hierarchical multiple regression analysis was adopted in this study because the approach has received much endorsement as model estimator in many moderation interaction studies (Bongomin et al., 2018; Adil et al., al., 2021; Yang et al., 2022). Before creating the interaction term it is advised to first centering the variable of interest in order to avoid unnecessary collinearity (Jose, 2008; Keith, 2019). Centering simply mean subtracting the variable mean score and resulting to new variable with mean zero and standard deviation equal to original standard deviation (Keith, 2019). Three steps were involved in the hierarchical regression analysis. The control variables were estimated in the equation 1. The second equation entails the introduction of the main effect variables (FU and LR), and the estimation of the interaction term (FUxLR) nestled within the main effect model constitutes the third equation. The regression equation model for all three equations is as shown hereunder.

$$Rc = Age + FE + e \ldots\ldots\ldots 1$$

$$Rc = Age + FE + (FU + LR) + e \ldots\ldots\ldots 2$$

$$Rc = Age + FE + (FU + LR) + (FUXLR) + e \ldots\ldots\ldots 3$$

Where

      RC= Rice commercialization

      Age= Age of the household head

      FE= farming experience

      FU= Financial service usage

      LR= Law and regulations

      e= error term.

Table 5: Hierarchical Regression Analysis

Variable	Step 1	Step 2	Step 3
Control			
Age	-0.141**(0.041)	-0.098*(0.040)	-0.091*(0.040)
FE		0.188***(0.039)	0.179*** (0.039)
	0.225*** (0.040)		
Main effect			
FU-cent		0.118**(0.035)	0.123***(0.035)
LR-cent		0.179***(0.041)	0.195***(0.041)
Interaction			
FUXLR			-0.094*(0.037)
R^2	0.081	0.150	0.163
ΔR^2		0.073***	0.015*

*$P<0.05$, **$P< 0.01$; ***$P<0.001$*

The result obtained in Table 5 above represent, the results of hierarchical regression model for smallholder rice growers commercialization. As shown in step 1 both two non-hypothesized variables age (β = -0.141, $P<0.01$) and farming experience (β = 0.225, $P<0.001$) were statistical significant associated with rice commercialization. In addition, the results obtained in step 2, which involve introduction of the main variable (FU and LR) revealed that both FU and LR had significant positive effect on commercialization (β = 0.118, $P<0.01$) and (β = 0.179, $P<0.001$) respectively thus hypothesis H1 was supported. Also the result obtained in step 3 which involve introduction of the interaction variable (FU x LR) revealed that the interaction term has significant negative effect on commercialization (β = -0.094, $P<0.05$) thus lead to support hypothesis H2.

Further Moderation Analysis with Hayes PROCESS Macro

We also intended to confirm the result obtained in hierarchical regression analysis by employing Hayes PROCESS macro v4.1 technique for IBM SPSS/23 and above. According to Hayes (2022), PROCESS is a tool for IBM SPSS, which make it easier to analyse hypothesized model by providing a relative simple way to analyse relative complex models using bootstrapping confidence intervals (CIs). Thus in this study, we used a standardized estimation of 5,000 bootstrap samples for 95% CI. The result of the interaction between FU and LR is shown in Table 6.

Table 6: The Interaction Effect of LR and FU

	Coefficient	se	t	P	LLCI	ULCI
Constant	3.96	0.0409	96.7697	0.0000	3.8795	4.0405
FU	0.1389	0.0355	3.918	0.0001	0.0692	0.2087
LR	0.2267	0.0412	5.4976	0.0000	0.1456	0.3078
Int_1	-0.1095	0.0377	-2.9052	0.0039	-0.1837	-0.0354

The result obtain Table 6 above show that the interaction result between FU and LR was statistically significant but negative with *P< 0.05*. This means that the relationship between FU and RC is weakened by law and regulation. We also employed Jonson-Neyman simple slope analysis technique to establish a level at which moderator will have moderating effect in the relationship between financial service usage and agriculture commercialization. The result obtained in Table 7 below indicate that the moderator LR moderate the relationship between financial service usage and agriculture commercialization within the range of LR= -1.0035 to LR = 1.0035. The result suggest that at low level of LR (i.e. LR= -1.0035) the effect of FU on AGC is higher but as we increase the level of LR to 1.0035 the effect of FU on AGC is reduced. Thus the result confirms that the effect of FU on AGC is weakened by high level of LR.

Table 7: Conditional Effect of the Predictor (FU) at Value of Moderator (LR)

LR	Effect	se	t	p	LLCI	ULCI
-1.0035	0.2488	0.0528	4.7111	0.000	0.145	0.3527
0.000	0.1389	0.0355	3.918	0.0001	0.0692	0.2087
1.0035	0.0290	0.0509	0.571	0.5683	-0.071	0.1291

Also Johnson-Neyman helps us to identify the range of value at which the slope of the predictor is significant vs not significant at a specified alpha level as Hayes (2022) suggested. The results are provided in Table 8 and Figure 2.

Table 8: Range of Value at which Predictor is Significant vs not Significant

LR	Effect	SE	T	P	LLCI	ULCI
-2.674	0.432	0.108	3.994	0.000	0.219	0.644
-2.474	0.410	0.101	4.058	0.000	0.211	0.609
-2.274	0.388	0.094	4.128	0.000	0.203	0.573
-2.074	0.366	0.087	4.205	0.000	0.195	0.537
-1.874	0.344	0.080	4.290	0.000	0.186	0.502
-1.674	0.322	0.074	4.382	0.000	0.178	0.467
-1.474	0.300	0.067	4.481	0.000	0.169	0.432
-1.274	0.278	0.061	4.583	0.000	0.159	0.398
-1.074	0.257	0.055	4.680	0.000	0.149	0.364
-0.874	0.235	0.049	4.759	0.000	0.138	0.332
-0.674	0.213	0.044	4.792	0.000	0.125	0.300
-0.474	0.191	0.040	4.735	0.000	0.112	0.270
-0.274	0.169	0.037	4.528	0.000	0.096	0.242
-0.074	0.147	0.036	4.120	0.000	0.077	0.217
0.127	0.125	0.036	3.514	0.001	0.055	0.195
0.327	0.103	0.037	2.782	0.006	0.030	0.176
0.527	0.081	0.040	2.033	0.043	0.003	0.160
0.545	0.079	0.040	1.967	0.050	0.000	0.159
0.727	0.059	0.044	1.350	0.178	-0.027	0.146

0.927	0.038	0.049	0.768	0.443	-0.059	0.134
1.127	0.016	0.054	0.287	0.774	-0.091	0.122
1.327	-0.006	0.060	-0.105	0.916	-0.125	0.112
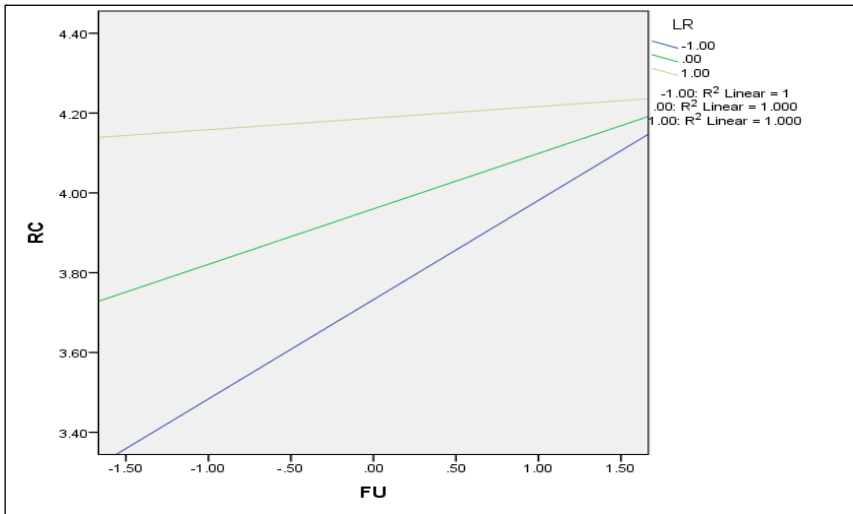
Figure 2: Interaction Effect between FU and LR

The result obtained in Table 8 above suggest that if we keep on increasing the level of LR and reduce FU then above the value of LR = 0.545 the effect of FU on AGC will no longer be significant. In addition the result obtained in Figure 2 above suggest that at low value of LR i.e. -1.00 the effect of FU on AGC is stronger as the gradient in the relationship between AGC and FU is much steeper. However, at high level of LR i.e. =1.00 the effect of FU on AGC is weaker as the gradient of the relationship between AGC and FU is much flatter. So the results confirm that LR has significant negative moderating effect in the relationship between FU and AGC.

Discussion of the Findings

The results obtained show that control variables, including farming experience and household age had significant effect on commercialization. The findings are in line with a number of earlier empirical studies (Ele et al., 2013; Ademe et al., 2017; Kabit et al., 2016; Rabbi et al., 2019; Kissoly et al., 2020; Mihretie, 2020) that found farming experience had a significant positive impact on commercialization. Farming experience refers to the number of years an individual has spent in farming activities (Kabit et al., 2016). According to Rabbi et al. (2019) more experienced farmers have more knowledge of farming as well as changes in weather, pesticides, and production. The argument was also supported by Kabit et al. (2016) who observed that increase in farming experience increase perfection due to increased knowledge of farming techniques which result into production efficiency and commercialization. Thus increasing farming experience increase productivity and farmer participation in the market thus positively affect the welfare of household farmers. However, the results were inconsistent with those of Mariyono (2019) who find negative relationship between farming experience and commercialization.

Furthermore, the findings show negative relationship between age and commercialization. Also the result are consistent with previous empirical findings (Kissoly et al., 2020; Rubhara and Mudhara, 2019; Abafita et al., 2016) who also found negative relationship between age and commercialization. This is due to the fact that older people are more risk averse than younger people so they might not be willing to venture into food crop selling to guard against volatility of food prices, thus creating a negative relationship with commercialization. Additionally, young farmer are more creative, cognizant of current requirement and aware of the benefit of commercialization (Randela et al., 2008). However, results were inconsistent with those of Rabbi et al. (2019), and Mariyono (2019) who found positive relationship between age and commercialization. According to Rabbi et al. (2019) older farmers are more experience with farming activities as well as market for output crops. The results also find that financial service usage positively and significantly affect commercialization thus support hypothesis H1. The results are consistent with previous empirical findings (Abu and

Haruna, 2017; Agbodji and Johson, 2019; Ayele et al., 2021; Issahaku et al., 2020; Ochieng et al., 2019; Sand, 2002) which found that financial service usage support agriculture commercialization. According to Ayele et al. (2021), credit use by farmers has significant effect commercialization because it contribute to productivity and farmers participation to market for those with access to credit compare to those with no access (Agbodji and Johson, 2019). The notion was also backed by Abu and Haruna (2017), who noted that the use of credit and other financial sources allows farmers to expand production above what is necessary to meet family food security requirements and sell the surplus. In addition, access and use of credit boost productivity and net income of a farmer thus reduce smallholder poverty (Khandker and Koolwal, 2016; Ogundeji et al., 2018), because credit enable farmer to adopt contemporary technology, and in turn increase marketable surplus and participation in the market (Bhattarai et al., 2013). Moreover, a study by Sand (2002) found that saving is essential to farm household activity as it affect potential future crop production and farmer consumption.

Also Issahaku et al. (2020) discovered that joining in saving association enable farmers to get chance of getting credit by 20%. Thus usage of financial service can encourage smallholder farmer to expand to expand their investment in farming activities thus boost productivity and participation in the output crop market. Additionally, the empirically results of this study demonstrated that law and regulation indeed facilitate the relationship between financial services usage and agricultural commercialization, thus support hypothesis H2. However, the interaction effect between FU and LR was negative, suggesting that as the level of LR is decreased, the effect of FU on commercialization is higher but as the level of LR increases, the effect of FU on commercialization is reduced. The findings are consistent with earlier empirical findings (Mariyono, 2019; Ogundeji et al., 2018; Demirguc-Kunt et al., 2018). According to Mariyono (2019), easing the requirement for obtaining microcredit can benefit farmer who choose to engage in commercial farming. The author recommend for Government in collaboration with commercial sector to ensure easy access of finance to farmers. In addition Ogundeji et al. (2018) observe that higher interest rate lessen farmer chance of getting credit from formal financial institution. Also, Mohammed

et al. (2019), revealed that more than half (56.4%) of Ghanaians household farmers use informal financial services despite the fact that agriculture is the main source of employment for more than half of the Ghanaian labour force. This could due to the fact that majority of smallholder farmers are poor so lacking collateral, thus they cannot access credit provided commercial banks (Raifu and Aminu, 2020). Moreover, the findings were inconsistent with Seman (2016), who find that strength of legal right and government laws and regulations has positive effect on financial inclusion. In addition Rojas-Suarez (2016) finds that low of institutional quality and lack of enforcement of the rule of law reduces investors' incentive to entrust their funds to formal financial institutions. Thus, strong and strict regulation can improve safety and soundness of the financial system and quality of the service provided by financial institution to its users including smallholder farmers.

Conclusion

This study established that the use of financial services has a strong, positive relationship with agriculture commercialization. Therefore the study concludes that using financial service for commercial farming is a crucial component for facilitating farmers' participation in the market. The study also confirms that institutional law and regulation are crucial in moderating the relationship between the use of financial services and agricultural commercialization among smallholder rice growers' farmers in Tanzanian. The results are noteworthy because there is a lack of theoretical support for how institutional law and regulation affects the relationship between financial services usage and agriculture commercialization. The study suggests that financial law and regulation should be reduced or revised in order to increase the level of financial service usage so as to promote commercialization.

Limitation and Scope for Future Research

First, the current study omits longitudinal research in favor of a cross-sectional approach. Future research using a longitudinal methodology and a national representative sample may help us better understand how institutional law and regulation factors affect the relationship between financial service usage and agriculture commercialization. Second, the current study measures the variable under study using quantitative data while

ignoring qualitative data. Future research may be done with mixed data or qualitative data. Finally, this study excludes medium- and large-scale rice producers and uses data gathered from smallholder farmers. Future research might take into account medium and large rice producers.

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Individual Investors' Awareness and Participation in the Dar es Salaam Stock Exchange, Tanzania

Christina Mwakabumbe[1]
[1] Moshi Co-operative University,
calfred2011@gmail.com

Sylvia Temu[2]
[2] University of Dar es Salaam

IsaacKazungu[3]
[3]Moshi Co-operative University,

ABSTRACT

Participation of individual investors in Dar es Salaam stock markets stands at 1%, which is very low compared to Kenya, which is currently at 4%. Thus, the study evaluated the level of awareness of individuals that explained their low participation in the Dar es Salaam stock exchange. Primary data were collected from 200 participants and 200 non-participants and analysed using descriptive statistics and binary logistic regression. Findings revealed that non-participant individuals had a low level of awareness regarding DSE and its activities compared to individual participants. Regarding voting and decision-making by shareholders, only 13% of participants were aware of this right. Financial awareness was also found out to be low among individuals. Binary logistic results indicated that awareness of DSE, awareness creation seminars and access to media were likely to influence individuals' participation decisions. Thus, the study concluded that the level of awareness among individuals was deficient and affected their participation in the stock market. Therefore, the intensification of public awareness through seminars by DSE is essential. Also, DSE should increase the use of mobile trading platform and internet technologies to disseminate awareness information on investment opportunities for participation decision.

Keywords: *Individual, investors, awareness, stock exchange, Dar es Salaam, individual invstorors awareness.*

INTRODUCTION

Initiating the capital market in Tanzania aimed at providing investment opportunities to individuals and institutions in Tanzania (DSE, 2016). Investment, being the postponement of current spending for future economic gain, is an essential economic activity facilitating firms and the country's economic growth. The stock market creates investment opportunities for investors and generates long-term funds for listed firms and the government. Therefore, the Dar es Salaam Stock Exchange (DSE) as a financial market links individuals and firms seeking capital for expansion. Hence, firms issue shares and bonds to the public at a given price with a positive expected return, leading to increased firm's capital. Apart from that, individuals' participation contributes to overall market capitalisation (Vidanalage & Shantha, 2019). Despite the benefits of investment to firms, individuals, and the market, limited stock market participation through individual shareholding has been a significant global challenge named the "*stockholding puzzle or stock market participation puzzle*" (Mauricas, 2017).

As per Radtke *et al*. (2018), participation includes ownership and co-ownership of assets and benefits in financial returns from these assets. The participation of individual investors in the stock market differs and could be related to the growth and development of the specific country. In countries like Sri Lanka, the Colombo stock market has more than 85% of local retail trades (Vidanalage & Shantha, 2019). In Norwegian, direct individual participants are 23 per cent of the total population (Fagereng *et al*., 2017). On the other hand, ordinary investors declined in countries like; Japan, the US, Singapore, and Taiwan as they sold their stocks during the Covid-19 pandemic (Liu *et al*., 2020). In Sub Sahara Africa, direct individual participation in stock markets is still limited in number. Botswana reported an increase in retail investors from 20,000 in 2013 to 90,000 participants in 2018, contributing to more than 5% of the market turnover (Bolokwe & Sedimo, 2019). On the other hand, Nigeria has only 6% of the population (Andow & David, 2016). Similarly, the Johanessburg stock exchange has domestic investors' average individual participation rate at 10% (Thomas, 2017). The participation rate is due to the developed technology and

economic growth, which makes JSE as the leading stock markets in Africa (James *et al.,* 2015). This limited participation among individuals in Africa has been caused by economic factors such as; social factors, limited growth of capital markets and limited knowledge of the stock market (Andow & David, 2016). East African countries formed a technological platform in 2019 to link the capital markets known as Capital Market Infrastructure (CMI) among partner states (Ramji *et al.,* 2019). Nairobi Securities Exchange established its activities earlier than others, and individual participation currently stands at 4% of the total population (Langat & Rop, 2019). In Uganda, retail/individual participation in the equity market is very low; however, in government bonds, 1.49% of participants are retail (Ramji *et al.,* 2019). Conversely, in Tanzania, individual participants totalled 556,121, equivalent to 1% of the total population (DSE statistics, 2020). Although the establishment and maturity of the stock market vary per country, the level of individual participation is still low in East African countries.

Empirical studies (Liu *et al*., 2020; Wu, 2016) noted that awareness, technology, and concern for future revenue are among the identified factors influencing participation among individuals. On the other hand, Wazal and Sharma (2017) show that financial awareness, and risks, contribute to the reported low participation among individual investors. However, Sarkar and Sahu (2017) argue that most investors in stock markets are aware of stock market activities because most are graduates with academic qualifications. Thus, awareness as among the identified factors affecting the participation of individuals is defined by this study as basic knowledge of the existence of the stock exchange, its basic aspects and basic operations relating to the stock markets. Though groupthink theory suggests that investors in the stock market work on tips and advice from groups (Evdakov, 2014), the decision to invest remains with an individual. Hence, self-awareness in the stock market is considered crucial because it motivates individuals to participate and thus facilitation of informed investment decisions. Additionally, self-aware individuals play an important watchdog role, increase their skills to protect themselves, properly allocate resources, and become up-to-date (Wangmo *et al.,* 2018; Acquah-Sam & Salami, 2013). Therefore, self-aware individuals

increase their knowledge about risks, returns, and protection methods before investing in the stock market. However, limited awareness impairs individuals' ability to make investment decisions leading to poor decision-making. For Participants, limited awareness denies them opportunities to exercise their rights, and, as a result, they cannot fully benefit from their investment. Similarly, low participation of individuals due to awareness can limit the growth and liquidity of east African markets (Ramji *et al.,* 2019; Abbas *et al.,* 2016). As a result, DSE continuously provides education and training to the public and prospective investors. It further disseminates knowledge through social media, printed and online newsletters, and annual market awareness campaigns for university students. Apart from DSE efforts, the government introduced a policy requiring the public to own 25% of the communication companies (URT, 2016). However, individuals limitedly acquired the Vodacom shares issued in 2015. Thus, apart from all the efforts, individual participation at DSE is still very low (Mwamambulo, 2021). The low participation is against the government's efforts to reduce income inequality and make individuals financially self-sufficient as per SDG 2030 (UNDP, 2015).

Low individual participation has been an area of interest for many researchers (Liu *et al.*, 2020; Wazal & Sharma, 2017; Wu, 2016). They have addressed numerous factors affecting participation, such as; financial return, income, awareness, and technology. However, locally current studies (Mwamtambulo, 2021; Epaphra & Kiwia, 2021) covered different factors like income, advice from friends and brokers, and financial knowledge. However, they rarely addressed awareness factors that may affect the investment decision of individuals. Limitedly addressing DSE's knowledge and share trading may reduce future individual participation in DSE. Because stockholding starts with information on what shares to buy, in what company, the future benefits and decision on whether to invest in share (Wangmo *et al.*, 2018). Moreover, ignoring factors such as awareness of shareholders' rights may limit the role of DSE in ensuring effective and adequate protection for individual investors, thus limiting the development of the stock market (Abuselidze, 2018). Thus, this study is among the first to focus entirely on examining awareness factors influencing individual participation in DSE.

Additionally, it used two theories, self-awareness theory and group think theory, which differ from those used in previous studies. Gumbo and Sandada (2018) posit that awareness is a significant predictor of individual investors' decision to participate in the stock market because it concerns individuals' choices. Therefore, this study determined individual investors' awareness regarding DSE, investors' rights, share trading, and DSE activities. Furthermore, the study examined how awareness through media facilitate the accessibility of DSE services and influence individuals' investment intentions. Hence, the study established baseline knowledge of national individual participants and non-participants on DSE operations and examined the influence of awareness factors on individuals' participation decisions.

Literature Review

The literature is divided into two parts: a theoretical review and an empirical review. Theoretically, the study is mainly guided by self-awareness theory which is supported by groupthink theory.

Theoretical Review

Groupthink theory (GTT) as advanced by Janis in 1972 and improved by the same in 1982, argues that "groups bring out the worst as well as the best" in decision-making. Janis assumed individual making decision through group influence and treated group thinking as a condition that may lead to consequences with a low probability of success due to poor decision-making. Additionally, Evdakov (2014) noted that stock market traders work on tips and information from different sources suggesting great stock or stock which rises in price. As a result, individuals' decisions to buy or sell might be influenced by others rather than their own informed opinion. The theory was applied in explaining individuals who invest without prior knowledge of DSE and share trading. Conversely, the group cannot affect proper decision-making if an individual is self-aware, leading to introduction of self-awareness theory. Self-awareness theory as proposed by Duval and Wicklund (1972), states that 'when we focus on ourselves, we evaluate and compare our current behaviour to our internal standards and values. Williams (1985) noted that self-awareness results in increased self-knowledge and adherence to standards and long-standing morals and beliefs. Thus, decision quality could be enhanced by making individuals self-aware and providing an appropriate

standard. Self-aware individuals know their investment choices and how they can respond to difficulties and make decisions through voting in companies. With self-awareness, an individual can decide whether to invest in shares or pursue an alternative choice. Hence individual self-awareness is considered important in making meaningful choices (Dishon *et al.,* 2017). Thus, the decision made by the individual will be according to his standard, morals, and belief; however, it might be a high-quality or poor-quality decision. Hence, the theory was applied in examining individuals' self-awareness of investment choices. However, self-awareness theory focuses mainly on individuals' personal factors influencing a decision. Thus the current study includes external factors such as awareness creation, financial awareness, and media accessibility, to examine their influence on individuals' investment decisions.

Empirical Review and Hypotheses Development
Level of Awareness of the Stock Market and Participation
Individuals need to have basic knowledge of DSE and understand fundamental issues relating to the stock market, such as; the activities of DSE, benefits of owning shares, and rights of shareholders before deciding to buy shares. Qureshi *et al.* (2014) studied determinants of trust and the level of awareness of retail investors in the Pakistan stock exchange. They found a positive relationship between awareness and individual investors' trust to invest in the stock market. Similarly, with limited awareness, the individual's decision to invest becomes difficult (Sri Lanka Security and Exchange Commission (SEC), 2012). Conversely, Wangmo *et al.* (2018) found out that limited awareness of the stock market, trading activities, and benefits affect participation in the Royal Security Exchange of Bhutan. On the other hand, Gumbo and Sandada (2018) found that awareness of investment opportunities relating to the stock market influence participation. Similarly, Acquah-Sam and Salami (2013) reported that it is not only knowledge of shares but also about the capital markets activities that affects security market participation in Ghana. Thus, the authors (Gumbo & Sandada, 2018) focused on authorities rather than individual investors. Apart from that, the different markets located in different geographical areas may differ in factors affecting participation. DSE, as an emerging market, limited knowledge of DSE

among citizens may affect individuals' participation or lead to wrong investment decisions because group think theory positively supports this. Hence, the study assessed the level of awareness of individuals relating to the DSE and its influence on individuals' participation, leading to the establishment of the Hypothesis (H_{01});

H_{01}: Individuals' awareness of DSE activities does not affect their participation in the stock market.

Financial Awareness of Individuals

Financial awareness enables an individual to predict the future return and progress of the company to invest in it and therefore may motivate individuals to participate. Arts (2018), in the study on stock market participation and financial literacy, found a positive relationship between financial literacy and stock market participation. Similarly, Sivaramakrishnan *et al.* (2016) noted that financial literacy significantly impacts the intention to invest in the Indian stock market. Implicitly, individuals' financial awareness contributes to investment decisions. Mishra (2018) identified financial and investment awareness as the key boundaries to participation. In Tanzania, there is a mixed picture; previously, Noel (2013) found out that financial literacy in Tanzania has a small impact on stock market participation among academicians.

However, Epaphra & Kiwia (2021) reported a significant influence of financial literacy on stock market participation among the general public. Therefore, whether financial awareness differs between individual investors compared to those non-individual investors is a matter that this study explored. Clarifying the contradiction of the findings among authors is necessary by examining different groups of individuals from different economic activities and awareness levels. Additionally, Arts (2018) focused more on moderating the role of country-specific social connectedness in participation and financial literacy. Equally, Sivaramakrishnan *et al.* (2016) focused on individual investors only and used the theory of planned behaviour. However, the current study focuses on the financial awareness of both participants and non-participants of DSE and analysed their relationship

using binary regression and self-awareness theory. Therefore, this leads to the establishment of the following hypothesis;

    H_{02}: Financial awareness does not affect individuals' investment decision in the stock market.

Awareness Creation and Participation

The awareness of the capital market and its activities may contribute significantly to capital market participation. Vohra and Kaur (2017) supported that organized education and awareness camps could increase individuals' awareness, leading to increased participation. Similarly, Mishra (2018) noted that financial education programmes enhance individuals' financial awareness, impacting their participation. These findings relate to Bolokwe & Sedimo (2019), who noted that public education with tailored inventiveness to students and the broader population is the biggest driver in increasing individual participation in Botswana. Hence knowledge and awareness creation encourage individuals to invest in the stock market. Security Exchange Commission (SEC) (2012) in Sri Lanka noticed that many individuals who attended seminar/training courses were willing to invest in the share market. Apart from general awareness, Clavery (2018) argued that acquiring financial skills enhances the achievement of financial goals in share business and therefore increases participation. Similarly, Sivaramakrishnan *et al.* (2016) suggest implementing different programmes and the development of modules to increase financial literacy and enhance participation. However, previous studies (Mishra, 2018; Sivaramakrishnan *et al.*, 2016) focused on financial awareness creation and not other areas. Although the studies suggested awareness creation seminars and programmes to improve participation, however, none of them analysed its direct influence on individual participation, which this study intends to examine, leading to the proposed null hypothesis H_{03} as follows;

    H_{03}: There is no relationship between awareness creation seminars and participation in the stock market.

Access to Media and Participation

Individuals access information about investment opportunities through different means such as; newspapers, radio, television and social media. Choi & Robertson (2020), in their study titled 'what matters to individual investors, examined how individuals make investment decisions. They found out that advice accessed from media sources influences individual decisions to invest. Similarly, Hu *et al*. (2019) noted that the media highly induce individual investors with limited prior experience and awareness to participate in the stock market. Hence, television and other media increase awareness and familiarity for the new investor leading participation (Leodegard, 2019). In contrast, Tham (2018) argued that media easily transmit information about the stock market however; increasing individuals' trust in media does not necessarily increase participation. Apart from television, Cheng *et al*. (2018) revealed that households which use internet participate in stock markets compared to non-users. The study further noted that new platforms reduce transaction costs and make interactions and learning easier online. However, previous studies (Hu *et al.* (2019) used single source of information (television) and linked viewership on participation. On the other hand, Choi & Robertson (2020) used secondary panel data to examine how individuals make decisions. Thus the current study combined the variables and examined the influence of television, DSE mobile application and social media on individual participation in DSE. Hence, the null hypothesis H_{04} is as follows;

H_{04}: Access to media does not influence individual participation at DSE.

Investors' Awareness of their Rights

Individuals' decision to invest in the stock market presupposes the possession of knowledge and awareness of their rights, policies, and duties performed by investors. OECD (2011) defined shareholders' rights as the number of shareholders' rights to participate in the company's decision-making, operations, management, supervision, and control. Sempeho (2013), in her study protecting individual investors at the Dar es Salaam Stock Exchange, showed that individuals have limited knowledge of their rights in the companies. Additionally, Abuselidze (2018) concluded that awareness of

investors′ rights facilitates the protection of individuals by the firm and the security market, leading to a liquid stock market. The rights of an individual investor, as addressed by the Security and Exchange Board of India-SEBI (2017), includes the right to; receive copies of the Annual Report, vote in general meeting, receive the dividend, inspect the statutory reports, receive corporate benefits like rights, and bonus. Individual awareness of these rights may facilitate sound investment decisions but also the active participation, as supported by self-awareness theory. However, Sempeho (2013) focused more on institutions (DSE and CMSA) in examining investor protection and used only 80 individual investors, while the current study involved 200 participants. Thus, in Tanzania, the study propounded that individual investors in the DSE, might not be aware of their rights. The study, therefore, examined shareholders' level of awareness of their rights.
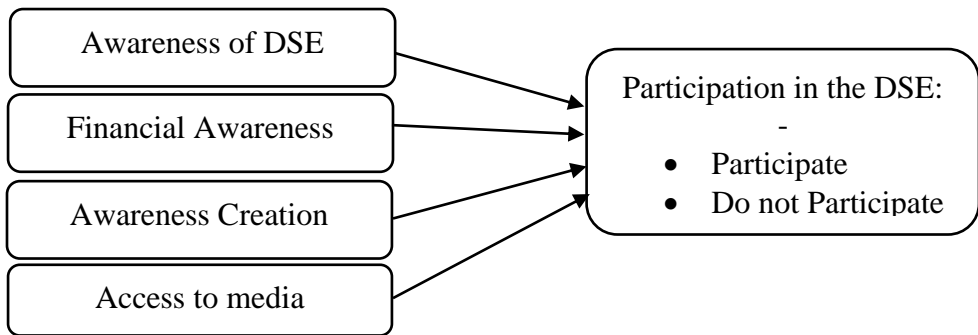
Figure 1: Conceptual Framework

Methodology
The current study adopted the Pragmatic philosophy because the fundamental process of problem-solving offers flexibility, speed, efficiency and accuracy (Rahman & Zakaria, 2008). Furthermore, it combines different philosophies (interpretivism and positivism) in answering the research questions. Therefore, the study used a mixed approach applying both quantitative and qualitative methods. The qualitative approach was used to analyse information collected from key informants and explain the quantitative results in detail. The quantitative approach was used to test the research hypotheses and measure the relationship between awareness factors and participation. A mixed approach was used concurrently from data collection

to analysis of the variables. The approach was applied because it facilitates the triangulation of data collected and uses different methods enabling a deep understanding of the information (Brus, 2017). The study area was the Dar es Salaam region because it is a location of DSE and its 15 brokers. Apart from that, Dar es Salaam is concentrated on commercial activities, contributing to approximately 90% of the country's tax revenues and 17% of the total value of GDP (Haji and Cunningham, 2015), thus possessing a greater population with disposable income. Thus, The population of the study comprised the working individuals (participants of DSE and non-participants), totaling 3,599,412 (NBS, 2020). Both random and snowballing sampling techniques were used to access non-participants and participants, respectively. Snowballing was used in selecting participants because the individuals' physical locations were not identifiable from the DSE repository. For non-participants, simple random sampling was used because every working adult located in one of the districts in Dar es Salaam had a probability of being selected (Pandey & Pandey, 2015). The sample size for the study was 400 respondents, determined using Cochran (1977).

$$n = \frac{no}{1+(no-1)/N} \quad \ldots\ldots\ldots\ldots(1)$$

$$n = \frac{384}{1+(384-1)/3,599,412}$$

Cochran led to 384 respondents, but the logistic model requires a significant sample size (Epaphra & Kiwia, 2019), and therefore 400 respondents were obtained. The sample size distribution was between participants and non-participants at a ratio of 1:1, as per Etikan and Bala (2017). Therefore 200 respondents were participants, and 200 were non-participants. The data were collected using a structured questionnaire and key informants interview guide for six key informants. The key informants included individuals considered experts in the stock market, including two (2) DSE informants, a CMSA spokesperson, two (2) brokers and an academician. The questionnaire was pre-tested on 30 respondents, different from those involved in the main data collection. Pre-testing enabled measuring validity because challenges, difficulties and recommendations observed in responding to questions were

improved for final data collection. Data collected were subjected to a reliability test, and Cronbach's Alpha coefficient test was performed for 14 items. Results indicated an internal consistency score of 0.806, which is acceptable, as per Livingston (2018). Qualitative data were analysed using thematic analysis as adopted and improved from Salleh *et al.* (2017). The process involved reading transcripts and interviews from key informants and then coding manually. Sorting coded information follows to get potential themes and sub-themes based on importance, relevance, and relation to the theory and objectives of the study. Finally, results were triangulated by integrating themes and responses into the objectives to link with inferential statistics results on awareness and individuals' participation at DSE. Quantitative data were analysed using descriptive statistics and Binary Logistic regression. Binary Logistic regression showed the relationship between participation and awareness variables, as adopted from Berger (2017). Omnibus test of model coefficient had P-value=0.000, Cox and Snell R Square (48%) and Nagelkerke R Square (67%), which indicate good explanatory power of the model. Hosmer and Lemeshow tests were all performed, and the coefficient confirmed model fitness (P-value = 0.783).

The dependent variable (**P**) was participation which was dichotomous with 1 for participants and 0 for non-participants. The independent variables included; awareness of DSE (**dse**), financial awareness (**fl**), training received (**tr**), and access to media (**md**), as defined in Table 1. The model used was as follows;

$$\log\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1, \boldsymbol{dse} + \beta_2, \boldsymbol{fl} + \beta_3, \boldsymbol{tr} + \beta_4, \boldsymbol{md} + \ldots \varepsilon i \quad \ldots$$

Whereby; *P*=Likelihood of participation; $\beta_{0=}$ constant (y-intercept); β_1......... β_n are coefficients of explanatory variables; β Coefficient (-1 or 1) εi = error term 0.05 (CI 95).

Table 1: Variable Description and Measurements

	Variables	Variables description and Measurements
P/P-1	Participation in Stock Market	1= Participating in the stock market by having shares; 0= Not participating
dse	Awareness of DSE	0= Aware of DSE 1= Un-aware of DSE
fl	Financial Awareness	0= Financial un-aware 1= Financially aware
tr	Awareness creation	1= Attended awareness seminar (Yes); 0= Otherwise
md	Access to media	1 = Yes; 0 = Otherwise

Results and Discussion

Demographic Characteristics

The demographic characteristics of respondents included age, gender of respondents, marital status, and education level of individuals as presented in Table 2 as follows;

Table 2: Demographic Characteristics

Category	Demographic Characteristic	Part. Freq.	Perc (part)	Non-Part Freq.	Percentage (non-part)	Pearson's Chi-square (P-Value)
Age	20 to 30	6	3.5	61	30.5	
	31 to 40	25	12.5	61	30.5	
	41 to 50	51	25.5	37	18.5	0.000
	51 to 60	65	32.5	27	13.5	
	61 and above	53	16.5	14	7	
Gender	Male	111	55.5	121	60.5	
	Female	89	44.5	89	44.5	0.311
Marital Status	Single	60	30	69	34.5	
	Married	140	70	131	65.5	0.336
Education Level	Primary education	34	17	30	15	
	Secondary Education	22	11	41	20.5	
	Vocational Education	60	30	55	27.5	0.078
	Degree (1st Degree, Masters, Ph.D.)	84	42	74	37	

Source: Field Data, (2020)

As presented in Table 2, the results show that 55.5% of respondents were male and 44.5% female. Men participate more than females because women fear risk more and have limited income and financial awareness than men (Bacher, 2022; Bucher-Koenen, 2021). Regarding age, individuals between 41-50; and 51-60 years participate more in DSE compared to other age groups, which is also in line with Pearson's Chi-square results having a P-value = 0.000. Hence there is an association between age and participation because aged individuals are committed and diversify resources for future expected returns. Results further indicated that married respondents participated more than single (single, widow, and divorced), by 35.5% for both participants and non-participants. The findings relates to Choi & Robertson (2020) and Hu *et al.* (2019) who noted that married people are more likely to participate than single. Furthermore, graduates participated more than non-degree by 40%, which can be due to education gained from universities' syllabus which enhanced awareness.

Level of Awareness

In measuring the level of awareness, the paper assessed the level of awareness relating to; DSE itself, DSE activities, financial awareness, share trading awareness, awareness of the benefits, and awareness of the rights of shareholders, which are expected to be known by shareholders as follows;

Table 3: Level of Awareness of Individuals

Type of Awareness	Non-Participants	Percent of Non-Part	Participants	Percent of Participants
Aware of DSE				
Aware of DSE	51	25.5%	110	55%
Aware of DSE activities	40	20%	125	62.5%
Financial awareness (Literacy)	31	15.5%	60	30%
Access to Share trading seminars	9	4.5%	107	53.5%
Aware of Benefits				
High return	77	38.5%	178	89%
Safe Investment	103	51.5%	186	93%
Capital gain	48	24%	99	49.5%
Collateral	61	30.5%	20	10%

Source: Field data (2020)

Overall, the results in Table 3 indicate a low level of awareness regarding the existence of DSE because only 110 (55%) of participants and 51 (25.5%) non-participants know DSE. On the other hand some participants are unaware of DSE and its activities, which can be due to group influence. Financial awareness is also deficient for participants and non-participants, as only 60 (30%) and 31 (15.5%) respondents were financially aware. Additionally, awareness creation seminars were accessible to 107 (53.7%) participants and only 9 (4.5%) non-participants. The trickle-down effect is inevitable with limited attendance in awareness seminars for both participants and non-participants. Furthermore, Table 3 shows that individuals, participants and non-participants are more aware of return and safety benefits than other benefits. However, collateral and transferability benefits it is unlikely to be known by both participants and non-participants due to individuals' usability and awareness level. Awareness of Shareholders' rights was measured based on Arnstein's (1971) participation assumptions, divided into three tiers i.e. non-participation, participation through informed and consultation, and participation in decision-making. Participants were required to select how they participated in their invested companies, and they could select more than one mode/right of participation as applied by Gaber (2019). The results are as shown in Table 4;

Table 4: Awareness of Shareholders' Rights

Participation Process		Responses (200)	
		Frequency	Percent (%)
Non-participation	I have no influence	97	48.5
Informed and Consulted	Informed (F.S. and Reports)	95	47.5
	Consulted but not informed	26	13.0
Participate in Decision Making	Democratic vote	26	13.0
	Decision making	9	4.5
	Implementing decision	6	3.0

Source: Field data (2020)

The results in Table 4 shows that, among 200 participants, 97 (48.5%) believed not to influence the company, and 47.5% were just being informed. Only 26 (13%) participants knew that they had a right to a democratic vote and decision-making and only 6 (3%) respondents knew that they

participated in implementing the decision. Making decisions and approval is done in annual general meetings, including all shareholders, by casting the democratic vote. Thus, results indicated that individual investors at DSE had limited knowledge of their rights. The results relate to Sempeho (2013), who noted that few individual investors are aware of their rights as investors; the majorities only know about dividend payout. Limited awareness of rights might be due to the group effect where individuals acquire shares after being advised by dealers, brokers or by family members.

Relationship between Awareness Variables and Participation

Binary logistic regression assessed the likelihood of awareness factors influencing the participation of individuals in the stock market. Because participation as a dependent variable is dichotomous with '1 Participating' and '0 Not-participating'. Results are reported in Table 5 as follows;

Table 5: Awareness Factors Vs. Participation in the Stock Market

	B	S.E.	Wald	df	Sig.	Exp(B)
Age of respondent	-3.788	1.079	12.328	1	0.000	0.023
Sex of respondent	-0.847	0.335	6.409	1	0.011	0.429
Marital status	0.432	0.404	1.145	1	0.285	1.540
Education level	-0.089	0.518	0.030	1	0.864	0.915
Education (Degree)	0.875	0.380	5.312	1	0.021	2.400
Awareness of DSE	-1.272	0.334	14.532	1	0.000	0.280
Financial awareness	-0.633	0.429	2.179	1	0.140	0.531
Awareness creation	-2.472	0.470	27.707	1	0.000	0.084
Access to media	-2.084	0.580	12.911	1	0.000	0.124

Source: Field Data (2020)

P-value = 0.000, Cox & Snell = R square = 0.480, Nagelkerke R square = 0.639

Hosmer and Lemeshow test (chi-value = 4.757, df=8, p=0.783)

Awareness of DSE and Participation

Table 5 results indicated that individuals who are aware of DSE and its activities, are likely to participate in the stock market by 0.280 times more than those who are unaware of DSE. Hence, the null hypothesis that awareness of the stock market does not influence participation is not accepted as P-value = 0.000 (P-value< 0.05). The results relate to the findings of Wangmo et al. (2018), and Qureshi et al. (2014). They found out that awareness of the capital market among individuals influences participation in the stock market. Results also relate to findings from KII, where it was noted that individuals, especially in other regions, do not know about DSE and therefore, it is difficult for them to participate. These results implied that individual's awareness of DSE and its activities are more likely to participate. Increased participation can lead to the attainment of Africa Development goals per Agenda 2063, which determines to increase private equity investment in the stock market, enabling increased financial access to firms (AUC, 2015).

Financial Awareness and Participation

Findings in Table 5 show that financial awareness does not influence individuals′ likelihood to participate in the stock market. Therefore, the null hypothesis that financial awareness does not affect individual participation is accepted as the P-value = 0.140 (P-value > 0.05). The findings imply that financial awareness contributes to individual participation but is not a significant factor in investment decisions. The results contradict Arts (2018) and Epaphra & Kiwia (2021) findings; however, they relate to the findings of Noel (2013). The contradiction can be due to differences in the advancement of the stock market and level of awareness of individuals. Hence participants seek advice from financial analysts and brokers on a firm's financial situation before making an investment decision, and they do not need to be financially aware. Information from key informants compounded the findings that individuals trade their shares through brokers who cover their financial and risk analysis at an affordable commission.

Awareness Creation and Participation

Table 5 further revealed that awareness creation among individuals was likely to influence their participation in the stock market by 0.084 times. As a result, the null hypothesis is not accepted and accept the alternative that awareness creation influence individual participation in stock market because P-value = 0.000 (P-value < 0.05). The results relate to findings by Mishra (2018), and Liivämagi (2016), who noted that individuals who attended training participate more actively in stock trading. Therefore, awareness creation on different issues pertaining to the stock market and trading shares among individuals increases their knowledge and the probability of investing. Seminars increase individual awareness of the matter and enable sound decision-making as per Self-awareness theory. These results pave the way for Capital Market and Security Authority (CMSA) to attain its targets, focusing on using different means to build prospective participants' technical and financial capacity (CMSA, 2018).

Access to Media

Access to media by individuals such as; newspapers, television, and other social media is likely to influence individual participation in the stock market by 0.124 times compared to individuals with limited access to media. Therefore, we do not accept the null hypothesis and accept the alternative that access to media influence individual participation in the stock market because P-value = 0.000 (P-value < 0.05). The findings relate to Choi & Robertson(2018), Leodeguard (2019) and Hu *et al*.(2019), who noted that media induce entry into the stock market by first-time investors with low stock market awareness. Meaning that access to newspapers, television, mobile application, and social media transfer knowledge and information to individuals quickly, allowing them to make sound decisions. It was also observed during data collection, where one of the respondents stated,

> *"...I did not get any seminar, but I learned about investing in the stock market through my mobile phone by reading articles relating to benefits of share ownership and decided to buy shares…".(Field Data, Dar es salaam, May 2020).*

Conclusion and Implication

Adequate investment knowledge is among the optimal investment strategies that motivate individuals to participate in the stock market. The findings indicated that limited awareness of matters such as stock market activities, and rights of shareholders are among the challenging issues among participants and non-participants of DSE. Impliedly, knowledge of DSE caused by the high education level, access to media and awareness creation seminars were found necessary. An increase in awareness creation seminars opens the minds of individuals to new opportunities available in the market, hence increase participation. Theoretically, the investment decision made by aware individuals aligns with self-awareness theory. However, individuals who invested in shares without knowledge of DSE or share trading contradict with self-awareness. However, it relates to groupthink theory because some participants are unaware of DSE activities due to the groupthink effect. Impliedly, self-awareness requires information accessibility, awareness seminars, and awareness of investment opportunities to make proper investment decisions. Practically, the findings noted that individuals with access to media such as; television, newspaper, social media, digital media, a mobile application such as DSE mobile trading platform, and the internet had a high likelihood of participating in the stock market. Because through media, individuals easily acquire knowledge of DSE and security trading this may lead to their participation. Continuously increasing community training and awareness seminars by DSE and CMSA are therefore demanded, especially for university students, the young working generation, and social groups considered potential investors. DSE should also publicize more on the use of DSE mobile trading platform and collaborate with media service providers to disseminate awareness information to the public, primarily young and working individuals.

Contribution of the Study

Empirically, the current study contributes to individual involvement in the stock market by addressing key awareness factors that can increase individual participation in DSE. Moreover, the study contributes to policymakers by addressing the high likelihood of individuals participating in DSE after awareness seminars. Thus, the study urges CMSA to ensure that policy

related to awareness creation and usage of universities to disseminate information is maintained to increase public participation.

Limitations and Areas for Future Research
The current study included individual participants and non-participants located in the Dar es Salaam regions, which may limit the scope of the study. Therefore, further research should use the same sample and methods but focus on regions other than Dar es Salaam. Furthermore, they can include group investors and those invested in mutual funds to assess their participation in the stock market compared to direct individual investors.

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Relationship between Banks' Perception on Bank of Tanzania Regulatory Reviews and Financial Performance: Evidence from selected Commercial Banks in Tanzania

Safari Majondo[1,]
Moshi Co-operative University
[1]majondosafari@gmail.com

Lucas Mataba and Goodluck Mmari[2]
Moshi Co-operative University

ABSTRACT

The Central Bank of Tanzania has undergone various bank regulations reviews at different periods of time such as the one undertaken in 1998, 2008 and 2014. This study therefore, intended to assess the relationship between banks perception on regulatory requirements reviews decisions and the bank performance. The study employed cross sectional design with the target population of 36 commercial banks. Sample of 120 respondents were selected from 24 commercial banks obtained in Dar es Salaam City. Primary data were collected from bank managers while secondary data were collected from audited annual financial statements. Descriptive statistics and correlation analysis were used for data analysis. Findings from the study showed that most banks had high perception regarding new regulations. However, the study noted low perception on the number of quarterly publication days, and on liquidity and cash reserve ratios requirements which seemed to be difficult for most banks to afford. Correlation analysis results showed that the relationship between banks perception on the new regulatory requirements and the financial performance was positive and significant with a high degree of correlation. The study concludes that most banks highly supported the reviews made by the BoT on capital adequacy and information reporting and disclosure requirements. The study recommends that commercial banks need to implement the new capital adequacy requirements and information reporting and disclosure requirements with special attention in order to make banks more profitable. Moreover, the regulator of banks needs to think on reviewing publication days and liquidity requirements.

Keywords: Regulatory reviews, Financial Performance, Commercial Banks, Banks' Perception, Bank of Tanzania.

INTRODUCTION

Perception of banks implies the way banks perceive concerning the amendments made on the existing regulations whether the reviews are simple, fair and affordable and also whether the reviews are beneficial or not beneficial Gibson *et al.* (2000). If banks regulations are too demanding, some banks fail to comply while others find it easy to comply; as a result, some banks collapse or are merged (Ndolo, 2017). When banks incur more costs, make losses or minimal profit because of stringent regulations, investors are discouraged from venturing into the sector which in turn affects competition in the market (Osano and Gekara, 2018). Since the 1980s the financial sector in most western countries has been going through the process of reviewing Banking and Financial Institutions Regulations, whereby their governments either removed or added some regulations that were governing financial institutions (Abdallah, 2015 and Onaolapo and Olufemi, 2012). This is because policy makers and regulators are convinced that reviewing bank regulations is the only way that can increase the efficiency and performance of banks (Masood and Ansari, 2016).

However, compliance level differs from one bank to another which results into the occurrence of different perceptions from banks that need to be balanced by the regulator, taking into consideration the ability of each bank category to afford. The Central Bank of Tanzania (BoT) has undergone various bank regulations reviews at different periods of time such as; in 1998, 2008 and 2014 (BoT, 2014) for the purpose of improving efficiency and stability of bank sector in Tanzania. In line with the standards established by International Banking and Financial Institution Committee (Basel, 2013), BoT reviewed some of its banking regulations in 2014, where in regard to capital adequacy requirements; Bank of Tanzania (BoT) increased capitalization amount from five (TZS 5/=) billion to fifteen (TZS 15/=) billion, improved core capital ratio from 10% to 12.5% and also increased total capital ratio from 12% to 14.5%. Furthermore, BoT maintained a

liquidity ratio of at least 20%. Concerning information reporting and disclosure regulations, BoT improved quarterly and annually disclosure of audited financial statements from using one to at least two newspapers for publication. Also, the time to publish quarterly financial statements was reviewed from first 45 days to 30 days after the end of each financial quarter. Similarly, the time of submitting a copy of published quarterly financial statements to the BoT was reviewed from three (3) days to five (5) days after the newspaper publications (BoT, 2014). Other amendments made were maintaining the minimum NPL ratio of 5% publications (BoT, 2014). However, these amendments have been perceived differently by banks. This is evidenced with occurrence of various events after regulatory requirements reviews where some banks have shown high compliance while others has failed to comply with the reviews hence, collapsed, suspended and others were merged. For instance, Twiga Bancorp and Bank collapsed and were taken over by the Central Bank of Tanzania and then merged with Tanzania Postal Bank and Azania Bank (BoT, 2016; 2018).

There has been an argument worldwide regarding banks' perception on benefits and costs that emerge after regulatory reviews. Literature provides different opinions on outcomes and process of regulatory requirements reviews. Some literature has shown that banks' regulations reviews have benefited more banks in terms of profit, growth, efficiency and increase in customers while other scholars have distinguished that new amendments have affected banks' performance in terms of increased cost and resources. Considering a study by Hoskins and Labonte (2015), reviewing financial institutions' regulations was perceived positively by most banks due to the benefits banks get after complying with the requirements such as shielding customers from fraud, prejudice, and abuse; making sure that banks are less likely to be unsuccessful; and upholding stability in the financial system. Masood and Ansari (2016) found out that banks in Pakistan have high perception regarding various banks requirements. To the other side, a study conducted by Vianney (2013) in Rwanda noted low perception from most banks regarding new capital adequacy regulations in Rwanda that there was an increase in banks operating costs caused by new regulations which were put into use. According to Vianney (2013), banks in Rwanda experienced

some challenges to comply with minimum capital and liquidity requirements in such a way that some of them failed to comply and others managed to comply at high cost, something which lowered their profit. The findings are related with the conclusion made by Onaolapo and Olufemi (2012) who also noted low perception from some banks in Nigeria with an argument that the new regulations in use increased banks operating costs and lowered profits. Their arguments is that high costs have been experienced at the time of fulfilling the new requirements where banks may be required to incur more costs for the purpose of acquiring some resources. Previous studies such by Vianney (2013); Onaolapo and Olufemi (2012); Masood and Ansari (2016) and Hoskins and Labonte (2015) just to mention few have shown disagreement observations regarding perceptions of banks on new regulatory requirements and its influence on financial performance hence, establishing which perception is relevant to Tanzania banks remains an empirical question that this study tries to answer. Besides, previous studies have focused more on capital adequacy and liquidity requirements and ignored other amendments like NPL and information reporting and disclosure requirements which have been included in this paper as part of the reviews made in 2014.

Furthermore, previous studies have mostly concentrated on quantitative data. For the strengths of this paper, the study used both qualitative and quantitative data. Additionally, with the collapse and merging of some banks motivated this follow-up study to be conducted in order to find out whether the reviews made on various regulations are simple, fair, affordable and also find out whether such reviews contributes to the good/ poor financial performance of banks. It is against this background that this paper was designed to fill the underlined empirical gaps. To achieve the main goal, this study was guided by the following two specific objectives; first, to determine the level of commercial banks perception regarding the new regulatory requirements reviews decisions and secondly, to analyse the relationship between commercial banks perception on regulatory requirement reviews decisions and financial performance. The study is organised in the following sections; introduction, literature review, research methodology, data analysis and conclusions and recommendations.

Literature Review
Definition of Key Concepts
Regulatory Requirements
Regulatory requirements are regulations and rules that have been put in place by the state to govern activities of all financial institutions (Olalekan and Adeyinka, 2013). These regulations aim at maintaining orderly market, licensing the providers of financial services, enforcing applicable laws as well as prosecuting cases of non-compliance with the regulations, protecting clients and investors and promoting the stability of the financial system. These regulations are supervised and regulated by the government regulator that is Bank of Tanzania (BoT) as well as international groups. Regulatory requirements in this paper include; capital, liquidity, risk, reporting and disclosure requirements.

Financial Performance
Financial Performance is a firm's ability to generate profit and become efficient in the utilization of the resources. Profit is total income generated by a firm at a given trading period. A firm is said to be operating efficiently when it is capable of generating profits (Ofeh and Jeanne, 2017). A profitable firm is capable of generating adequate return on capital and equity. The European Central Bank (2010), in measuring financial performance, has classified the measures in three major categories as traditional, market based and economic measures. In this study financial performance is measured by ROE which refers to income/ profit generated by commercial banks out of equity shares invested.

Commercial Banks
Commercial banks are financial institutions licensed by the central bank to offer banking services. Commercial banks play a major role in economic development and growth of a nation or state (Drigă and Dura, 2014). In this study, commercial banks refer to banking institutions licensed by the Bank of Tanzania (BoT) to undertake banking business and must have a capitalization amount of TZS fifteen billion to qualify for banking business (BoT, 2014). In this study, commercial banks include large and small banks according to the market share a bank owns.

Relationship

Refers to the association between banks perception on regulatory requirements reviews and financial performance to see whether the way banks perceive about the reviews have any relationship with the financial performance of banks.

Guiding Theory

The study was based on attitude theory. According to Gibson *et al.* (2000), attitude refers to the perceptions that individual or institutions have about something. Perceptions of banks on new regulations are likely to influence compliance and performance of banks. The theory proposes that if banks have higher perception on the new regulations, such perception influences banks to comply more because by doing that there are a lot of benefits banks are likely to get such as increase in financial performance regardless of the costs that might occur in the process of complying with the reviews. Perception of banks on new regulations is well explained in the concept of regulatory burden and unduly burdensome.

Beverly *et al.,* (2019) identified some benefits that banks get when complying with the requirements including protecting customers and investors from losing their deposits and shares; ensuring that banks are less likely to fail; and promoting stability and efficiency in the financial system. The weakness of this theory is that it has addressed only the benefits banks get when complying with new regulations and ignores the challenges that banks face when complying with the new regulations including operating costs and opportunity costs. According to Zheng *et al.,* (2017) operating costs and opportunity costs are the ones associated with foregone business opportunities because of the additional regulation. For instance, regulations on capital and liquidity requirements demand a bank to retain more money idle instead of that money be invested and generate interest. Considering Operating costs or compliance costs. Hoskins and Labonte (2015) observed these expenses as costs that a bank incurs in order to comply with regulation. For example, in fulfilling the new regulations, a commercial bank may use more money training its staffs to ensure they understand the new regulations, and the bank may have to procure updated computer programs because the

new requirements may demand new software which can demand more money. The theoretical gap or weaknesses of this theory is that the theory have focused only on perception and performance in terms of benefits and ignored perception of banks in terms of costs incurred. This theory is appropriate to this study because the more banks have favourable perception on new regulations, the more likely they conform to the amendments and, therefore, the performance is anticipated to grow regardless of the compliance costs banks face.

Empirical Reviews
Banks Perception on various Regulatory Requirements
Beverly *et al.,* (2019) noted a high perception among banks that, complying with banks requirements benefited more banks in terms of increase in profit, increase in banks assets and improve in technology. Osano and Gekara (2018) studied the effect of bank regulations on profitability of commercial banks in Kenya. In one of the study objectives, the study observed a high support and perception from commercial banks in Kenya regarding reviews made on capital adequacy regulations. Besides, the study noted an increase in profit, steadiness of the banking sector, growth of more branches after the implementation of the new regulatory requirements. The study suggested that the regulator must keep on ensuring that there is high conformity on stipulated guidelines in order to guarantee the stability of the banking sector. A study by Rachman *et al*. (2018) showed that fulfilment to credit risk management regulations permitted most banks to lower the rate of NPL in Indonesia. The findings showed that most banks supported the amendments made by the regulator on credit risk management practices because most banks gained a lot of advantages after regulatory reviews made on NPL requirements. Not only that, but also studies by Dietrich and Wanzenried (2011) and Athanasoglou *et al.* (2006) showed that banks had positive perception regarding the amendments made on bank regulations that the reviews were manageable and beneficial to the banks. A study by Vianney (2013) in Rwanda observed that some commercial banks faced some difficulties to comply with minimum financial institutions regulatory requirements that the appraisal made on minimum capital requirements were not reasonable to most banks hence, raised more operating costs to some

institutions. Such findings were analogous with the research results by Onaolapo and Olufemi (2012) who also observed a rise in running cost among commercial banks in Nigeria after the amendments made on financial institutions regulations. However, findings of these studies were opposite to the observations by Ndolo (2017) and David and Muendo (2018) who did a study in Kenya and found out that most banks were capable of abiding by the new regulations prepared by the Central Bank of Kenya on capital requirements. The findings from these literature sources implied that some banks had negative perception regarding costs associated with the regulatory reviews which seemed to be a challenge to most banks. Apart from capital and liquidity requirements, Adekunle and Taiwo (2013) observed that some commercial banks in Nigeria had low perception regarding some regulations on banks operations. Their main argument is that banks are getting trouble to comply with information reporting and disclosure regulations. Their quarrel is that unsatisfactory infrastructures and insufficient resources have caused most banks getting some difficulties to conform with publication and submission days requirements.

Additionally, bankers have challenged the new regulations on the basis that it would increase the financial cost for bank borrowers and worsen the bank profitability. Naceur and Kandil (2009) studied the banks regulations reviews in Egypt and find out that small banks were confronted with the raise in financial costs when obeying with the new requirements. This observation implies low perception by small banks on some regulations indicating that the increase in regulations results to the increase in operating cost. These findings are consistent with the findings by Maudos and Solís (2009) who found a similar low perception on some banks regulation that the reviews made increased banks' operating cost in Mexico. Difference to that, Zheng *et al.*(2017) discovered that using dynamic panel generalized method of moments (GMM) estimator, the research observed that changing from BASEL I to BASEL II had no influence on the cost of bank operations and bank profitability in Bangladesh which made most banks perceive differently about the contributions of the reviews on performance. Nonetheless, the majority of the previous reviewed studies such as; Zheng *et al.*(2017); Ndolo (2017); David and Muendo (2018); Beverly *et al.,* (2019); Osano and Gekara

(2018) and Rachman *et al*. (2018) just to mention few were carried out in developed countries where bank operations requirements, bank policies, technology and economic position are unlike those of Tanzania environment. Findings from previous studies have also shown disagreement with each other in terms of perceptions where, some literatures have observed high perception by banks on regulatory reviews while others have shown low perception therefore; a need to understand how commercial banks in Tanzania perceive on the banks regulations amendments is paramount. Similarly, previous reviewed studies have mostly focused on quantitative data to determine the relationship between banks regulations and financial performance. This study has distinguished itself with the previous study by using both qualitative and quantitative data. Qualitative data were preferred in this study in order to investigate the way banks perceive about the new regulations in terms of fairness and affordability hence, their views and opinions were valuable for this study. From the reviews made on various literatures, the researcher was interested to answer the question

(Q1): *What is the level of banks perception regarding the new amendments made by the BoT on the regulatory requirements reviews*?

This question was developed in order to answer the specific objective one, while for specific objective two the study tested the following hypothesis

(H_1): *There is a significant and positive relationship between banks' perception on regulatory requirements reviews decisions and financial performance of commercial banks.*

Methodology
This study was conducted using cross-sectional design; data were collected from a large population at one point in time, and it facilitated use of different methods of data collection. The design also allows the comparison of many variables at the same time without interfering with the subjects. The data were collected in Dar es Salaam Region. The Region was preferred purposely because almost all 36 commercial banks in total which are available in Tanzania have their headquarters in the region as compared to other regions in Tanzania (BoT, 2018). A sample of twenty-four (24) commercial banks

out of 36 registered commercial banks was selected because the banks had operations since 2008 to date. The reason for choosing 2008 as a base year is to get views of the banks which witnessed major amendments of the year 2008 before other major reviews conducted on 2014. To capture information about banks perception on reviewed regulatory requirements, a total of five (5) banks officers from five departments of each sampled banks namely credit department, finance department, IT department, administration department and compliance and risk management department were involved to provide the data making a total of 120 respondents. These departments were involved in the study because the reviewed regulations were mostly focusing these departments for implementation. The study involved only bank manages from the said department (finance manager, compliance and risk management manager, credit manager, IT manager and general manager). These people were given priority due to the nature of the study that bank regulations need specific key and well-informed personnel at the decision level who interact with such regulations in their daily operations hence, the targeted respondents were assumed to be knowledgeable on the required information.

The same approach has been also used by Kinyua, Muathe and Kilika (2015). Purposive sampling was used to select 24 commercial banks. Stratified random sampling method was used to select the number of departments. The functional areas were divided into strata/subgroup called departments, and then bank officers from respective departments were selected purposively because of their position. Primary data were collected from respondents using semi-structured questionnaires which were designed to get bank perceptions on reviewed regulatory requirements decisions. Secondary data on banks financial performance measured by return on equity (ROE) were obtained from the annual financial statements of each selected bank for six years after the reviews (2014-2019), then a mean and standard deviation was computed. Descriptive statistics and correlation analysis were used to analyse the data. Both qualitative and quantitative data were collected. For qualitative data, 24 risk and compliance officers were selected from 24 commercial banks which were obtained purposively. However, due to the nature of bank activities which are laborious, only 13 key informants were approached successfully.

This number included 8 respondents from large banks and 5 respondents were obtained from small banks because there are only 8 large banks in Tanzania as per BoT report (2018). Qualitative data were analysed using thematic analysis, which was employed to identify codes, analyse and report with the aid of Atlas software. The results on banks perceptions on regulatory requirements reviews were then displayed in coded quotations; then the actual analysis took place during the writing process by summarizing and interpreting the results in terms of interviewees' opinions. Using thematic analysis, the researcher first got familiarization with the data, generated initial codes, searched for themes, reviewed themes, provided definitions of themes and then wrote-up, in accordance with Braun and Clarke (2006). Familiarization with the data went parallel with transcription of data whereby at this stage the researcher first listened and presented audible data into written form.

The researcher listened to the recorded data from key informant interviewees and wrote exactly what they said. The transcripts from the audio files were read repetitively for the familiarity of the data. Then, through the repetitive process reading the transcripts, patterns of the concepts eventually emerged. Development of initial codes, in the process of developing codes, the researcher identified the key issues or variables as initial coding categories. Here, the list of codes was generated from data transcriptions and then organized to form another step called themes development. Validity and reliability of research instruments were observed before using the research instruments for the main survey. Pre-testing of questionnaires was conducted before it was administered to determine the content validity; a total of 40 questionnaire copies, equivalent to 33.3% of a sample size were administered to 5 heads of department from 8 selected banks in Moshi-Kilimanjaro but properly filled out the questionnaire copies were 41 (85.4%). Few unfamiliar terms and unclear questions were noted; hence, the items were dropped from the final questionnaire. Finally, the researcher noted all the unclear items and questions and then improved them. Besides, research experts from Moshi Co-operative University and Mwenge Catholic University assessed the questionnaire and gave comments which were incorporated.The instrument reliability was also tested before using the questionnaire. Internal consistency

was tested to determine the value of Cronbach's Alpha for each variable. In this test, a threshold of 0.7 was adopted using reliability test results. From the findings it was established that all the questions adopted in the study had an overall Cronbach's Alpha value of 0.823 which was greater than 0.7. To obtain the required alpha results, some of the items that were in the questionnaire which gave a Cronbach Alpha less than 0.7 were deleted. As a result, the questionnaire was revised before being used for the main survey. The perception of banks on reviewed regulatory reviews decision was assessed by a total of fourteen items. The items were measured on 5 levels Likert type data labelled as strongly disagree, disagree, neutral, agree and strongly agree. The five points were scored as 1= strongly disagree to 5= strongly agree. Banks perception on reviewed regulatory reviews outcomes were analysed by using mean scores and standard deviation.

Results and Discussion
Descriptive Statistics
This section presents results on the level of financial performance and level of perception that commercial banks have on new regulatory requirements and then determine whether the relationship between banks perception on new regulations and financial performance is significant or not. Table 5.19, 5.20 and 5.21 illustrates the findings.

Commercial Banks Perception on Regulatory Requirements Reviews Decisions
In order to know the level of banks' perception on reviewed regulatory requirements decisions based on the responses, the mean and standard deviation scores of each variable were computed. The perception scale is given in Table 1.0 for analysis purpose; Table 1.0 illustrates the findings of the study.

Table 1: Commercial Banks' Perception on Regulatory Requirements Reviews Decisions

Perception statements	Mean	Std Deviation
The decision of increasing capital adequacy requirements from TZS 5/= to 15/= billion was a right decision'	4.39	0.96
The decision of maintaining liquidity ratio requirements at 20% was a right decision	2.63	1.93
The decision of increasing cash reserve ratio from 5% to 7% was a fair decision	3.02	1.51
The decision of maintaining NPL requirements at 5% is affordable to our bank	3.65	1.40
The decision of increasing number of newspapers used for publication from one to at least two newspapers was a right decision	4.50	0.87
The decision of increasing number of submission days of published financial statements to the regulator from 3 to 5 days was a fair decision	4.61	0.72
The decision of decreasing number of publication days from 45 to 30 days is fair	2.41	1.82
Aggregate Mean Score and Standard Deviation	**3.60**	**1.31**

Key: Perception Scale:

Mean Range	Responses Made	Perception Interpretation
1.0-1.7	Strongly Disagree	Very Low
1.8-2.5	Disagree	Low
2.6-3.3	Neutral	Moderate
3.4-4.1	Agree	High
4.2-5.0	Strongly Agree	Very High

Source: Survey Data (2020).

As shown in Table 1.0, generally most of commercial banks had high perception regarding the amendments made by the BoT on various banks regulatory requirements as shown by the mean score of 3.53 and the lowest standard deviation of 1.31. The findings in Table 1.0 show that most commercial banks both large and small agreed strongly that the increase in number of submission days of published financial statements to the regulator from 3 to 5 days was a right decision; the increase in number of newspapers used for publications from one to at least two newspapers was a fair decision. These findings were supported with qualitative data where during the interview with compliance and risk management managers of banks, they expressed the way they perceived about the amendments made on the information and reporting regulations in relation to the benefits they get that:

> ". *....our bank has enjoyed the act of publishing our financial statements in many newspapers. Publishing to many newspapers has enabled us to get more customers and more investors, our customers are now well informed about our services....".*(Interviews field data, Dar es Salaam, February, 2020).

These findings as quoted from the KIs indicate that most commercial banks have high perception regarding reviews made by the BoT on increasing the number of newspapers used for publication from one to at least two newspapers. The findings imply that using more newspapers in publishing financial reports become a marketing tool for most banks. Findings from Table 1.0 also indicate that respondents supported the increase in capital adequacy requirements from TZS 5/= to 15/= billion was also a right decision as shown by the mean score of 4.61, 4.50 and 4.39. their arguments were supported with qualitative data where during the interview, most compliance and risk management managers from large banks expressed the way compliance on capital adequacy requirements reviews has benefited their banks that:

> ". *.... The new requirements on capital adequacy regulations improved our bank services by increasing more customers through opening more branches and ATMs in different places which have helped our bank to reach more customers and save them efficiently....*" (Interviews field data, Dar salaam, February, 2020).

Generally, results indicate that capital adequacy amendments have helped most large banks to improve their services in terms of dealing with customers and providing better customer services while for some small banks they are still getting challenges to comply with the capital adequacy requirements to some extent. These findings are different with the results by Zheng, Rahman, Begum and Ashraf (2017) who observed that banks perceived negatively on amendments made on capital regulations from BASEL I to BASEL II that has not benefited banks in Bangladesh in getting more profit. Another finding is that; most of commercial banks had very high perception regarding the amendments made on submission days of published financial statements, number of newspapers used for publication and the capital adequacy requirements. This kind of perception implies that banks the increase in number of submission days enable banks to get sufficient time to correct various errors in the documents before submitting them to the regulator. Similarly, the use of more newspapers for publications creates awareness to the public on the banks operations hence, attract more customers while the increase in capital requirements enabled banks to use the capital buffer to expand more branches and ATMs hence, increases more customers and profits.

Table 1.0 indicates that commercial banks both small and large agreed that the decision of maintaining NPL requirements at 5% was affordable to most banks as shown by mean score of 3.65. The responses indicated that most of commercial banks had high perception regarding the amendments made by the BoT on decisions made by the BoT on NPL requirements. The findings implied that majority of commercial banks are working more-hard to ensure that they control the NPL exposures to the required standard using both internal and external strategies. By controlling NPL exposures to less than 5% banks become more stable, efficient and solvent. Further, most commercial banks were neutral or undecided on liquidity management requirements that; the decision of increasing cash reserve ratio from 5% to 7% and the decision of maintaining liquidity ratio requirements at 20% was a right and fair decision as shown by the mean score of 3.02 and 2.63. The responses indicated that there were some banks which were satisfied with the decision made by the BoT on liquidity management requirements while other

banks were not satisfied. Arguments for the banks which were not satisfied with the reviews was supported with the qualitative data from some respondents who said that;

> ". .... *Keeping too much liquidity is an opportunity cost for our bank because by keeping too much cash in hand waiting for unforeseen events and emergences the money becomes idle because if this money could be invested it could generate some interests but now the interest is foregone which is a cost for us*." (Interviews field data, DSM, February, 2020).

Such findings showed that most banks both small and large banks had moderate perception regarding the amendments made on liquidity and cash reserve ratio requirements as also observed by Oganga (2018). Lastly, most large banks disagreed that the decision of decreasing number of publication days from 45 to 30 days was fair as shown by the mean score of 2.41. The findings implied that most large banks had low perception regarding the decisions made by the BoT of reducing the number of publication days after the end of every quarter. The argument here was that compiling the financial reports from different branches needed more time. Lowering the number of publication days could also increase unnecessary costs to the banks such as hiring part-time staffs and paying overtime to enable staffs work beyond their normal time to meet the deadline. The qualitative data collected from the field where one of the respondents from large banks said that;

> ". .... *Managing to meet the publication days requirements in 30 days has become a challenge to our banks because we have many branches in different regions; 30 days requirement is not enough to collect all the financial statements from our branches and validate them….*"
> (Interviews field data, Dar es Salaam, February, 2020).

These results are consistent with the findings by Wanzenried (2011) and Athanasoglou *et al.* (2006) who observed that banks perceived positively about the amendments made on bank regulations that they were fair, simple and affordable to most banks. However, findings are contrary with the studies by Zheng *et al*., (2017) who observed that banks perceived negatively on the amendments made on capital regulations from BASEL I to BASEL II that were somehow difficult.

Financial Performance of Banks before and after Regulatory Requirements Reviews

In order to know the level of financial performance of commercial banks before and after regulatory reviews as measured by return on equity that is the ratio of net income to total equity (ROE), Table 2 summarises the findings of the study showing the means before and after reviews.

Table 2: ROE of Banks before and after Regulatory Requirements Reviews

Var	Before regulatory reviews (2008-2013)				After regulatory reviews (2014-2019)			
	Obs	Mean	Min	Max	Obs	Mean	Min	Max
ROE	144	9.01	-38.0	29.0	144	12.19	-52.0	40.0

Source: Survey data (2020)

The findings from Table 2 showed that the average mean of selected commercial banks increased by 3.18% from 9.01% before regulatory reviews to 12.19% after regulatory reviews. The increase in ROE could be possibly influenced by perceptions banks have on new regulatory requirements or could be contributed by other factors not explained in this study.

Hypothesis Testing

The Relationship between Banks Perception on Reviewed Regulatory Requirements and Financial Performance

Correlation analysis was used in this study to show the strengths of the relationship between banks perception on new regulations and financial performance as measured by ROE. The study computed inter-correlation coefficients' using the Pearson's r, which is mostly used for variables of ratio scale measurements. A higher r-value implies stronger relationship. Table 3 shows well the correlation coefficients of the variables and the strengths of the relationship.

Table 3: Correlation matrix between Banks Perception on New Regulations and ROE

Variable		Banks perception on new regulations	ROE
Banks perception on new regulations	Pearson's r	1	.558**
ROE	Pearson's r	.558**	1
	Significance	.000	.000

** Correlation is significant at 5% level (2-tailed)

Source: Survey data (2020)

Correlation Scale: *0-indicates no correlation between variables; 0.10-0.29 – low degree of correlation; 0.30-0.49-moderate correlation; 0.50-1.0-high degree of correlation*

Based on the analysis as shown in Table 3, the relationship between banks perception on the new regulatory requirements and the financial performance as measured by ROE was positive and significant with a high degree of correlation; therefore, the given hypothesis (H$_1$) was supported. The findings implied that positive perceptions banks have on new regulations enables them to increase their profits because high compliance on capital adequacy and information reporting and disclosure requirements helps banks to issue more loans, open more branches and ATMS, reach large number of customers, become stable and solvent all the time. The findings are different with findings by Vianney (2013) who conducted a study in Rwanda and observed that the amendments made on capital adequacy requirements did not contribute much to the financial performance of banks in Rwanda.

Theoretical Contributions

This study has contributed to the attitude theory by adding some variables related to the compliance costs in relationship to the regulatory requirements reviews. The attitude theory linked only the relationship between perception and benefits without saying anything on the relationship between perception and compliance costs.

Conclusion and Recommendations

This paper aimed at assessing the relationship between banks perception on regulatory requirements reviews decisions and financial performance of selected commercial banks in Tanzania. The study concludes that most banks have high perception regarding the amendments made by the BoT on increasing the capital adequacy requirements from TZS 5/= to 15/= billion, increasing the submission days of published financial statements from 3 to 5 days, and increasing number of newspapers used for publications from one to at least two newspapers. Similarly, most banks are satisfied with the decision of maintaining the NPL requirements at 5% that the rate if fair and affordable. However, perception of some of small banks concerning capital adequacy requirements was low claiming that the TZS 15/= billion requirements is still too high for them. Concerning the liquidity requirements, some commercial banks were not satisfied with the decision of the BoT of maintaining the liquidity ratio at 20% and increasing the cash reserve ratio from 5% to 7% that the decision creates more opportunity costs to some banks.

Additionally, most large banks have low perception regarding the reviews made of lowering the publication days from 45 to 30 days that they increase more costs to banks when complying with the requirements. The results obtained from correlation analysis showed that the relationship between banks perception on the new regulatory requirements and the financial performance was positive and significant with high degree of correlation regulatory indicating that the reviews made on capital adequacy requirements, information reporting and disclosure enabled most banks to increase profit and more customers, build more branches and ATMs. This study contributes to the overall research in the related field by providing additional empirical support on emphasizing on the importance of implementing seriously the new regulatory requirements. The study recommends to the commercial banks that the new capital adequacy requirements and information reporting and disclosure requirements should be implemented with special attention in order to make banks get high profit. If commercial banks fail to implement the new regulations seriously there is a danger of most banks reporting low profit or loss, also some banks can

become insolvent and collapse. Based on the above conclusions, it is recommended that commercial banks should carefully design strategies which would help them to increase more capital buffer. Among the strategies which banks might use to improve their capital requirements are: investing in marketable securities, establishing others, diversifying their income sources by investing in other profitable projects and also merging with other strong banks. On the financial reporting and publications requirements, the study recommends that commercial banks should strategize on how to build robust Information Technology (IT) infrastructure to support their financial reporting and disclosure capabilities which would enable commercial banks accomplish their financial reporting and publications exercise on time to avoid unnecessary penalties. To the regulator, the study recommends that BoT should review liquidity requirements and cash reserve ratio which it seems to be too high and costly for many banks.

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Influence of Horizontal Coopetition in Outbound Logistics on the Profitability of Micro and Small Enterprises: A Case of Arusha Handicraft Industry

Twazihirwa Tunzo Mnzava[1]
[1]The Open University of Tanzania
mnzavatt@gmail.com

Gwahula Raphael[2]
[2]The Open University of Tanzania

Hawa Uiso[3]
[3] Tumaini University

ABSTRACT

This study assessed the influence of horizontal coopetition in outbound logistics on the profitability of micro and small enterprises in the handicraft industry using the Theory of Coopetition and Resource Dependence Theory as theoretical frameworks. The horizontal coopetition in outbound logistics is hypothesized to influence profitability, and the resource interdependence between the MSEs was thought to moderate the influence. A sample of 159 MSEs from a population of 297 MSEs in Arusha, Tanzania took part in the study, using a stratified random sampling method. A survey approach was used to collect the data, which were quantitatively analysed using the moderated multiple linear regression (MLR) model to test the hypotheses. The results before and after moderation revealed that horizontal coopetition in outbound logistics had a positive and significant influence on the profitability of the MSE. After the introduction of the moderator, the resource interdependence had no statistically significant moderation influence in the way horizontal coopetition in outbound logistics influenced the MSE profitability. The study had contextual limitations of generalization even in MSEs engaged in the handicraft industry. More research needs to be done in a rural setting, involving more variables of horizontal coopetition in outbound logistics, and factoring in the MSE attributes as moderators. It is recommended that similar studies be conducted in more tourist areas. More empirical data on horizontal coopetition from industry-specific MSEs are recommended to vindicate what was generated in this study since it would add more understanding and knowledge to the theory of coopetition.

INTRODUCTION

Coopetition is defined as a paradoxical business relation between firms that create value through cooperative interaction while they simultaneously compete to capture part of the value (Bengtsson and Kock, 2014; Bouncken *et al*., 2015). Coopetitive behaviour has been found to improve business performance in terms of innovation, market positioning, and profitability (Feela, 2020). Although coopetition is an important economic strategy for most firms in today's shifting market, it lacks a well-established theory. Its framework is based on several theories, including game theory (Zacharia *et al*., 2019), resource-based perspective and cognitive theory (Bengtsson *et al*., 2016), network theory (Sanou *et al*., 2016), and resource dependency theory (Chiambaretto and Fernandez, 2016; Zacharia *et al*., 2019). A blend of micro, small, medium and large-scale businesses drives the global economy (Ghalke *et al*., 2018). In developed economies, small and medium enterprises account for about 95 per cent of all firms. In developing nations, SMEs provide about 60% and 70% of GDP and total employment respectively and account for over 80% and 50% of all employment in Africa and Tanzania's GDP respectively (Argidius, 2017;Nkwabi and Mboya, 2019;Zafar and Mustafa, 2017). According to Muriithi (2017), an SME is a business with fewer than 250 employees. Small enterprises may have fewer than 50 employees, and micro-enterprises have between 5 and 10 employees. More than half of enterprises in developing economies' countries employ less than 100 people. In developing economies, Micro and Small Enterprises (MSEs) make up the bulk of SMEs (Granata *et al*., 2018). Micro and Small Enterprises (MSE) are defined according to the type of economy and the investment capital in various sectors of the economy (Dar *et al*., 2017). A firm is an MSE if it has less than 50 employees and capital investments of not more than TZS 200 Million (Mzomwe and Mutarubukwa, 2015). In Tanzania, MSEs are the two lowest levels in enterprise classification, and they belong to SMEs. SMEs are found in almost all industries in any economy. While each type of SME has an impact on individuals, society and the country's economy (Wayan *et*

al., 2021), those in handicrafts are of particular interest in developing economies as they are both pro-poor and leverage the homestead economy (Tambwe, 2017). A study by Yasa *et al*., (2017) show that the handicraft industry is one of the sectors that is heavily affected by a lack of support from the government and BDS, incompetent personnel, and stiff competition from medium and larger firms. These challenges have significantly affected their performance and growth (Tambwe, 2017). Feela (2020) noted economic crisis, lack of support, incompetent personnel, and stiff competition were responsible for the poor SMEs' profitability. These challenges were also the key drivers behind firms' propensity to coopetition; collective use of resources from rival firms against giant firms' dominance in the competitive market. Studies in horizontal coopetition have focused on its impact on the performance of medium and large businesses in developed economies, rather than SMEs in emerging economies such as Africa (Feela, 2020). Examples of such studies are in the wine sector in France and New Zealand (Granata *et al*., 2018), tourism and leisure suppliers in Austria (Schnitzer *et al*., 2018), and electric car production by Volkswagen and Daimler in Germany (Czakon *et al*., 2020), and electronic software and high-tech industries in Europe and Asia (Chen *et al*., 2019). They also focused on the pre-production and production stages of businesses' operations, but not on post-production activities or their impact on profitability (Flanagan *et al*., 2018; Jakobsen, 2019). Furthermore, the majority of research in horizontal coopetition focused on industrialized countries rather than emerging economies such as Africa (Feela, 2020), with no studies in Tanzania. This study endeavoured to assess the influence of horizontal coopetition in outbound logistics on the profitability of micro and small enterprises (MSE) in the Tanzania handicraft industry. It addressed the context issues and focused on MSE's profitability in a developing economy by studying the handicraft MSE in Arusha, Tanzania.

Problem Discussion
The global market competition creates enterprises' performance challenges in profitability throughout their life cycles (Argidius, 2017; Chandra et al., 2020; Flanagan *et al*., 2018) which inhibit growth and sustainability (Ye and Kulathunga, 2019). As the medium and large enterprises collaborate to grab the market share, other enterprises must also collaborate among themselves

as an option to remain in business and be profitable (Isada, 2020). The collaboration of competing firms is called coopetition. According to Cygler *et al*. (2018), vertical and horizontal coopetition remains the effective survival strategy for most businesses, from large to micro-enterprises. Different studies on coopetition have focused on either coopetition of firms in developed economies (Feela, 2020), or on medium and large enterprises' performance, or on comparing firms that coopete and those that don't (Lechner *et al*., 2016). There are no studies that have focused on MSEs' coopetition in developing economies and a sector-specific industry like handicrafts. The coopetition model contends that the value-net framework proposition is used to build the coopetition strategy between stakeholders (Brandenburger and Nalebuff, 1996). Flanagan *et al*. (2018) noted that firms can coopete in processes in the pre-production, production, and post-production phases of business to improve their performance. Previous studies on coopetition and performances concentrated on the pre-production and production phases of firms' operations (Bacon *et al.,* 2020; Jakobsen, 2019; Pekovic *et al.,* 2019) and neither on post-production activities nor its influence on profitability (Flanagan *et al*., 2018). Brandenburger and Nalebuff (1996) indicated that the post-production phase of the business operation creates more profitability than the other phases.

Study Objectives
The main objective of this study was to investigate the influence of horizontal coopetition in the post-production processes on the profitability of MSEs in the handicraft industry. Specifically, the study was designed to assess the influence of horizontal coopetition in transportation on the profitability of an MSE and the influence of horizontal coopetition in the warehousing of the goods to the customers on the profitability of an MSE. Additionally, the study investigated the moderating effect of resource interdependence on the way the horizontal coopetition in outbound logistics influence the MSE profitability. The context of the study was the handcraft MSE in Arusha, Tanzania, to address coopetition in the business environment of an emerging economy.

Literature Reviews
Theoretical Literature Review
The study on the influence of outbound logistics coopetition on the profitability of handicraft MSEs targeted the competing enterprises that strategically cooperate among themselves to be powerful enough to be profitable by winning the market for their crafts. The Theory of Coopetition (TOC) and the Resource Dependence Theory (RDT) were used as theoretical frameworks in this study. The two theories aided in the theoretical understanding of the variables that are thought to influence MSE profitability and the way this influence is moderated. The theories also assisted to formulate the study's conceptual framework. The TOC proposes a theoretical model which suggests that coopetition will add value and provide higher results when compared to cooperation and competition models since cooperative and competitive behaviours are combined to produce the major advantages of coopetition in terms of performance(Robert *et al*., 2018). In this study's context, firms use the cooperative dimension of coopetition to gain access to critical resources to lower the distribution costs and sell more products at better prices, while the competitive aspect of coopetitive is critical for avoiding complacency and maintaining creative friction amongst the firms involved.

During coopetition, firms can, among other things, access and better exploit resources, achieve efficiency, acquire market power, and reach high performance (Bouncken *et al*., 2015; Ritala, 2012). Coopetition is, therefore about focusing on the customers' needs and seeing the players, not as competitors alone but as complementors, co-value creators, and appropriators focused on bringing in more customers that will make more sales and therefore more profits. Coopetition is when cooperation with the competitor is focused on helping the customer to value the competing firm's products more when the customer has the competitor's products than when they have the competing firm's products alone. TOC asserts that it is competition and cooperation attributes that can uniquely interplay simultaneously to create a coopetition mechanism, making it the best strategic option and the most efficient way of the relationship between firms that can create profitability among the players (Gnyawali and Charleton, 2018; Le Roy and Czakon,

2016;Walley, 2007).The concept of coopetition has four different constructs namely; simultaneity of competition and cooperation occurrence, paradoxical nature of co-opetition, value creation intention, and value appropriation goal (Bengtsson and Raza-ullah, 2017;Gnyawali and Charleton, 2018). These constructs yield two main variables, namely; coopetition (here referred to as value creation intention and appropriation) as the predictor variable and profitability as the dependent variable. To better achieve profitability in coopetition, RDT proposes a balance of power between the coopetitors, since Brandenburger and Nalebuff (1996) claimed that in any phase of the business cycle, the complementors and competitors play interchangeably to create value that is large enough to benefit all by bringing in more customers. Here comes the need to employ RDT. Resources interdependence is a variable in the RDT that determines the power balance and influences how enterprises interact, in our case, the coopetition.

The RDT proposes that organisational performance depends on the firm's ability to acquire and control critical resources from the external environment (Pfeffer and Salancik, 1978) and to control the market of the firm's products (Davis and Cobb, 2009). According to Frączkiewicz-Wronka and Szymaniec (2012), RDT explains the way the firms' mutuality and interdependence affect organisations' operations. The RDT underscores the strategic resources management mechanisms employed by taking advantage of dependence and uncertainty inherent in a relationship to gain power (Jen-Yin, Ching-Yi, Chao-Kuei, Shu-Hui, and Lee-Chia, 2017). The RDT examines bilateral resource exchange for power through mutual reliance and power imbalance between two players, and a situation where interdependence confers power on bilaterally connected actors over a third-party actor. The former situation motivates the actors to enter into either competition, cooperation, or coopetition, In the latter situation, the RDT conceptualizes a way actors exchange and share resources and utilize them to obtain power that can be used to influence third-party actors (Casciaro and Piskorski, 2005). In this respect, RDT that was propounded by Pfeffer and Salancik, and modified by Casciaro and Piskorski, can be used as a framework to study moderation mechanisms in coopetition(van den Broek, Boselie, and Paauwe, 2018). The resource interdependence as a variable in RDT has a moderating effect on the

coopetition, because coopetition turns out to be more cooperative if the firms' resources leverage power among the firms. Coopetition is supposed to influence a company's performance (in our context, profitability). This can happen in the pre-production, production, or post-production phases of a business operation, where the firm's performance is determined by several coopetition components. The coopetition in this study takes place throughout the post-production phase of operation. Outbound logistics in transportation and warehousing were the components of the coopetition variable under investigation. The inclination for enterprises to coopete is determined by their degree of interdependence, and according to the RDT, interdependence is contingent on mutual power between firms, which is dependent on the coopeting firms' possession of resources required by the third party (market).

The resource interdependence is, therefore the moderator of coopetition as it influences the ability of the MSE to deliver value to the customer through working with the competitor to reduce the downstream costs and achieve profitability. By using resource interdependence in RDT as the moderating variable in studying coopetition, the firms are inclined to compete depending on the firm's affinity of resources from another. The firm's ability to compete with rival firms to acquire critical resources from each other and reduce transactional costs to the market increases its power over the market and influences its performance (McConnell *et al*., 2009). The ability of an individual MSE to capture value in the market depends on the joint value creation achieved by coopetition with another MSE since proper and strategic resources combination creates more value than the sum of the values created by individual efforts in isolation. This gives power to each MSE over the market, according to the RDT. The associated costs reduction, timely delivery, and complete order fulfillment improve the power imbalance between the MSE and the market, which improves gain in the transaction with the customer that results in profitability. According to the coopetition model of business interactions proposed by Robert *et al*. (2018), the coopetition strategy is based on a value-net framework proposal with competitors, complementors, and consumers as participants in the post-production activities. The RDT asserts that greater profit is generated on the customers' side of the business (market side), because even a minor change in

consumers may significantly alter the market's power balance and profitability (Brandenburger and Nalebuff, 1996). Competitors and complementors engage on this side of the business to enable each firm to acquire and better deploy resources in outbound logistics, notably transportation and warehousing, to gain market strength and achieve high performance.

Empirical Literature Review

MSEs in the handicrafts sector in developing nations have difficulties because of a lack of assistance from the government and business development service providers, inept staff, and competition from bigger businesses. This is evidenced in South Africa (Pereira *et al*. (2006) and in Tanzania (Kazungu *et al*. (2018b). It is hypothesized that Tanzania's MSEs' low profitability is made worse by their lack of influence in the handicrafts market, which is brought on by weak internal organisations and an ineffective mix of MSE resources and outside assistance (Mori, 2015). By strategically working with the rival over an extended period, MSE's market power is shown to increase (Mzomwe and Mutarubukwa, 2015; Cygler *et al*., 2018). The influence of intra-firm coopetition on profitability or the impact of inter-firm coopetition on profitability in the pre-production and production phases have been the main topics of research on coopetition and company performance (Bendig *et al*., 2018).

An individual firm's profitability may be negatively or favourably affected, according to previous studies (Cygler *et al*., 2018; Santamaria and Surroca, 2011). Mira *et al*. (2016) looked at the inter-firm competition in the French real estate market. The research employed full the (MLS} database and data analysed using the ordinary least squares regression (OLS) model. According to the findings, horizontal cooperation techniques had a beneficial effect on a company's product profitability in the market, and this effect was more noticeable in large enterprises than in SMEs. Inter-firm cooperation in German industries was studied by Fredrich *et al*. (2019) in the context of marketing and innovation (pre-production) performance. About 222 SMEs were chosen as the sample size from companies that took part in international trade exhibitions held in Germany in 2014 and 2015. They claimed that

coopetition among SMEs increased performance in profitability by achieving "synergy by pooling market share, sales, loyalty, or brand recognition versus other rivals in the market". Liberatore and Miller (2016) surveyed and quantitatively analysed data from 247 low-cost and low service provider businesses in the USA. This study discovered that handicraft companies' profitability was directly impacted by outbound logistics performance. Outbound logistics is mainly the total cost of transportation and storage. It should be carefully handled to achieve profitability. A study of the impact of logistics expenses on textile sector profitability in Da Nang, Vietnam, by Hoang and Nguyen (2018) has revealed a correlation between the financial performance of the company and the logistics service. The cost of logistics was one of the major elements affecting the company's profitability.

Firms may coopete to improve their performance at any point of the business cycle, according (Flanagan *et al*. (2018). Various studies have focused on coopetition in the pre-production and production phases of business technology-driven phase, and its influence on firm performance in entrepreneurial skills development and innovation, rather than coopetition in the post-production phase the market-oriented phase and its influence on firm profitability (Robert *et al*. 2018; Bacon *et al*., 2020; Pekovic *et al*., 2019). The importance of horizontal coopetition in enhancing a firm's profitability has been studied mostly in big businesses or comparisons of coopeting and non-coopeting enterprises (Lechner *et al*., 2016). Coopetition in SMEs in developing economies and specifically in handicrafts as a sector-specific industry is scantly researched. These SMEs have profitability problems throughout their life cycles due to their inability to access and effectively exploit existing resources, as well as their low market power due to their small size and newness in the industry (Argidius, 2017; Flanagan *et al*., 2018).

Research Gaps
Coopetition is a relatively novel notion in business, and its theoretical foundation is still in its initial stages (Gnyawali and Charleton, 2018; Cygler *et al*., 2018). Coopetition has not attracted much attention in Africa and other developing countries. According to Jámbor (2018), about 58% of coopetition studies were done in Europe, 24% in the United States, 17% in Asia, and less

than 2% in Australia and Africa. This study addressed this contextual gap by adding a coopetition study in Africa, particularly Tanzania. Most research on SME coopetition focused either on vertical coopetition (Lechner *et al*., 2016) or between asymmetric enterprises (Jakobsen, 2019). According to Lechner *et al*. (2016), there is a scarcity of study findings that explain the link between horizontal cooperation and SMEs' commercial profitability. Those few studies on horizontal coopetition focused on coopetition between medium and large firms (Bouncken *et al*., 2018), not in MSEs. Furthermore, in the extensive review of coopetition by Bouncken *et al*. (2015), coopetition in the handicraft industry was not given due attention as a sector-specific economic endeavour. This study also addressed these knowledge gaps by delving into the MSE in the handicraft industry to add knowledge to coopetition. Brekalo, Albers, and Delfmann (2013) have shown that studies in coopetition among SMEs in supply chain management have concentrated on activities in the pre-production and production phases, while there are insufficient studies on activities in the post-production phase concerning SMEs' performance. This research focused on post-production activities and the effect of duration of collaboration on profitability to address this knowledge gap.

Different studies in coopetition have never used the Theory of Coopetition (TOC) as the major theoretical framework in a study on coopetition and company profitability. The TOC evolved from the value proposition concept, which considered business as value creation and appropriation endeavours. Value creation was thought to occur away from consumers, whereas value appropriation, which was thought to occur closer to customers, happened during the post-production phase (Bengtsson and Kock, 2000; Brandenburger and Nalebuff, 1996). As a result, the value proposition theoretical approach positions competition and cooperation at distinct stages of the business process. This conclusion was one of the TOC's most serious flaws and was critiqued by Tidström and Rajala (2015), who claimed that striking the right balance between competition and cooperation in either phase can improve joint and firm performance. The validation of this theoretical approach mainly was carried out in medium and large companies in developed nations and none in MSEs in emerging economies and concentrated on pre-

production and production stages of business. The findings from this study add to the theory of coopetition by empirically validating the coopetition preposition reached by Bengtsson *et al*. (2016),Tidström and Rajala (2015), and Wu (2014) that competition and cooperation may occur even near to the customer during the value appropriation phase of business.

Study Hypotheses

In the literature review, Fredrich *et al*. (2019) noted that coopetition is one of the strategies in boosting SME's' profitability by achieving synergy of operations sharing without concentrating on particular aspects of operations and type of coopetition. It was also shown that there is a favourable association between horizontal coopetition in logistics operations and business financial performance, and logistics expenses are one of the most important elements affecting a firm's profitability (Hoang and Nguyen, 2018). Liberatore and Miller (2016) specify horizontal outbound logistics expenses and assert that the main components of outbound logistics which should be carefully controlled to achieve profitability are overall transportation and warehouse. This conclusion helped in the formulation of the first hypothesis (H_1) and the second hypothesis (H_2) for this study:

H_1: *MSEs' horizontal coopetition in transportation positively influences their profitability.*

H_2: *MSEs' horizontal coopetition in the warehousing of goods positively influences their profitability*.

As noted in theoretical development, resource interdependence as a variable in RDT is one of the antecedents and drivers of coopetition (Chai *et al*., 2019; Fredrich *et al*., 2019). According to Chai *et al*. (2019), interfirm interdependence in resources has a favourable impact on the amount of interfirm cooperation. Resource interdependence is thought of having a moderating effect on coopetition because coopetition turns out to be more cooperative if the firms' resources leverage power among the firms. This prompted to have hypotheses H_3 and H_4 as follows:

H₃: The level of influence of MSEs' horizontal coopetition in transportation on their profitability is positively moderated by the resource's interdependence among them.

H₄: The level of influence of MSEs' horizontal coopetition in the warehousing of goods on their profitability is positively moderated by the resource's interdependence among them.

Methodology

This study targeted the MSEs in the handicraft industry in Arusha city, Tanzania. The city centre was purposefully selected for this study since it had the highest density of handicrafts markets compared to the areas along the tourism routes. Respondents were the owners of the MSEs spread in three clusters, namely the Open 'Markets', Curio Shops, or tourist hotels' Duty-Free Shops (Synovate, 2012).While clusters are the categorisation of the enterprises according to the place and mode of operation, the markets were places where MSEs conglomerated and made business together. The study was conducted in the Arusha city centre where the sampling frame consisted of 45 registered handicrafts markets with a total of 297 MSEs (Table 1).

Table 1: Handicraft Markets in Arusha City Centre

Cluster Type	Cluster 1 *Open 'Markets'*	Cluster 2 *Curio Shops*	Cluster 3 *Hotels Duty-Free Shops*	**Total**
Number of Mkts	13	22	10	45
Number of MSEs	94	143	60	297

Source: CHAMASATA (2019)

The targeted sample size was computed by the Yamane formula (Uakarn *et al.*, 2021) to be 175 MSEs, and the actual respondents were enterprise owners of 159 MSEs (91% response rate). These MSEs were exclusively selling either home décors only, fashion accessories only, or both home décors and fashion accessories to either local market only, the export market only or both local and export markets. A quantitative, cross-sectional survey approach was used in this research. The four independent variables were horizontal coopetition in transportation, warehousing, generic advertising,

and duration of collaboration, while the dependent variable was the profitability of the MSE. The structured questionnaire was the main instrument used in the survey and various questions for the independent variables were adopted from similar surveys (Anil Vashisht, 2013; Bengtsson and Kock, 2014; Bouncken *et al.*, 2015; Flanagan *et al.*, 2018;Hoang and Nguyen, 2018; Jakobsen, 2019;Abiodun, 2011; and Jørgensen and Sigué, 2015). The questions for the dependent variable were adopted from similar surveys (Anil Vashisht, 2013; Ritala, 2012; Tulsian, 2014; and Yazdanfar and Öhman, 2015).

The study used questionnaire to collect data for the study.

Descriptive statistics were employed to summarize the characteristics of a data set. The MSE sizes and distribution were analysed. The handicraft markets' distribution by clusters, the goods categories distribution by both clusters and markets, and the market served were analysed. The levels of coopetition in transportation and warehousing as well as the levels of profitability were *No, Low, Moderate, High,* and *Very High*; and were measured on the 5-point Likert scale, 5 being the *Very High* level. Inferential statistics were used to test the hypotheses and assess the generalization of the results. Here, the multiple linear regression (MLR) analysis models that had the following general structures were used:

Additive Model:
$$Y = \square_0 + \square_1.X_1 + \square_2.X_2 \square\square \ldots\ldots\ldots\ldots (1)$$
Moderated Model:
$$Y = \square_0 + \square_1.X_1 + \square_2.X_2 + \square_3.M + \sum\square_i X_i M \ldots\ldots\ldots\ldots (2)$$
Where:

Y - The dependent variable – Profitability.

X_i– The independent variables: (X_1 = Transportation, X_2 = Warehousing)

M- The moderator (Resource interdependence)

$\square_1, \square_2$ and $\square_3$-The regression coefficients measuring changes in the dependent variable, Y, with a unit change in independent variables X_1, X_2, and M respectively.

$\square_i$– The regression coefficients measuring changes in the product terms for Moderator and the independent variables

$\square_0$ - The Profitability when coopetition is zero.

Source: Mira *et al*., (2016); Wineaster, (2017).

Then MLR assumptions were checked before the hypotheses testing. These assumptions were linearity of the independent variables, the normality of variable distributions of residues, multicollinearity of independent variables, and homoscedasticity of the variances of error terms. The purpose of the linearity assessment was to determine whether the dependent variable and any individual independent variable, as well as all independent variables taken together, were related linearly since violation of this assumption could cause the findings of regression analysis to underestimate or overstate the actual connection between the variables. The results in Table 2 indicate that the assumption is not violated as the regression coefficient and correlation values were statistically significant

Table 2: Linearity Assumption Test

		Correlation Coefficient	Sig.	Constant	Beta Value (IV Coefficient)	Sig.
1	TranspX$_1$	.587	.001	+1.618	+0.588	.001
2	WhX$_2$	.688	.001	+1.490	+0.690	.001

A normality test was done to ascertain whether or not the residuals of the regression or the errors between observed and predicted values were normally distributed. The numerical values of the Kolmogorov-Smirnov goodness of fit test (sig. value test) were performed. From Table 3, the Kolmogorov-Smirnov goodness of fit test (sig. value test) is .004. This indicated that the data were normally distributed.

Table 3: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.088	159	.004	.977	159	.008

a. Lilliefors Significance Correction

Multicollinearity assumption was also checked. Multicollinearity exists when two or more independent variables in the regression model are highly

correlated. The test was run to assess the Collinearity Statistics; namely, the Variance Inflation Factor (VIF). The VIF measures how much multicollinearity has increased an estimated coefficient's variance. It examines the degree to which each independent variable in the equation can be explained by each other. The decision criterion is that there is a severe multicollinearity if VIF >5 for independent variables(Studenmund, 2014). The results in Table 4 indicate that VIF across the independent variables are less than 5, and p = .001.

Table 4: Coefficients[a] and Collinearity Statistics

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	-0.097	.242		-.403	.687		
TranspX$_1$	0.230	.054	0.253	4.231	.000	.658	1.519
WhX$_2$	0.245	.058	0.290	4.232	.000	.501	1.997

[a]Dependent Variable: Profitability of the MSE

The homoscedasticity of the variances of error terms means the equality of the variances of error terms across the values of the independent variables. Homoscedasticity was tested by plotting the standardized values that the model would predict against the standardized residual value obtained and assessing its scatter plot of the dots along the x-axis. The resulting scatterplot displayed in Figure 1 shows an almost homogeneous distribution of Standardized Residual between +2 and -2, indicating that the assumption was not violated.
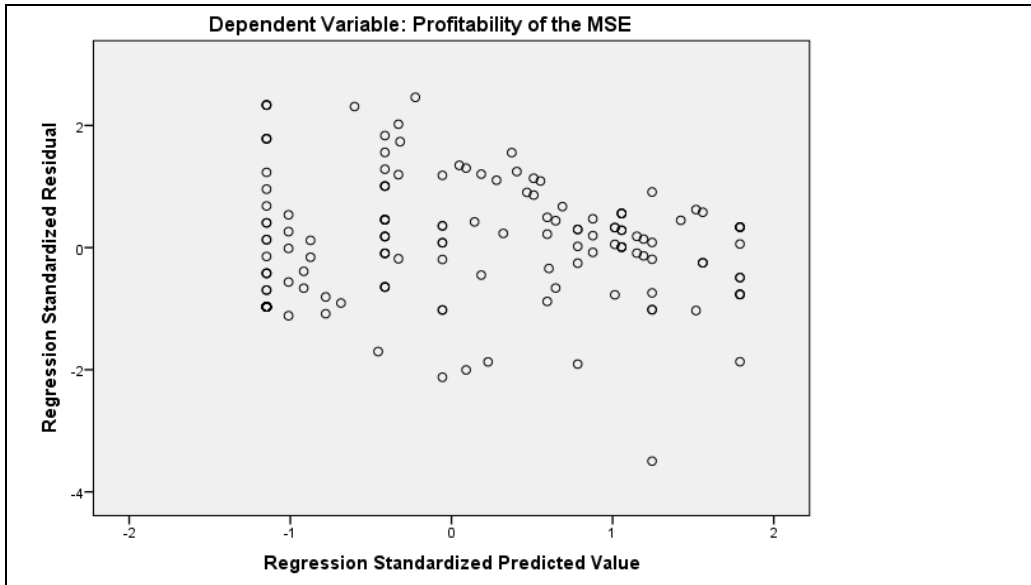
Figure 1: Regression Standardized Residual on Regression Standardized Predicted values

Centred interactive variables were used to eliminate any possible multicollinearity caused by the primary independent and interaction variables, so the variables $TranspX_1$, WhX_2, $ResM$, $TranspX_1*ResM$ and WhX_2*ResM were all centred. After centring the variables, the hierarchical regression model was used to test the moderation effect. The hierarchical regression analysis is effective when working with independent variables and a potential moderating variable. According to Lei *et al*. (2020), when using hierarchical regression, individual attributes of the independent variables and aggregate-level features are both included in a model technique. Lewis, (2007) asserts that in hierarchical multiple regression analysis, the addition of the independent variable at the initial stage is simultaneous in all independent variables followed by the loading of the moderating variable. The hierarchical regression analysis of $ProftY$ on centred WhX_2, centred $TranspX_1$, centred $ResM$, and the centred products of $ResM$ and independent variables ($TranspX1$ and $WhX2$) was then performed.

Results

Validity and Reliability of the Survey Instrument

The validity of the survey instrument was checked using the Pearson product-moment correlation by checking the significance values compared with the significance value, p = .05 and comparing it with the r-value from the r-value tables in Bart *et al*. (2012)and Pearson (2019). The decision criterion is that if the r-value for the sample is greater than the critical value for a given sample size, significance level, and degree of freedom, then the test questions in the instrument were valid (SPSS, 2022). The inspection of Pearson product-moment correlation and p-values was done to either retain the valid questions or remove the invalid questions in the questionnaire. According to the critical value table for r-tables product-moment (Bart *et al*., 2012), the value was r = .159 (N = 159, p = .05). In the analysis, all the Pearson product-moment correlation, except for two questions, exhibited values greater than 0.159 showing that the validity was significant. The two questions were: "What is the major category of goods sold in the business?" and "The business is in high competition with other similar businesses" where Pearson Correlations are low and, in both cases, p >.05. To check the reliability of all the constructs across all the questions that were administered to the respondents, Cronbach's Alpha coefficient was used. It is regarded as a coefficient for the reliability scale, and the internal consistence is considered good if the Cronbach's Alpha value is greater than 0.70 (Tavakol and Dennick, 2011). According to Cronbach's Alpha, if Item Deleted is depicted in Table 2 and all the values are above 0.70 it shows that the internal consistence is very high.

Table 5: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
COOP_11	19.89	80.615	.498	.477	.905
COOP_12	19.33	72.869	.730	.708	.885
COOP_13	19.57	72.778	.750	.787	.883
COOP_14	19.64	73.423	.770	.822	.881
COOP_18	18.93	71.445	.755	.652	.882
COOP_19	19.58	74.929	.735	.611	.885
COOP_20	18.72	76.369	.653	.501	.892
COOP_21	19.53	78.137	.618	.459	.895

How closely linked a group of objects are to one another is determined by Cronbach's Alpha, a measure of internal consistency. The analysis shows that Cronbach's alpha ($\square$) = .901 and the Cronbach's Alpha Based on Standardized Items ($\square$*) = .900 (Table 3), indicating that the reliability is very high.

Table 6: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.901	.900	8

Descriptive Statistical Analysis
The analysis revealed that no enterprise in handicrafts in the study area had more than 35 employees while the majority of them (about 79%) had at most 5 employees. Since all the enterprises had less than 50 employees, they all qualified to be MSEs (Mzomwe and Mutarubukwa, 2015). The handcraft/curio shops cluster had the largest number of handicrafts MSEs occupying 47.2% (about half) of all handicraft businesses, followed by the open markets cluster (30.2%). About 62% of all MSEs studied had mixed merchandise where they were selling both home décor and fashion accessories, with less than 20% of MSEs specializing in either home décor only or fashion accessories only. The study also revealed that about 57.2% of all MSEs were specialising in the domestic market only without exporting and about 39% were serving both the domestic and the export markets. The percentage of MSEs specializing in the export market was very low i.e. about 4 percent. When the associations of MSE characteristics in the sample were computed, it was observed that most (about 62.3%) of the MSEs were dealing with a combined business of home décor and fashion accessories. It was also evident that 51.6% and 35.2% of MSEs in open markets and handcraft/curio shops clusters respectively sold products in the domestic market, whereas the major cluster that sold handcrafts in the export market was the art centre duty-free shops (about 83.3% of MSEs). The analysis also showed that about 58.6% and 61.3% of all MSEs sold home décor products only and fashion accessories only respectively in the domestic markets, whereas about 37.9% and 35.5% of all MSEs sold home décor only and fashion accessories only respectively in both domestic and export markets.

About 40.4% of all MSEs that served both the domestic and export markets sold both home décor and fashion accessories. The independent and dependent variables were cross-tabulated, and it was observed that about 36.5% of all MSEs were involved in coopetition but the profitability was not noticeable, 35.2% of all MSEs that had low to high coopetition achieved moderate to high profitability, and 27% of all MSEs that had moderate to very high coopetition achieved high to very high profitability.

Coopetition in Transportation (TranspX1) and different Attributes of the MSEs

The investigation of the MSE'sTranspX$_1$ and the cluster types showed that within the cluster, 55.6%, 49.3%, and 22.9% of MSEs in Art Centre/Duty-Free shops, handcraft/Curio shops, and Open Markets respectively were coopeting in the transportation. The examinationofTranspX$_1$and the market served indicates that as low as 1.9% and 18.2%of all MSEs coopeted in the export and the local markets. When analysing the TranspX$_1$ and the MSE size, it was clear that TranspX$_1$increased with the increased sizes of MSEs. Goods sold in the market were categorised into home décors and fashion accessories categories. The analysis of TranspX$_1$and the goods that were sold to the market shows that only 16.2% of all MSEs that sold fashion accessories only adopted coopetition as a strategy.

Coopetition in Warehousing (WhX$_2$) and different Attributes of the MSEs

The descriptive analysis onWhX$_2$and the MSE categories showed that the coopetition to achieve profitability increased with the increased MSE sizes. It was shown, however, that the open markets cluster had a very low coopetitive tendency than the other clusters. The MSEs that merchandized home décor only and were moderately to very highly coopetitive were 48.2%, while those that traded fashion accessories only were 16.2%.It was clear also that the MSEs serving the domestic market were not coopetitive in warehousing, while in the export market only category, about 83.4% of the MSEs had either high or very high coopetition in warehousing.

Inferential Statistical Analysis

Coopetition in Transportation (TranspX$_1$) and Profitability (ProftY)

When the MLR analysis of ProftYon TranspX$_1$ and WhX$_2$ was performed. Loading was done simultaneouslyand the results are in Table 4 and Table 5.

Table 7: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.618	.172		9.399	.000
	TranspX1	.533	.059	.588	9.099	.000
2	(Constant)	1.178	.157		7.521	.000
	TranspX1	.261	.061	.288	4.305	.000
	WhX2	.442	.056	.524	7.835	.000

a.   Dependent Variable: ProftY

Table 8: Model Summary[b]: TranspX$_1$ then WhX$_2$

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.588[a]	.345	.341	1.068	.345	82.798	1	157	.000
2	.728[b]	.530	.524	.907	.185	61.395	1	156	.000

a. Predictors: (Constant), Coopetition in Transportation
b. Predictors: (Constant), Coopetition in Transportation, Coopetition in Warehousing
c. Dependent Variable: Profitability of the MSE

Table 9: Model Summary[c]: WhX$_2$ then TranspX$_1$

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.689[a]	.474	.471	.957	.474	141.690	1	157	.000
2	.728[b]	.530	.524	.907	.056	18.531	1	156	.000

a. Predictors: (Constant), Coopetition in Warehousing
b. Predictors: (Constant), Coopetition in Warehousing, Coopetition in Transportation c. Dependent Variable: Profitability of the MSE

The Moderator (ResM) on the Influence of TransX1 and WhX$_2$on Profitability (ProftY)

The moderated MLR analysis of ProftY on TranspX$_1$ and WhX$_2$ was performed. Loading was done stepwise with centred TranspX1, centred WhX2 and centred M (Moderator) were loaded simultaneously and then, the products of the centred moderator and the centred IVs. The results for the moderated model are displayedin Table 7and Table 8.

Table 10: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.981	.076		39.288	.000
	CenteredX2	.581	.049	.689	11.903	.000
2	(Constant)	2.981	.072		41.423	.000
	CenteredX2	.442	.056	.524	7.835	.000
	CenteredX1	.261	.061	.288	4.305	.000
3	(Constant)	2.976	.073		41.008	.000
	CenteredX2	.443	.057	.525	7.776	.000
	CenteredX1	.262	.061	.288	4.285	.000
	CenteredM	.044	.159	.015	.276	.783
	CenteredX1_CenteredM	-.110	.146	-.057	-.755	.451
	CenteredX2_CenteredM	-.026	.137	-.014	-.189	.850

a. Dependent Variable: Profitability of the MSE

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics F Change	df1	df2	Sig. F Change
1	.689[a]	.474	.471	.957	.474	141.690	1	157	.000
2	.728[b]	.530	.524	.907	.056	18.531	1	156	.000
3	.731[c]	.535	.522	.909	.004	.726	2	154	.485

a. Predictors: (Constant), CenteredX2
b. Predictors: (Constant), CenteredX2, CenteredX1
c. Predictors: (Constant), CenteredX2, CenteredX1, CenteredX1_CenteredM, CenteredX2_CenteredM

In Table 7, the standardized coefficient for the moderating variable (CenteredM) was .015 (p > .05) while those for CenteredX1*CenteredM and CenteredX2*CenteredM were -.057 and -.014 respective, and their p values were p > .05.

In Table 8, the R^2 change was .004 ($F_{change}(2,154)$ = .726, p > .05).

Discussion

The objectives of this study were to assess the influence of horizontal coopetition in transportation and warehousing on the profitability of an MSE in handicraft and to assess the moderating effect of resource interdependence on coopetition's influence. Descriptive analysis indicated that most MSEs were micro enterprises most of which were clustered in handcraft/curio shops and open markets. The results are in agreement with Kazungu (2020), Mzomwe and Mutarubukwa (2015), and Synovate (2012)findings. The handicraft MSE trade concentrated in the local market with very few MSEs, mostly in the art centre duty-free shops cluster, specialized in the export market. These findings are in line with Kazungu (2020) findings on Tanzania's handicraft MSEs' operation in the export market. The study indicated also that almost all the MSEs that were involved in the export market coopeted in both transportation and warehousing and the profitability was noticeable.

The Influence of Horizontal MSEs' Coopetition in Transportation (TranspX1) on MSE's Profitability (ProftY), Hypothesis H₁

The study indicates that most MSEs had moderate to very high coopetition propensity in transporting goods, which agrees with the results reached by Galbreath *et al*. (2022). In the context of handicrafts MSEs studied, the coopetition was more pronounced in the export market than the local market. The MSEs that were exporting home décor only were more coopetitive in transportation than those exporting fashion accessories only. and the larger the MSEs, the more they were inclined to coopete. Although Galbreath *et al*. (2022) argue that collaborative transportation has marginal benefits to the SMEs in the economic context, inferential statistical analysis was to check if empirical evidence exists that the benefits include profitability. Therefore, the hypothesis tested was:

H₁: Horizontal MSEs'coopetition in transportation positively influences the MSE's profitability.

Results in Table 4 and Table 5showed that the regression equation was:

$$ProftY = 1.618 + .288TranspX_1.$$

It is conclusive that Profitability (ProftY) increased by 0.288 units for each unit increase in coopetition in transportation (TranspX$_1$), and the effect is statistically significant (p < .001).

The adjusted R^2 = .341, F(1,157) = 82.798, p < .001

If other variables are kept constant, 34.1% of the variance in profitability can be accounted for by horizontal coopetition in transportation of goods to the market, and the effect was statistically significant. These results agree with Galbreath *et al*. (2022) who noted that collaboration in transportation has the benefits in costs saving, improving efficiency, expansion of the market reach and may minimize administrative time spent on product shipment orders. These eventually increase the profitability of the firm. It is conclusive that Horizontal MSEs'coopetition in transportation positively influences the MSE's profitability, and hypothesis *H₁* is accepted.

The Influence of Horizontal MSEs' Coopetition in the Warehousing of Goods (WhX$_2$) on MSE's Profitability (ProftY), Hypothesis H$_2$

The analysis of the coopetition in warehousing (WhX$_2$) within the clusters revealed that the open markets cluster has a very high tendency not to coopete as about 79.2% of all MSEs in that cluster had no coopetition in warehousing while about 88.9% of all MSEs in the Art Centre/Duty-Free Shops cluster had very high levels of coopetition. Dhewanto *et al.* (2018) observed that warehousing decision is more pronounced in the export market than in local market. Since Art Centre/Duty-Free Shops cluster are more inclined to export than the open markets cluster, this empirical observation is consistent with other observations. It was shown also about 65.1% of all MSEs in the category of micro-enterprises had no or low coopetition in warehousing. Coopetition in warehousing was more pronounced in sales of home décors where the MSEs that merchandized home décors only and were coopeting moderately to very highly were 48.2%. It was shown that 57.1% of the MSEs serving the domestic market were not coopeting in the warehousing of goods to the customers.

Literature review indicated that most collaborative warehousing was done in the demand side of the value chain, especially in on-time securing of the raw materials and equipment (Zimon, 2020; Yumna *et al.*, 2020). According to Zimon (2020), the central warehouse has a favourable influence on the financial stability of SMEs that participate in group purchasing groups. The utilization of a central warehouse optimizes the most expensive component inventory. This is supported by improved inventory turnover ratios in days, a lower percentage of inventories in the structure of current assets, and financial liquidity ratio optimization. Available studies on collaborative warehousing among the SMEs in the supply-side of the value chain show that the SME suppliers can use coopetition to capitalize on existing business possibilities and leverage spare capacity, boosting product availability and lowering prices (Kazantsev *et al.*, 2018). Studies in perishable goods for export show that collaborative warehouse management improve customer service and the capacity to deliver items efficiently and on schedule(Al-Sharif and Hamas, 2021). This study was focused to investigate how the

horizontal coopetition influences profitability of MSEs in handicrafts. So, the inferential statistical analysis was used to test the hypothesis that:

H_2: *Horizontal MSEs'coopetition in the warehousing of goods positively influences the MSE's profitability.*

Results in Table 4 and Table 6 showed that the regression equation was:

ProftY = 1.178+ .524WhX₂and

The Adjusted, R^2 =.471, F(1,157) = 141.690, p < .001

The regression analysis shows that the profitability increased 0.524 units for each unit increase in coopetition in warehousing, and the effect is statistically significant (p < .001).The correlation analysis indicates that if other variables are kept constant, 47.1% of the variance in profitability can be accounted for by coopetition in warehouse; and the influence is statistically significant (p < .001). The results agree with observation by Kazantsev *et al*. (2018) that SMEs collaborative warehousing can leverage in lowering prices, optimizing the capacities and improve the profitability. It is conclusive that Horizontal MSEs' coopetition in warehousing positively influences the MSE's profitability, and hypothesis H_2 is accepted.

When taken together, the MLR indicated that

ProftY = 1.618+.288TranspX₁+.524WhX₂……………………………. (1)

The moderation effect of resource interdependence among MSEs on the influences of Coopetition on Transportation on Profitability (Hypotheses H_3) and Coopetition on Warehousing on Profitability (Hypotheses H_4)
The hierarchical regression was used to find out if the centredResM was statistically significant in changing the regression coefficient of ProftY on TranspX₁and correlation coefficient of ProftY and TranspX₁. The hypothesis tested was:

H_3: *The level of influence of Horizontal MSEs' coopetition in transportation on the MSE's profitability is significantly moderated by the resource's interdependence among MSEs.*

To test this hypothesis, the moderated regression and correlations analyses were performed and the coefficients were checked between ProftY, TranspX₁, and ResM. The interaction impact of the moderation term on the regression coefficients was not statistically significant (p >.05) in the

regression analysis of Proft Y on centred Transp X_1, centred ResM, and centred TranspX1*centred ResM (Table 7). The correlation coefficient between Proft Y and TranspX1was positive, strong and statistically significant whereas the rest of the correlations were weak, negative and not statistically significant. The R^2 change was only .004, and the effect is not significant (p >.05) (Table 8). Again, hierarchical regression analysis of Profitability (ProftY) on centred WhX2, ResM, and X_2*ResM was done to check how the centred ResM was statistically significant in changing the correlation coefficient of determination (R^2 Change) of Proft Y and WhX2. The hypothesis tested was:

> H_4: *The level of influence of Horizontal MSEs' coopetition in the warehousing of goods on the MSE's profitability is significantly moderated by the resource's interdependence among MSEs.*

To test this hypothesis, the moderated regression and correlations analyses were performed and the coefficients were checked between Proft Y, WhX2, and ResM. The interaction impact of the moderation term on the regression coefficients was not statistically significant (p >.05) in the regression analysis of ProftY on centred WhX2, centred ResM, and centred WhX2*centred ResM (Table 7). The correlation coefficient between ProftY and WhX2 was positive, strong and statistically significant whereas the rest of the correlations were weak, negative and statistically not significant. Table 8 indicated that after the introduction of the interactive term, the value of R^2 change was only 0.004, and the effect was not statistically significant (p > .05). The influence of both horizontal coopetition in transportation and warehouse on the profitability of MSEs in handicraft industry was thought to be moderated by the resource interdependence among the MSEs. Fredrich *et al*. (2019) asserts that highly interdependent enterprises can gain a competitive advantage by sustain cooperation and improving economic performance. Extant studies (Gadde *et al*., 2003; Ritala and Hurmelinna-Laukkanen, 2009) indicate that resource interdependence implies that the firm controls limited resources with imperfect information. This process can moderate the effect of pooled resources on economic success. The results from this study have shown otherwise. Hypothesis H3 and H4arerejected.

The Influence of Coopetition in Outbound Logistics (TranspX1 and WhX2) on the Profitability (ProftY) before and after Moderation

From Table 7, the Moderated MLR was analysed to predict ProftY based on centred TranspX1 and centred WhX2. The R^2 change was .004 and it was not

statistically significant (p > .05). It was found that Fchange (2,154) = .726 and p> .05) (Table 8), and the model fit based on standardized ▢ coefficients(Table 7) was:

*ProftY = 2.976 + .288TranspX₁ + .525WhX₂ + .015ResM - .057X₁*ResM - .014X₂*ResM……(2)*

Table 9 compares the coefficient of the independent variables before and after the moderation. After the moderation, the ProftY drops by 9% and 15% for every unit increase in TranspX₁ and WhX₂respectively, and according to Table 7, the Moderator's influence was not statistically significant (p > .05).

Table 12: Independent Variables' Coefficients before and after Moderation

	Coefficient for TranspX₁▢▢▢▢	Coefficient for WhX₂▢▢▢
Before Moderation	.288	.524
After Moderation	.262	.443
Percentage Change	9%	15%

Conclusion and Recommendations for Further Studies

Conclusion

This study intended to understand the horizontal coopetition of handicraft MSEs in the post-production phase of business where coopetition in outbound logistics, specifically in transportation and warehousing, was hypothesized to influence profitability. The results from this study validated the conclusion reached by Bengtsson and Kock (2014) and Tidström and Rajala (2015) that proper management and balance between competition and cooperation in either phase of business (pre-production, production, and post-production) has the potential to achieve higher performances in profitability. The MLR model used had transportation and warehousing as independent variables and profitability as the dependent variable. Regression analysis of profitability on transportation and warehousing showed that there was a positive and significant increase in MSE's profitability. The model showed that about 62.8% of the enterprise's profitability could be explained by horizontal coopetition in transportation and warehousing alone. Within the scope of this research, it can be concluded that horizontal coopetition in

transportation and warehousing has a significant and positive influence on the profitability of MSEs. It was also hypothesized that the resource interdependence between the coopeting MSEs would significantly moderate the horizontal coopetition's influence on profitability. The study has shown that the impact was not statistically significant since resource interdependence accounted for only 0.2% of the variation in profitability while the regression analysis indicated that the moderator did not significantly change the influence of independent variables on profitability.

Limitation

The analysis showed that the horizontal coopetition in outbound logistics was also influenced by MSE attributes like the cluster type, the product type, the markets served, the firm size, and the age of the firm. These attributes were not factored-in when doing the influence of the horizontal coopetition in outbound logistics on profitability. Again, the study had contextual limitations in that the MSEs were sampled in the handicraft markets clustered in the Arusha city centre. The urban nature of the business may have an effect on the nature of coopetition among the MSEs. Data were collected during the time the world was in the COVID-19 pandemic and this might influence the results from the respondent. Many businesses were not in operation as the main customers were foreign tourists; and the export market was declining due to severe lockdownsin Europe, Asia, and the US.

Recommendations

Horizontal coopetition in outbound logistics increases the ability of each MSE to deliver value to the customer through the reduction of downstream costs. Since the results from this study suggest that horizontal coopetition in outbound logistics is a profitable model, it is recommended that MSEs proprietors should be made to consider the value proposition of the coopetition built-in in the value-net framework and exploit it. MSE owners should be made aware to focus on the customers' needs and to consider other similar MSEs as complementors, co-value creators, and appropriators. Since it's shown that resource interdependence does not moderate the coopetition in the efforts to create appropriate value in coopetition, managers should be made not to fear cooperating effectively with rivals in a business

environment. This study paves the way to a better understanding of the coopetition dynamics in the post-production phase of the company and the company's performance. Further studies are recommended on the relationship between horizontal coopetition in other outbound logistics activities like inventory management and distribution channels, and MSEs' performance. The empirical results from this study help to develop a framework to define the effects of post-production coopetition on MSE profitability. Using the coopetition theory and the resource dependency theory, these empirical findings provide a foundation for furthering research in post-production coopetition. Since it was shown that coopetition in outbound logistics was also influenced by MSE attributes, more research is needed in this area of factors influencing the degree of cooperation. Again, the context of this study was limited to one city in one developing country with the assumption that it can be inferred to other cities and developing counties. It is recommended that more empirical data from industry-specific cases, and in other environmental settings, be done to vindicate what is generated in this study since it will add more understanding and knowledge to the coopetition theory.

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Indirect Effect of Information and Communication Technology on Business Performance in Small and Medium Manufacturing Industries in Tanzania

Wilson Benjamin Kiunsi[1,]
wkiunsi@hotmail.com[1]

Elifas Tozo Bisanda[2]
bisanda56@gmail.com

John Makunza[3]
makunza@hotmail.com

ABSTRACT

This study investigated the indirect effects of information and communication technology (ICT) on business performance in Tanzania's small and medium manufacturing industries (SMMIs). This study was motivated by the poor research results that show the indirect application of ICT on product innovation and business performance in SMMIs in the country. Thus, the study was carried out to understand the extent to which the application of ICT enhances product innovation in SMMIs. The study was conducted in four regions namely; Dar es Salaam, Mwanza, Arusha, and Morogoro with a sample size of 474 SMMIs.. The data were analysed using IBM Amos version 26 and structural equation modelling (SEM). The analysed data showed that the relationship between ICT use and product innovation techniques in Tanzanian SMMIs was highly significant. In the same sample size, the intensity and direction of the association between product innovation and business performance were the same. During the discussion of the findings, it became clear that ICT use and product innovation had increased among Tanzanian SMMIs. The results showed that the indirect effect of ICT use on business performance, when mediated by product innovation, was moderately significant for SMMIs in Tanzania once they were linked. These outcomes are comparable to those of companies in Mexico, Spain, and Italy. According to the findings, SMMIs in Tanzania should increase the application of ICT with a product innovation mindset to improve business performance. This strategy would help SMMIs in Tanzania to achieve their organisational objectives.

Keywords: ICT, product innovation, business performance, small and medium manufacturing industry.

INTRODUCTION

Many firms recognize ICT's importance, use, and impact on SMEs. This has attracted researchers to study different aspects of ICT adoption. Yang et al. (2013) found out that manufacturing industries that use ICT are more innovative and more successful than manufacturing industries that do not. Their study reveals that more emphasis on ICT and innovation was put on human resources, design, production, sales, and marketing departments. Shin and Lee (2016) consider product innovation as a fundamental catalyst for the organisation's worldwide performance. According to Abrol and Abrol (2017), continued innovation adjustment leads to improved business performance and overall firm growth. Studies such as Cuevas-Vargas et al. (2016) regard ICT as an innovation enabler. Regarding business performance and the external environment, various studies such as those of Nyamanza (2016) and Isaga (2012) have shown that employment growth, sales turnover, and capital investment are common measurements of business performance. In the Tanzanian context, business performance depends on SMEs' ability to continuously innovate competitive products in the markets, which initially depends on the level of product innovations, marketing capabilities, and other external business environments (Nyamanza, 2016). In Tanzania, the manufacturing sector is one of the fastest-growing industries in the country (Kiyabo & Isaga 2019). As a result, their financial contributions have paved the way for ongoing research in the country (Buli, 2017). Regardless of these initiatives, the performance of SMMIs has not been satisfactory to change the situation (Mwang'onda et al.., 2018). In this sense, SMMIs need to rethink their business strategies, particularly in strategically using ICT to improve product innovation and raise business performance. Literature suggests that whenever ICT was used as a product innovation facilitator, it improved the organisation's competitiveness and business performance level, but that kind of suggestion might not be applicable in the Tanzanian environment unless research was done. Therefore, this study examined the effect of ICT on product innovation and business performance in SMMIs in Tanzania. Despite the inherited advantages of integrating ICT into innovation practice in

SMMIs, most empirical studies relating to ICT have been from large manufacturing industries in developed countries (Aguilera et al.., 2015). Furthermore, Cuevas-Vargas et al. (2016) and Kijek and Kijek (2018) indicate that most empirical studies are related to ICT and innovation, and others relate to innovation and business performance. Mwantimwa (2019) and Cirera et al. (2016) revealed that studies relating to ICT use and product innovation in SMMIs in Tanzania were few and did not consider ICT, innovation, and business performance as one system and studied them together at the same time. Therefore, this study determined the indirect relationship between ICT and business performance as mediated through product innovation in the SMMIs in Tanzania.

Literature Review
Relationship between ICT and Product Innovation in Firms
Incorporating new ICT systems has enabled businesses to perform better and execute business planning and production programs while stimulating product innovation. Table 1 summarizes the literature and shows that ICT has a significant impact on product innovation, as demonstrated by Spiezia (2011), Ferreras-Mendez and Arege (2014), and Cuevas-Vargas et al. (2016). Table 1 also shows that ICT negatively affected production innovation. A study by Spiezia (2011) confirms the existing contradictions among industries. Table 1 also provides the difference in sample size and methodology used to determine the relationship.

Table 13: Literature on Relationship between ICT and Business Performance

Author	Findings	Methods and sample size	Gap
Spiezia, (2011)	ICT use had a significant relationship to products innovation in some of the countries.	Econometric analysis and sample size 20670.	The study was done in OECD countries with secondary data collected between year 2004 to 2007
Spiezia (2011)	Asserted that ICT was negatively correlated to product innovation in Norway, particularly in firms that had no web facilities.	Econometric analysis and sample size 20670.	The study was done in OECD countries with secondary data collected between year 2004 to 2007
Ferreras-Mendez and Arege (2014)	The research showed that ICT had a direct and indirect effect on business performance.	SEM with sample size 186	Study was conducted in Spain and Italian firms
Cuevas-Vargas at el.., (2016)	The results indicate that ICT had an indirect effect on firm business performance as mediated by innovation.	EQS 6.1 Software – SEM with sample of 228	The study was done in Mexico

Product Innovation and Business Performance in Firms

Table 2 in this study shows the relationship between product innovation and business performance in different industries. For instance, studies by Aziz & Samad (2016), Rosli and Sidek (2013), Njogu (2014), Cirera et al. (2016), and Abdilahi, et al. (2017) show that product innovation has a positive impact on business performance. Such studies propose opposite results compared to those of Mensah & Acquah (2015), which took place in Ghana. Table 2 also provides the difference in sample size and methodology used to determine the relationship.

Table 14: Literature on Relationship between Product Innovation and Business Performance

Author	Findings	Methods and sample size	Gap
Aziz & Samad, (2016)	Research results revealed that innovation influenced food manufacturing of SMEs' competitive advantage.	SEM – Confirmatory Factor Analysis (CFA) with Amos version 21 with sample size 359	The study was carried out in Turkey with only one food manufacturing SMEs alone
Rosli and Sidek (2013)	The research findings showed that products influenced the performance of manufacturing SMEs.	Hierarchical Regression Analysis with sample size 284	The study was done in SMEs Manufacturing in Malaysia
Njogu (2014)	The study revealed that process, product, influenced on financial performance in Nairobi, Kenya.	Regression analysis with sample size of 180	The study determined the effect of product, process, and marketing innovation only to financial performance
Mensah & Acquah (2015)	The research findings showed that product innovation had no influence on firm performance.	PLS SEM with sample size 243 in Ghana	The study was done in Ghana and considered the effect of innovation on SME performance.

Author	Findings	Methods and sample size	Gap
Cirera et al., (2016)	According to the findings, product innovation has a significant impact on productivity.	Regression and Meta-analysis sample size 2938	Used secondary data for SMEs in manufacturing and services. This research was done in Ghana, Uganda, DRC, Kenya, Zambia, and Tanzania.
Abdilahi, at. Al., (2017)	Research results indicated that product innovation had a positive effect on business performance.	Descriptive and Regression Analysis	The study was conducted in Somalia
Nafula (2017)	The research showed that a product positively impacts a firm's competitiveness.	Multiple Linear regression analysis with sample size of 284	The study was done in Kenya on effect of innovations to competitiveness

From Table 1, it can be concluded that the relationship between ICT and product innovation in industries does not necessarily lead to the significance that propels all industries to use ICT for product innovation. The same proposal can be drawn from Table 2 that product innovation should be taken seriously leading to successful business performance. On reviewing empirical evidence on the impact of innovation on business performance in SMMIs in Tanzania, Jaensson (2017), Ndesaulwa, and Kikula (2016) found out that Tanzania lacked such evidence. The same argument was proposed by Mwantimwa (2019) and Cirera et al. (2016) about the scarcity of studies relating to ICT use and product innovation in SMMIs in Tanzania. This study attempted to determine the possible indirect relationship between ICT and business performance as mediated by product innovation. The study was done in Tanzania, which was different from most studies shown in the literature with a sample size of 474 SMMIs.

Conceptual Framework

A conceptual framework is a network or set of connections or planes linked together to form a particular concept, Karine (2020). The conceptual framework of this study was developed based on the definitions, and it demonstrated how the dependent variable was related to independent variables and mediated variables in the ICT, product innovation, and business performance relationships.
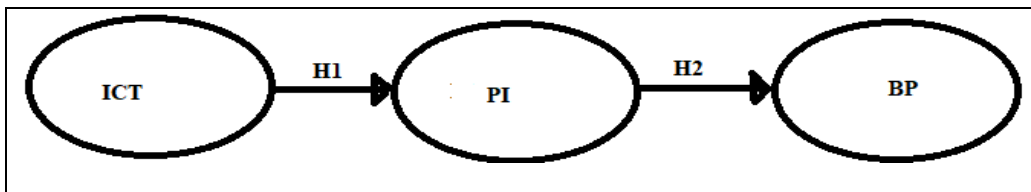
Figure 1: ICT, PI, AND BP Conceptual Framework

The relationships illustrated in Figure 1 were based on empirical literature and theoretical review. It was further hypothesized that ICT use is significantly connected to product innovation and business performance when mediated to product innovation in SMMIs in Tanzania. The conceptual framework in Figure 1 consisted of three (3) sets of variables: independent variables, mediated variables, and dependent variables. Indicators for each variable are indicated in Table 3.

Table 15: Study Variables

	Variable	**Statements**	**Item**	**Authors**
Independent Variable	ICT Use	Marketing products and services	ICT1	Msuya et al., (2017) and Hamad (2017)
		All accounting activities	ICT2	
		Business transactions	ICT3	
		Customers' and suppliers' communication	ICT4	
		Product design	ICT5	
		Software development	ICT6	
Mediating Variable	Product Innovation	New products with technical specifications and functionalities	PI_1	Cuevas-Vargas at al., (2016) and Hsu (2013) Kim-Soon et al., (2017)
		Products are user friendly to customers	PI_2	
		Quality products.	PI_3	
		Products have no environmental impacts	PI_4	
		New products with components and materials	PI_5	
		Decreases cost of products.	PI_6	
Dependent Variable	Business Performance	Increased Sales	BP1	Nafula (2017), Likar et al., (2014), Nawaz et al., (2014) and Hassan et al., 2013.
		Increased Profit	BP2	
		Increased Customers satisfaction on products and services	BP3	
		Increased Employee's satisfaction	BP4	
		Increased Market share	BP5	

In Table 3, the study focused on testing ICT, Product Innovation and business performance items, which were also used in other research and considered easier to assess and use for improved performance of SMMIs.

Research Methodology

This study implemented the purposive survey research design approach Esuh et al., (2011). The study designated only those SMMIs that used ICT daily where product innovation activities are assumed and the resulting impact on business performance is determined periodically. Also, during data collection, closed-end questions were used in the questionnaires and data were subjected to statistical analysis to determine the output information because the study was quantitative in nature Creswell (2014). To enable the testing of the hypothesis and analyse the statistical significance of the model of this study, Structural Equation Modelling (SEM) was used. Blunch, (2017) proposes that SEM gives immediate care to evaluate the goodness of fit (GoF) on diminishing the discrepancy between the observed and estimated covariance matrix. Its application is based on estimating Confirmation of the theory used in the study. Furthermore, a mediation study was conducted to investigate the mediating influence of product innovation on the link between ICT and business performance, which would have been the independent variable. The requirements for mediation analysis were carried out in this study, as recommended by Baron and Kenny (1986).

Findings of the Study

Confirmatory Factor Analysis

According to scholars like Hooper et al. (2008), CFA should be used to determine the loading of measurements, covariance, and error variances. A measurement model was created to estimate measurement errors and correlation between latent variables in the study. CFA was crucial to validating measurement theory before testing for SEM.M aximum modification indices (MI) were used to change the fit to the ideal indices if the model did not reach the suggested cut-offs for a good fit (Whittaker, 2012). For instance, ICT1 and ICT5 items were removed because they had MI greater than 11.
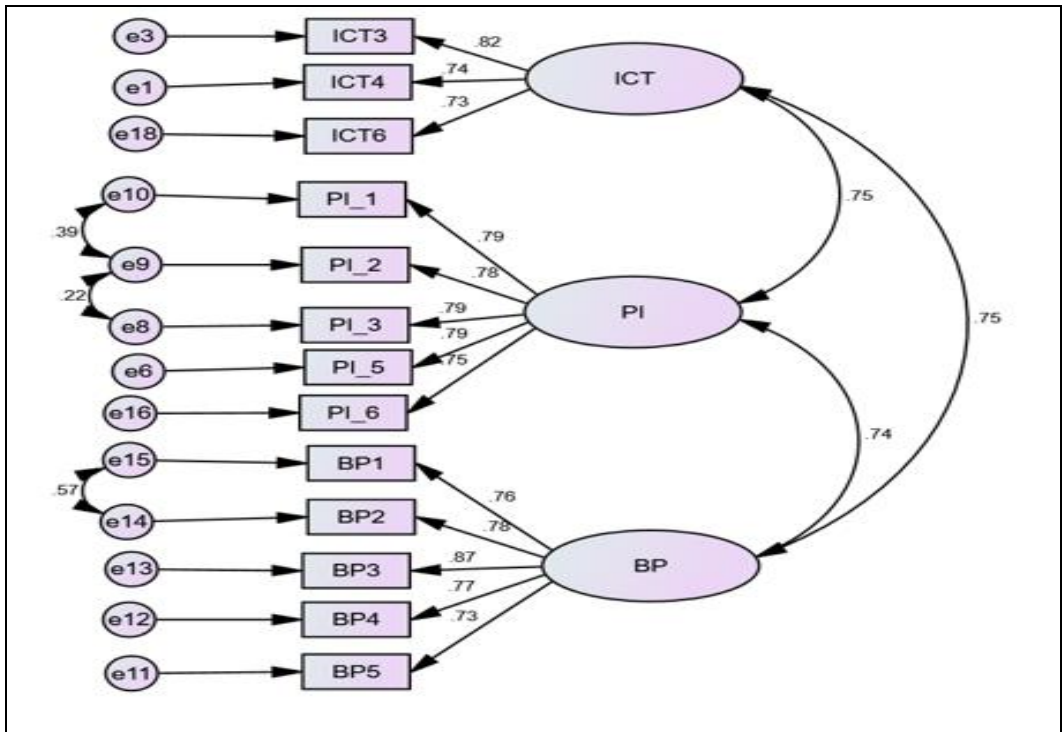
Figure 2: CFA for ICT, PI, and BP

Table 16: Fit Indices Used in the Study

Fit indices	Type of Fit Index	Model points	Cutting off point
Adjusted Goodness Fit indices (AGFI)	Parsimony Fit	0.908	≥0.80
Comparative Fit Index (CFI)	Incremental Fit	0.941	0.9 < CFI < 0.95
Root Mean Square Residual (RMR)	Absolute Fit	0.029	RMR< 0.08
Root Mean Square Error of Approximation (RMSEA)	Absolute fit	0.073	0.05 < RMSEA< 0.08

Source: Hooper at al.., (2008), Byrne (2013 and Hair et al.., (2010)

Results in Figure 2 which are presented in Table 4 show the measurement model of the study by estimating model fit. Initially, AGFI suggested that the model is at a good fit level (0.908) (Hooper at al.., (2008), Byrne (2013), also CFI verifies the model is a perfect fit (0.941) which is greater than (0.90). Moreover, the RMR is close to fit (0.029) which is less than (0.06) Hair et al.., (2010), and finally RMSEA was found to be (0.073) which was less (0.008) proposing the model to be fit Byrne (2013).

Convergence and Divergence Validity

Convergence and divergence validity were also verified in the model. According to Hair et al. (2010), convergent validity is the degree to which the theoretical notions under research should be related to the reality of existing occurrences. The Master Validity Tool was used to calculate convergence, divergence, and composite reliability (CR) results. ICT2 and PI_4 items were removed during computing to increase model fit to enable AVE to be greater than 0.5 (Whittaker, 2012). The AVE was at least 0.583, more significant than 0.5 if the CR was more prominent than 0.807, which was greater than 0.7, and MSV was less than 0.570, which was less than the AVE. According to Gaskin and Lim (2016), all the necessary conditions were met.

Structural Equation Modeling

The structural model of this study had relationships between ICT, product innovation, and business performance that were later analysed. The testing process of the hypothesis was done with a structural model using AMOS version 26 as software. Various coefficients and scores from the model analysis were obtained to define the model. The tested hypothesis showed the path coefficient's direction, strength, and significant level. In the path analysis of the model, an indirect relationship between ICT use and business performance was shown, mediated by product innovation. The model shown in Figure 2 was achieved with the cutting-off points specified in Table 4. Testing for the goodness of fits, RMR was equal to 0.041, CFI = 0.954, AGFI = 0.895, RMSEA = 0.08, which is within the cutting points indicated in Table 4. Furthermore, regression weights and standardized regression weights are shown in Tables 5 and 6 respectively.
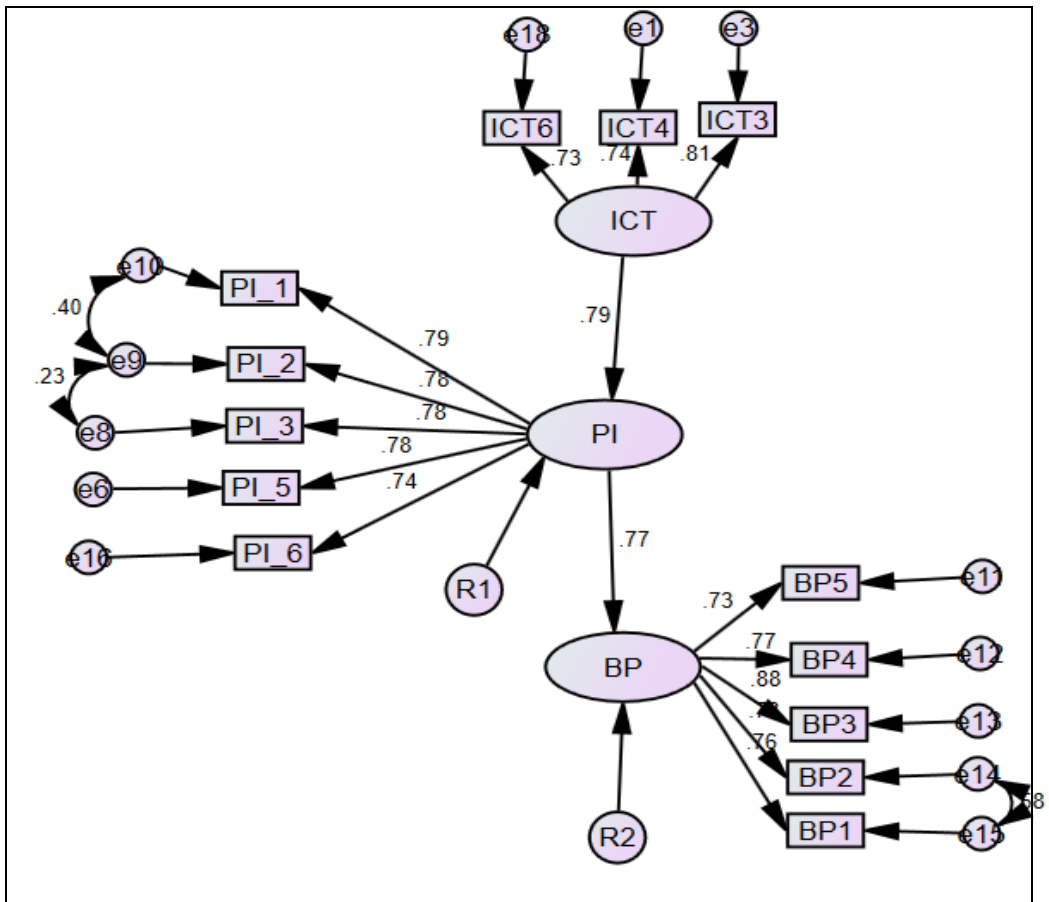
Figure 3: Path Analysis of ICT, PI, and BP

Table 17: Regression Weights

			Estimate	S.E.	C.R.	P	Label
PI	<---	ICT	.980	.075	13.115	***	par_14
BP	<---	PI	.661	.050	13.255	***	par_15
ICT4	<---	ICT	1.000				
ICT3	<---	ICT	1.124	.071	15.935	***	par_1
PI_5	<---	PI	1.000				
PI_3	<---	PI	.857	.049	17.544	***	par_2
PI_2	<---	PI	.905	.053	17.222	***	par_3
PI_1	<---	PI	.998	.057	17.605	***	par_4
BP5	<---	BP	1.000				
BP4	<---	BP	1.005	.062	16.131	***	par_5
BP3	<---	BP	1.065	.059	18.151	***	par_6
BP2	<---	BP	.913	.056	16.212	***	par_7
BP1	<---	BP	.948	.060	15.814	***	par_8
PI_6	<---	PI	.923	.056	16.563	***	par_9
ICT6	<---	ICT	1.088	.074	14.655	***	par_10

*** $p < 0.001$

Table 18: Standardized Regression Weights

			Estimate
PI	<---	ICT	.794
BP	<---	PI	.774
ICT4	<---	ICT	.742
ICT3	<---	ICT	.814
PI_5	<---	PI	.778
PI_3	<---	PI	.783
PI_2	<---	PI	.777
PI_1	<---	PI	.785
BP5	<---	BP	.728
BP4	<---	BP	.772
BP3	<---	BP	.876
BP2	<---	BP	.777
BP1	<---	BP	.759
PI_6	<---	PI	.743
ICT6	<---	ICT	.732

Statistical Significance of Relationship between ICT and Product Innovation in the SMMIs in Tanzania (HI)

This hypothesis was investigated with path analysis between ICT and PI, which formed the association. Results in Table 6 showed that ICT statistically correlates with product innovation in SMMIs in Tanzania. In addition, Table 6 specifies that the path coefficient was 0.794. The results in Table 5 were significant at 0.001, CR > 1.96, which confirms that the relationship was strongly correlated with Mukaka (2012).

Statistical Significance of Relationship between Product Innovation and Business Performance in the Smmis in Tanzania (H2)

Hypothesis Number two, termed (H2) was studied by applying path analysis between PI and BP, which formed the relationship. Results in Table 5 indicated that PI had a statistically significant relationship to business performance in SMMIs in Tanzania. Table 6 designates that the path coefficient between PI and business performance was 0.774, and based on the same Table 6, results were significant at 0.001, and in CR, it was found to be greater than 1.96, which indicated that the relationship was strong positive correlation correlated Mukaka (2012).

Indirect Effect of ICT on Business Performance as Mediated by Product (HI: H2)

Mediation Analysis

Before the analysis for mediation, it was essential to determine the conditions for mediation analysis if they could have been met. This study adopted Baron and Kenny's (1986) conditions since they are widely accepted by Mengi (2017). Since H1 and H2 are significantly correlating their respective variables refer Table 5 and 6, then they satisfy the condition by Baron and Kenny's (1986). Field (2018) and Zainudin (2012) propose that if an independent variable is linked towards the dependent variable only through a mediator variable, the independent variable has no direct effect on the dependent variable. From the Path analysis of ICT, PI and BP in Figure 3, the independent variable (ICT use) is linked towards the dependent variable (business performance) only through the mediator variable (product innovation) and there is no direct effect of the independent variable (ICT use)

towards the dependent variable (business performance). Therefore, the model is complete mediation.

Table 7: Mediation Analysis

Variable	Direct effect on Product Innovation	Direct effect on ICT	Direct effect on business performance	Indirect effect on business performance
ICT use	0.794	0	0	0.61456
Product Innovation	0	0.794	0.774	0

Source: Research Data (2020)

So, based on the results from Table 7, since all two conditions were met as proposed by Boron and Kenny (1986), results presented in Table 7 indicated the indirect relationship between ICT use and business performance variables as mediated by product innovation was 0.61456, which, according to Schober et al. (2018), was a moderate correlation.

Discussion of the Findings
Effect of ICT on Product Innovation in SMMIs in Tanzania
The research hypothesis states that ICT has a statistically significant relationship with product innovation in SMMIs in Tanzania. The research results showed a standardized regression weight of 0.794, which indicates a strong positive relationship between ICT and product innovation. This means that ICT had a strong positive relationship and a significant effect on product innovation. This means that ICT use for business transactions (ICT3), customers' and suppliers' communication (ICT4), and Software development (ICT6), their examining path towards product innovation is significant and fitting for discussion, as established in Table 6. Further, product innovation areas such as; new products with different technical specifications and functionalities than existing ones (PI_1), products that are user-friendly for customers (PI_2) and increasing product quality (PI_3). The ICT variable

was significantly related to new developments with components and materials (PI_5), and a reduction in product costs (PI_6). Chin (1998) postulated that, in any hypothesis, whenever the standardized path coefficient () is greater than 0.2, then the results qualify for discussion. Therefore, in this study, the standardized path coefficient of 0.794 was above the recommended cut-off point allowing for detailed discussion. Furthermore, the analysis of the significant effect of ICT on product innovation was done using CR values, and the results are shown in Table 5. The result indicated a CR of greater than 11.451 and $p < 0.001$. Bechger (2014) accepts that CR is significant in such results. The author argues that for the relationship to be substantial, the CR should be greater than 1.96, and the p-values should be less than 0.05. From that argument, the relationship between ICT and product innovation was significant.

The result of this study showed that ICT affects product innovation. This result concurs with findings similar to Ueki and Tsuja (2019) and Spiezia (2011), who found out that ICT had a strong positive correlation to product innovation. In their study, Ueki and Tsuja (2019) found out that ICT directly affected product innovation in Thailand and Vietnam. Spiezia (2011) showed that manufacturing industries with more web facilities (ICT) had a higher probability of product innovation than those with fewer web facilities. The results of this research concur with the studies by Abderrezzak et al. (2016) and Cirera et al. (2016), whose results showed that ICT influenced product innovation in firms. However, in the analysis of the effect of ICT on product innovation, Arvanites et al. (2011) concluded that the ability to drive product innovation varies depending upon the type of ICT tools, firm process, the current knowledge of ICT consulting firms, product innovation capabilities, etc. In line with that argument, these results contradict Spiezia (2011), who asserted that ICT negatively correlated to product innovation in Norway, particularly in firms with no web facilities. Also, Kijek and Kijek (2018) found out that the use of ICT did not affect product innovation due to the suggested reason that the samples selected made little use of ICT in product innovation or did not extensively deploy ICT use. The authors suggested that Polish manufacturing industries might have yet to apply ICT broadly due to a

lack of competencies and financial constraints. According to Kijek and Kijek (2018), the most likely reason for the difference in the effect of ICT use on product innovation is that lower technology industries usually apply incremental product innovation, which does not require significant adjustments to the production process.

Effect of Product Innovation on Business Performance in SMMIs in Tanzania

Based on hypothesis H2: results obtained in Table 5 and Table 6, product innovation had a statistically significant effect on business performance in SMMI in Tanzania. The path analysis test considered product innovation as an independent variable and business performance as the dependent variable. Results, shown in Table 6, indicated that product innovation was statistically significant to business performance in SMMIs in Tanzania. Therefore, it was accepted in this study that, product innovation had a substantial effect on business performance in SMMIs in Tanzania. The results of this study concurred with the study by Abdi and Sheikh (2013) which indicated innovation had a significant role in determining the business performance of the firms in Somalia. As the environment changes, innovation helps firms attain a competitive advantage. Also concurs with Rosli & Sidek (2013), Atalay et al. (2013), and Jayaram & Prajogo (2013). For instance, Rosli and Sidek (2013) results established that product innovation has a positive and significant impact on business performance in manufacturing industries in Malaysia. However, these results contradict Acquah and Mensah (2015) and Nafula (2017) studies that found product innovation has a no-significant effect on firms' business performance. Poor firm performance could have been attributed to a lack of physical infrastructure, inferior products compared to competitors, inadequate technology, a lack of skills, and so on. Juma and Said (2019). Lack of access to or links to international marketing information and related constraints, such as financial constraints, might have been the reason for poor performance (Lwesya, 2021). Finally, the lack of using licensed adequate technology from the owners who are foreigners, poor research and development practices might also cause poor performance of firms (Mkenda and Rand, 2020).

Indirect Effect of ICT on Business Performance as Mediated by Product Innovation

As it can be viewed in Table 7, the hypotheses were tested as to whether ICT has an indirect impact on business performance as mediated by product innovation in SMMIs in Tanzania. The results indicated that the indirect effect of ICT use on business performance when mediated by product innovation was moderately significant at 0.60741 (Schober et al., (2018). These results are comparable to those of Cuevas-Vargas et al. (2016) and Ferreras-Mendez and Arege (2014). The assessment of the indirect effects of ICT use on the business performance of SMMIs was shown. This indicated that ICT can increase performance by increasing product innovation practices in SMMIs. This study agrees with Coccobell et al. (2012), who argue that widespread ICT is necessary for economic activity for two reasons: first, ICT directly increases firm productivity and stimulates economic growth. Second, ICT indirectly increases firm productivity and stimulates economic growth. Second, generate complementary innovations such as product innovation that advance economies.

Based on the practical experience of this study, the results showed that using ICT helps to support and reinforce product innovation capabilities, hence increasing business performance. A survey by Fernandez-Mesa (2014) supports the current study that ICT indirectly affects firm performance as mediated through learning thus, proposing that SMMIs should pay attention to mediating factors, especially product innovation, to attain additional benefits from ICT. However, Fernandez-Mesa (2014)'s results contradict these results as the indirect effect of ICT was higher than the direct effect of ICT on business performance. The reason behind this is that ICT performance goes higher when mediated through learning (internal or external), unlike using it directly to affect dependent performance. Also, the indirect effect of ICT on business performance in manufacturing industries has been studied by Biag (2013) in the United States of America. Research results indicated that ICT is an enabler for product innovation and assisted in business performance growth. This study provides more explicit evidence on the indirect effect of ICT on business performance in firms, contrary to Kijek and Kijek (2018), who argued that there is no clear evidence on the indirect

benefits gained from business performance using ICT in firms. The authors insisted that most studies refer to the direct relationships between ICT and business performance, ignoring the indirect effects caused by ICT.

Conclusion and Recommendation
Conclusion
The current research investigated the indirect effect of ICT on product innovation and the business performance of the manufacturing industries in Tanzania. The approach used in this study acknowledged the mediating effect of product innovation on the causal relationship between ICT use and business performance. This study observed that there was an indirect effect of ICT use that worked well through product innovation. For that matter, analysis suggests that a proper path of ICT use contributes to product innovation and hence to the business performance of SMMIs in Tanzania. So, the use of ICT when used innovatively through products will have an impact on business performance.

Recommendation
The renovation effect of ICT investment and use on businesses' performance becomes more evident when concurrently engaged in product innovation. By developing and testing SEM with observed variables and error measurements, this research confirms ICT and product innovation as the sources of business performance in a specified group of SMMIs. This study assigns significant responsibilities to managers; as a result, they should not focus solely on utilizing the direct effect of ICT, but rather seek other ways to improve its utilization to strengthen its business performance. Despite the significance of current results, this study still provides a way forward for further research. For example, since this study adopted purposive sampling of SMMIs in Tanzania, a new study can be conducted using a random sampling approach, where the results will be generalized across Tanzania. In addition, while the course of this study focused on ICT use, product innovation, and business performance using a cross-sectional approach, it is possible to use a longitudinal method to determine the growth effect of ICT use on product innovation and business performance over some time with possible training and sensitization. This study also investigated the impact of ICT on product

innovation and the business performance of the manufacturing industry. It is also possible to determine the potential impact of business performance on ICT investments and product innovations in Tanzania's service or large manufacturing industries.

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Team Work Practices and Employee Performance in Local Government Authorities in Tanzania

Haji M Mnasi[1],
The Open University of Tanzania
hajimnasi@yahoo.com[1]

Chacha Matoka[2],
The Open University of Tanzania

Gwahula Raphael[3]
The Open University of Tanzania

ABSTRACT

This paper examined the effects of team work practices on employee performance of local government authorities in Tanzania. The specific objectives were to; determine the influence of shared vision, employee respect, employee ethics, collective decision, team level trust, intrapersonal skills and team cohesiveness on employee performance in LGAs. The study used multiple regression analysis to test the set hypotheses and construct the model. The study was based on cross sectional survey design in which the quantitative approach was used to collect and analyse data from 368 employees. Research data was collected using a structured survey questionnaire as a research instrument where both descriptive and inferential statistics were used to arrive at conclusions. The study findings showed that shared vision, intrapersonal skills, trust and cohesiveness had statistically positive and significant relationship between team work practice and employee performance. Further, findings revealed that shared decision, respect and workplace ethics were statistically insignificant. The study concluded that LGAs should create an environment that assist shared decision, respect and workplace ethics since this in turn will increase performance of employees. The study recommends team work practices be considered as part of organisations strategy to improve employee performance.

Keywords: Team work, team work practices, employee performance, Local Government Authorities

INTRODUCTION

In the knowledge management world, in order to provide better services to the people team work practices is known as an important approach to influence employees' performance (Shao, 2020; Elgin, 2021). Human Resources Development as the organisation activities is directed towards improving the skills and capacity of employees and hence increasing emphasis on team work training (Maley & Kiessling, 2021). It also fosters development for common vision, shared decision making, work ethics and workplace trust. (McEwan & Crawford, 2022). Organisations around the globe are realizing the importance of Team Work Practice (TWP) and how it leads to high performance within their organisations. Team members have different skills such as technical, interpersonal, problem-solving and decision making skills; these skills complement each other. (McEwan & Crawford, 2022) If team members have the same ideas, opinions, skills or knowledge, there would be the absence of innovation. Therefore, organisations need to create an atmosphere that fosters team work. (Phina *et al.*, 2018).

On the view of public organisation, employee's performance and competitiveness improves services provision to the people (Saiz *et al.,* 2021). Likewise, in local government authorities, employees' performances are concerned with providing standards services (Performance *et al*, 2020). Team Work Practices as the act of owning your responsibilities and staying accountable Walker, *et al.,* 2021). Team members rely on one another, so if one person drops the ball, an entire project can fail. (Walker, *et al.,* 2021, Reeves & Zwarenstein, 2018) have noted that members of the team must trust one another and have a strong rapport. In the context of this study team work is regarded as a process whereby employees in LGAs work together to complete their task in the most effective and efficient way. Team enables people to cooperate, enhance individual skills and provide constructive feedback without any conflict among individuals. According to McEwan and Crawford, (2022) most of the organisation activities become complex due to advancement in technology. Maley and Kiessling, (2021), views team members enhance the skills, knowledge and abilities of the working teams.

Statement of the Problem

Local Government Authorities (LGAs) have been taking a lead on the implementations of team work practices by using guidelines and policies aimed at improving employee's performances, like the Public Service Act No. 8 of 2002, and District Authorities Act number 7 of 1982. In addition, LGAs knowledge transfers practices is governed by LGAs strategy (2010) and Public Service Policy. Despite the implementation of such guidelines and policies in Tanzania, employees in LGAs have continued to perform below expectations President's Office-Regional Administration and Local Government(PO-RALG), (2020); Controller and Auditor General (CAG) (2020); Shitindi, (2020). Previous studies (Kalemba *et al*., 2017; Septian & Gilang, 2017). Through local government reforms that were undertaken by the Government since 1998, the capacity of LGAs employees were worked on. Despite of all the initiatives that have been made, still Employee Performance (EP) is still low in selected LGAs as was complained by CAG (2019, 2020) reports. This study was guided by one major objective and seven specific objectives. The general objective was to examine the effects of team work practice on Employee Performance in Local Government Authorities in Tanzania. Specifically, objectives were to determine the influence of shared vision, employee respect, employee ethics, collective decision, team level trust, intrapersonal skills and team cohesiveness on Employee Performance in LGAs. Thus this study attempted to fill the identified gap by examining the effect of team work practise employment performance in LGAs in Tanzania. The structure of the paper is as follows.

Literature Review

This section provides in-depth information on literature relate to the effect of team work practise on Employee Performance in Local Government Authority.

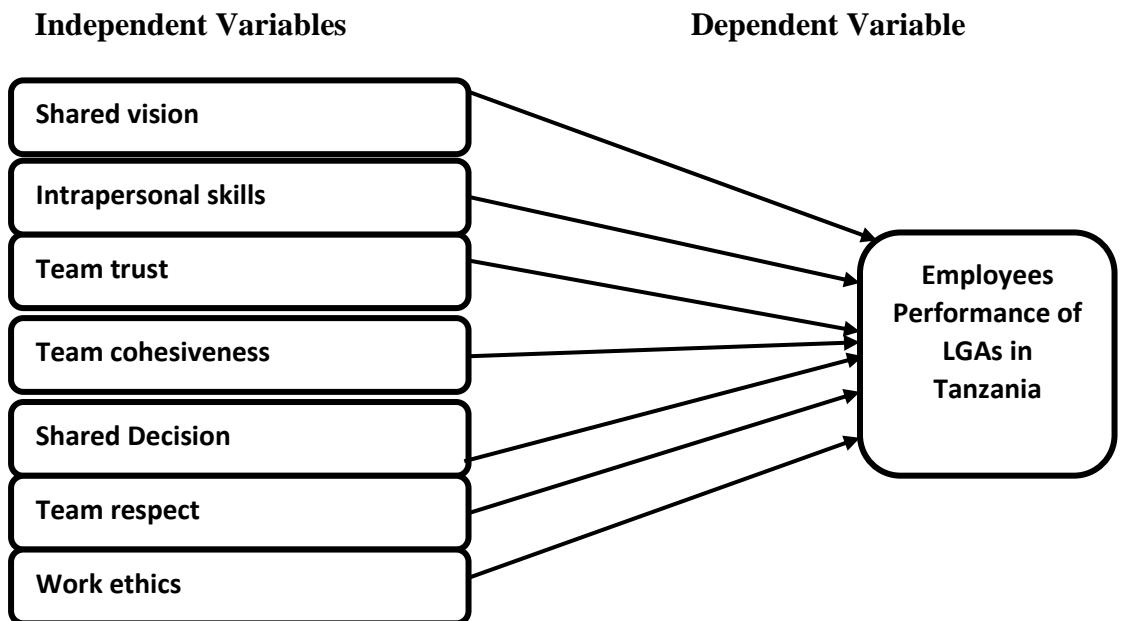## Theoretical Review

Dynamic Theory of Organisational Creation (DTOKC) as used by Nonaka (1994) asserts that the ideal knowledge is transferred through socialization, internalization and externalization through combination of socialization and team work practices. Its central theme is that organisational knowledge is created through a continuous dialog between tacit and explicit knowledge. It

argued that while new knowledge is developed by individuals, the organisation plays a critical role at articulating and amplifying that knowledge (Nonaka, 1994: Adbulle, 2019). The theory suggests that individual employees and their team mate performance mostly rely on the level of their shared vision, work ethics, collective decision, level of trust, conference and interpersonal skills. Their commitment to LGAs employees tends to increase the level of their working personalities experience and ability to perform their duties. DTOKC helps the study to understand a team work practices effects on Employee Performance towards their LGAs performance.

Empirical Review on Effects of Team Work Practices on Employees Performance

Septian and Gilang (2017) examined the influence of team work on Employee Performance in state-owned enterprise in Bandung, Indonesia. The study used descriptive method. It used primary datathat was obtained from interviews and questionnaires and secondary data such as literature books and documents. Techniques for sample data collection was simple random sampling while data processing analysis methods used were descriptive analysis, simple linear regression, hypothesis test (test t) and coefficient of determination using (Statistical Package for Social Sciences-SPSS). Results indicate team work had influence of about 23.5% on the performance of employees, while rest of 76.5% other factors that affects the Employee Performance is not examined in this research. Kalemba *et al.,* (2017), examined influence of team work practices on Employee Performance in public service in Kenya. Quantitatively the sample was 225 employees and used descriptive statistics. The findings become the base in policy formulation and further studies in the field of business management and human resource. It was revealed that team work ensures democracy at the workplace, enhances change, encourage innovation and creativity and allow for effective decision-making and networking. It was recommended that organisations should enhance capacity building of employees and appraisal; prompt promotion of employees, provide higher remuneration and good rewards to higher achievers to enhance commitment and improvement in work environment; effective communication and involvement of employees

in decision making. Kilindo (2015), examined factors that affected the establishment and practice of Team work of 50 teachers selected from secondary school in Kilwa district Tanzania. Questionnaires were used and analysed by quantitative data analysis. It was found out that structure, team, trust and performance had a significant and positive impact on the Employee Performance. The study concluded that practice of Team work of teachers in secondary schools have revealed that there are several factors that can be positive or negative towards the establishment and practice of team work. Study recommended team work for good results and performance. These findings need to be analysed in LGAs for final decision based on the effect of Team work practice on Employee Performance. This study proposed a conceptual framework where theories and empirical studies have been used to explain the phenomena.

Independent Variables **Dependent Variable**

Shared vision

Intrapersonal skills

Team trust

Team cohesiveness

Shared Decision

Team respect

Work ethics

Employees Performance of LGAs in Tanzania

Figure 4: Conceptual Framework

Reeves and Zwarenstein (2018), evaluated the effect of Team work using effective group leadership, trust among members, team members'

recognition, group reward, team work, confidence and skills development. Walker *et al*., (2021), used trust, engagement, team leadership, solving challenges, shared vision, clear communication, shared experience and practices. This study borrows shared vision, employees respect, employees' ethical, collective decision, team level of trust and intrapersonal skills. Howard and Hurley (2016), evaluated the effect of Team work using effective group leadership, trust among members, team members' recognition, group reward, team work, confidence and skills development. Hartenian (2013), used trust, engagement, team leadership, solving challenges, shared vision, clear communication, shared experience and practices. This study borrows shared vision, employees respect, employees' ethical, collective decision, team level of trust and intrapersonal skills. The study hypothesized that;

H_1: *Team Work Practice(shared vision; work place ethic; intrapersonal skills; trust; respect; shared decision making and team cohesiveness) has positive and significant effect on employee performance in LGAs.*

Methodology
Sample and Data Collection
This study was anchored on positivism research philosophy approach. A deductive approach was employed. It has been suggested that a deductive approach is suitable for positivism philosophy and utilizes empirical data (Baran, 2022). The approach is concerned with formulation of research hypotheses based on the theory under study and the research strategy is designed to test the formulated hypotheses (Creswell & Hirose, 2019). The deductive research approach examines and tests a known theory or phenomenon if that theory is relevant under certain circumstances (Kothari, 2017). According to Baran, (2022), empirical testing, simple random sampling method and controlled variables, such as; dependent and independent, are also part of a deducted approach. So, due to the quantitative nature of the data for this study, the quantitative research strategy was adopted to test the developed hypothesis. Explanatory research emphasizes to study the relationship between variables.

In explanatory studies, the researcher is faced with "cause-and-effect" problems with the major task for the researcher being the separation of such causes (Saunders & Lewis, 2017; Tegan & Merkus, 2022).The explanatory research design was chosen because the current study attempted to test and analyse the power of relationship among the hypothesized variables in the construct. Furthermore, the study used survey questionnaire since it is connected to positivism philosophy and deductive approach (Kothari, 2017). A cross-sectional survey was employed because it allows data to be collected at one point of time of the specific study (Williams *et al.,* 2022). To give the potential respondents equal chances of being selected and nature of the respondent's population, the 368 employees were randomly selected from four (4) districts councils namely; Mbeya City Council, Iringa Municipal, Tunduma Town Council and Makete District Council. Others were representatives from LGAs team work on EPLGAs in each district.

Measurements
This research adopted measurements variables that had statistical siginificance basing on other scholars.Five point Likert scale was taken into account in the measuments of the items. The choosen scale for this study was supported by previous researchers who conducted studies on team work practices towards employee perfomance (Reeves & Zwarestein, 2018; Phina *et al*., 2018).The five-point Likert scale responses were rated as strong disagree, disagree, neutral, agree and strong agree.This study used primary data. Primary data were directly collected using a structured questionnaire. Quantitative data for all four research objectives were tabulated and analysed by the relevant statistical tools. IBM Software SPSS version 26 supported data analysis from the questionnaire by using the relevant data analysis tools such as; Chi-square, correlation analysis and multiple linear regression analysis to identify the nature of relationship. Primary sources were used to collect data from directors; heads of departments, heads of sections, and other supporting staff at the department level. Statistical tests such as; reliability and validity were used to analyse the collected data.

Results and Discussion

From descriptive statistics relating to Employee Performance in LGAs findings in Table 1 indicate that knowledge transfer was important on enhancing employee's performance. To examine the significant relationship of all variable's regression analysis was conducted. Further, normal relationship of variables correlation analysis was also done. The results of the analysis showed that confidence yields a high mean value of 4.24 followed by anti-corruption, motivation, engagement, accountability, altitudes, Satisfaction and service delivery with their mean 4.23, 4.22, 4.206, 4.2, 4.19, 4.14, 4.11, 4.06 and 4.05 respectively. From these findings, it means that the higher the mean value the more impressions on mentoring practices towards contributing on employee's performance in LGAs in Tanzania.

Table 1: Descriptive Statistics for Employees Performance (EP)

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Services deliverance	2	5	4.05	.852	-.760	.139	.127	.278
Satisfaction	2	5	4.06	.905	-.830	.139	.014	.278
Motivation	2	5	4.22	.809	-1.011	.139	.787	.278
Accountability	1	5	4.14	.833	-.960	.139	.805	.278
In my work place corruption is strictly prohibited	1	5	4.23	.950	-1.249	.139	.985	.278
Level of work engagements is high to accomplish my duties	2	5	4.19	.783	-.842	.139	.476	.278
I am confidence enough to accomplish my responsibility	1	5	4.24	.800	-1.147	.139	1.495	.278
I accomplish all directives from my supervisor/ leaders in my work place	2.0	5.0	4.206	.8058	-.883	.139	.392	.278
Employees respond quickly on assignments	1	5	4.11	.843	-.813	.139	.350	.278
Employees have positive attitudes on work	1	5	4.20	.820	-1.247	.139	2.289	.278
Valid N (listwise)								

Source: Field Data, (2021)

Descriptive Statistics on Team Work Practices

Table 2 shows that work ethics had higher effects on employee's performance compared to other measurements because its mean value was M = 4.19, SD = .930 followed by respect which got M = 4.17, SD = .909. Also shared decision scored mean value of M = 4.08, SD = .909 while common vision scored M = 4.06, SD = .946. The least item was cohesiveness which obtained M = 3.98, SD = .907 mean values. The higher the mean value the more impressions on Team Work practices towards contributing on performance. The findings are in agreement with Walker *et. Al.,* (2021), who averred that team work received more attention as a process of knowledge transfer and sharing on team performance in Malaysia.

This is further in consistence with a study carried out by Septian & Gilang (2017), on the effect of knowledge sharing on team performance through Lens of team culture in Malaysia and evidenced that workers belong to particular team structure, their behaviour and attitude ultimate influence on team performance. However, this is inconsistent with Phina, *et. al.,* (2018), that team work inspires and develops sharing builds trust, recognition, confidence and skills in solving challenges. This implied that, team work practices enhance employee's performance. Despite these results cannot be applicable to justify the cause to effect relationship between team work practices and employee's performance. Thus, regression analysis was employed to determine the significant relationship of Team Work practices and Employee Performance in LGAs for inferential conclusion.

Table 2: Descriptive Statistics on Team Work Practices

N=306, Minimum=1, Maximum=5	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Shared Vision (TWP1)	4.06	.946	-1.100	.139	1.174	.278
Shared Decision (TWP2)	4.08	.909	-1.289	.139	2.083	.278
Respect (TWP3)	4.17	.909	-1.564	.139	3.120	.278
Work ethics (TWP4)	4.19	.930	-1.551	.139	2.838	.278
Intrapersonal Skills (TWP5)	4.01	.880	-.899	.139	.890	.278
Trust (TWP6)	4.10	.925	-1.496	.139	2.802	.278
Cohesiveness (TWP7)	3.98	.907	-1.162	.139	1.859	.278
Valid N (listwise)						

Source: Field Data, (2021)

Results of Correlation Analysis

Correlation analysis between Team Work practices and employee's performance in LGAs was also conducted. Result indicates that Team Work had positive association with employee's performance in LGAs with $(r = .809^{**}, p < 0.05)$. In addition, all items measuring Team Work practices had strong association with employee's performance. For example, TWP7 was found having strong association with Employee Performance $(r = .592^{**}, p < 0.05)$ while TWP2 was the least in strength with $(r = .518^{**}, p < 0.05)$. Correlation analysis indicated that measurements variables of Team Work practices had positive association with measurements of employee's performance. Therefore, based on the result from correlation analysis it is important to examine the cause to effects relationship of Team Work and Employee Performance by using regression analysis. Table 3 shows the relationship of Team Work practices and employees performance in LGAs based on all variables.

Table 3: Results of Correlation Analysis

		EP	TWP1	TWP2	TWP3	TWP4	TWP5	TWP6	TWP7
EP	Pearson Correlation	1	.628**	.618**	.636**	.627**	.623**	.657**	.592**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
Shared Vision	Pearson Correlation	.628**	1	.620**	.560**	.509**	.539**	.454**	.490**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
Shared Decision	Pearson Correlation	.618**	.620**	1	.678**	.607**	.536**	.482**	.463**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
Respect	Pearson Correlation	.636**	.560**	.678**	1	.709**	.502**	.561**	.493**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
Work Place Ethics	Pearson Correlation	.627**	.509**	.607**	.709**	1	.478**	.561**	.451**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
Intrapersonal Skills	Pearson Correlation	.623**	.539**	.536**	.502**	.478**	1	.442**	.514**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
Trust	Pearson Correlation	.657**	.454**	.482**	.561**	.561**	.442**	1	.506**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
Cohesiveness	Pearson Correlation	.592**	.490**	.463**	.493**	.451**	.514**	.506**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	

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

Source: Field Data, (2021)

Multiple Regression Results

The regression model summary in Table 4 was developed to explains the proportion of variance on Employee Performance in local governments whereby R square =.668. This implied that 66.8% of the proportion on employee's performance in local government's authorities could be explained by Team Work practices (Shared vision; Employees respect; Employees ethical; Collective decision; Team level of trust; Intrapersonal skills; and Team cohesiveness). In addition, the findings express that R value = 0.818 which indicated that the predictor variable which is Team Work practices were effective by 81.8% on providing change to dependent variable which was employees performance in local government authorities. Thus, the relationship between Team Work Practice under its seven measurement variables with employee's performance can be expressed as follows:

$$EP = 1.2601 + .113TWP1 + .057TWP2 + .051TWP3 + .085TWP4 + .138TWP5 + .178TWP6 + .092TWP7 + \pounds_i$$

Basing on the research model five Team Work practices i.e. shared vision; Work place ethics; Intrapersonal Skills; Trust; and Cohesiveness had positive and significant effects on employee's performance in LGAs; because their respective P-Values of 0.000; 0.012; 0.000; .000; and 0.002 were less than 0.05 level of significance. While, two Team Work Practices i.e. shared decision and respect were found to have insignificant impacts on employees' performance in LGAs. This indicated that Employee Performance in LGAs were significantly influenced by team work practices such as; shared vision; work place ethics; intrapersonal skills; trust; and cohesiveness. Contrary to these significant results, leaders 'employees respect was insignificant because was *(ß = .051, p = .173)*. This was due to the facts that p value was found to be above 0.05 which indicated that it was insignificant. Likewise shared decision was insignificant *(ß = .057, p = .102)*. From these results two items which form Team Work practices was insignificant on providing best results of employee's performance in LGAs since the *p value was greater 0.05* as described in Table 4.

Table 4: Coefficients Relationship of TWP and EP

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	1.260	.121		10.434	.000		
Shared Vision (TWP1)	.113	.030	.174	3.742	.000	.517	1.934
Shared Decision (TWP2)	.057	.034	.084	1.642	.102	.427	2.342
Respect (TWP3)	.051	.037	.075	1.366	.173	.371	2.695
Work ethics (TWP4)	.085	.033	.128	2.530	.012	.433	2.309
Intrapersonal Skills (TWP5)	.138	.031	.198	4.500	.000	.576	1.737
Trust (TWP6)	.178	.029	.268	6.066	.000	.572	1.749
Cohesiveness (TWP7)	.092	.029	.136	3.161	.002	.599	1.670
Summary R	.818						
R-Square	668						
ANOVA F-Statistics	85.835						
Sig,	.000						

a. Dependent Variable: EP

Source: Field Data, (2021)

Conclusion and Recommendation
Conclusion

From the findings, the study concluded that team work practice had positive and significant effects on employee performance of LGAs in Tanzania. Results went further to conclude that team work practice is an important strategy in improving employee performance. The study showed that shared vision, intrapersonal skills, trust, work place ethics and cohesiveness had statistically positive and significant relationship between team work practice

and employee performance. Moreover, shared decision, and respect were statistically insignificant. The study concludes that LGAs should create a workplace atmosphere that enhances shared decision, respect and workplace ethics so as to enhance employee performance. The study hence strongly recommends team work practices be considered as organisations strategy to improve performance.

Recommendations

Though work ethics was the strongest predictor of variation in employee performance, results showed team work played a critical role in EPLGAs in Tanzania. Reeves & Zwarenstein (2018) argue that collaborative effort of a group to achieve a common goal enables them to cooperate hence enhance individual skills and provide constructive feedback to performance of an organisation. It is hence recommended that LGAs create a favourable work environment for team work practice. However, regardless of study findings, in order to attain and maintain employee performance LGAs have to seriously consider all contributing factors. Maley and Kiessling, (2021) defined employee performance as commitment and satisfaction of employees in the jobs they are doing. Employees will be mostly committed and satisfied if factors such as; a compensation policy scheme, promotion scheme, employee recognition and participation scheme are in place. When these factors are realized, employees would feel connected to their jobs hence more accountable, leading to satisfying service delivery, self-motivation, corruption prohibition, confidence and achieving directives.

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Clients' Demographics and Strategies Influence on Loan Repayment during Covid-19 Pandemic: Evidence from Tanzanian Savings and Credits Cooperative Societies (SACCOS)

Joseph Magali

The Open University of Tanzania
joseph.magali@out.ac.tz

ABSTRACT

The study assessed the influence of the clients' demographics and strategies on loan repayment during the Corona Outbreak (COVID-19) in Tanzania. The study used Morogoro and Mvomero Teachers SACCOS (MMTS) as its case. The cross-sectional and explanatory designs, survey strategy and random sampling were applied to selected 98 SACCOS borrowers for the study. IBM SPSS software was used to enter the data and analysis was executed using descriptive and Ordinary Least Square (OLS) techniques. The study unveiled that COVID-19 deteriorated the loan portfolio during the pandemic. The findings further uncovered that the business owners were mostly affected by the pandemic and the majority of the borrowers repaid their loans using alternative sources of income. The regression analysis revealed that the amount of loan borrowed positively and significantly influenced the loan repayment while age, level of education and economic activity negatively and significantly influenced the loan repayment. The study concluded that during the COVID-19 pandemic the repayment of loans for Tanzanian SACCOS was not conducive because of poor repayment strategies and influence of clients' demographic factors. The study recommended policy makers to design policies that would enhance the repayment of loans for SACCOS borrowers during pandemics. The study contributed to the contingency theory by recommending borrowers' diverse loan repayment strategies during contingency situations.

Keywords: *COVID-19, Loan Repayment strategies, SACCOS, Demographic factors, Tanzania*

INTRODUCTION

This study assessed the influence of borrowers' demographic characteristics and strategy influence on loan repayment during the COVID-19 pandemic. The two variables ascertained how the individual characteristics and environmental variables of the contingency theory influenced loan repayment during COVID-19. The study considered Savings and Credits Cooperative Societies (SACCOS) as its case. It applied the contingency theory to study how demographic factors and loan repayment strategies influenced loan repayment during the COVID-19 pandemic. Fiedler (1964) asserted that individual, personality and environmental determine the performance of actions or situations. According to MonizJr (2010), the contingency theory aligns individual circumstances and environmental factors. Macharia (2016) asserted that the contingency theory comprises individual characteristics, organisational features, environmental variables and societal attributes. This study applied the individual characteristics and environmental variable which correlates with clients' demographic variables and strategy influence on loan repayment. Saparila (2019), Wenner (1995), Makorere (2014), Guyo (2013), Jote (2018) and Mot et al. (2013) asserted that environmental factors influenced loan repayment in Microfinance Institutions (MFIs). Similarly, Angaine and Waari (2014), Mirpourian et al. (2016), Mota et al. (2018) and Al-Azzam et al. (2020) recognized the influence of individual variables on loan repayment. However, the studies did not ascertain the status of influence during the contingency situation.

Concepts of SACCOS, Loan Repayment and COVID 19

SACCOS are financial cooperatives that are operated following cooperative principles. They are globally called credit unions. Under the cooperative microfinance mode, members of the cooperative financial institutions contribute the capital in form of shares and issue microcredit from the accumulated capital. Apart from micro credits and savings, SACCOS offers training, insurance and remittance services to Tanzanian citizens who were formally excluded from formal financial services (Ngowi, 2021). The management of the SACCOS is decided by the members themselves. The cooperative microfinance approach allows the board and the employees to operate the SACCOS on behalf of the clients. In Tanzania, SACCOS operate

both in rural and urban areas and they are imperative catalysts of the economy. Bwana and Mwakujonga (2013) asserted that the cooperatives including SACCOS contribute to 40% of the Tanzanian Gross Domestic Product (GDP) and employ about 40% of the secondary school graduates. Since the liberalization of financial services in the 1990s, the Government of Tanzania has recognized SACCOS as the pertinent provider of financial services for the poor and the excluded. Hence, the Government has promoted the expansion of SACCOS in the country. In July 2022, the number of SACCOS in Tanzania were 2,950 (TCDC, 2021). Loan repayment is essential for promoting the sustainability of SACCOS (Ndiege et al., 2016). Loans borrowing and repayment depend on each other. When borrowers repay their loans on time enhances the availability of loans to new borrowers. Hence, the proper repayment of loans stimulates the lending and borrowing functions in the SACCOS. The loan repayment challenge in SACCOS has been reported by various scholars (Magali & Haule, 2020; Pamuk et al., 2021; Ntoiti & Jagongo, 2021).

Lack of business management and investment skills, leniency in enforcing loan repayment regulations, poor skills in loan appraisal and lack of integrity among borrowers and employees influence negatively loan repayment in SACCOS (Karumuna & Akyoo, 2011; Magali, 2018; Haule & Magali, 2020). The Tanzania Cooperatives Development Commission (TCDC, 2020) affirmed that the Government of Tanzania deregistered 40% of SACCOS in Tanzania in 2020 because of loan none repayment problems and traceability. Magali (2018) revealed that some SACCOS in Dodoma and Morogoro Regions in Tanzania had outstanding loans of up to 99% of the disbursed loans. Karumuna and Akyoo (2011) further reported that Kibaigwa financial services and credit cooperative society was confiscated because it had outstanding loans of $610,000. Morogoro and Mvomero Teachers (MMTS) SACCOS is the largest SACCOS in Morogoro Region. It was registered on 28.09.1998 with registration number MGR 238. By December 2021, MMTS had 1,160 members (547 males and 613 females). Any employee in Morogoro and Mvomero Municipal Council is eligible to be a member of MMTS. In December 2021, the value of savings and deposits were Tanzanian Shillings (TZS) 2 billion ($867,975.1; 1 USD=2309 TZS as

December 2021) while TZS 2,234,083,884.90 ($967,387.2) loans were issued to borrowers. The SACCOS recorded a profit of TZS 71,215,363 ($30,839.31) and 64,785,427.96 ($28,057.79) in 2019 and 2020 respectively. The data from the SACCOS showed that 47 borrowers had bad loans among the 673 borrowers (MMTS, 2021). The value of bad loans was TZS 239,119,181 ($103,560) in December 2021. This was approximately 7% of all loans. For a SACCOS, this was a huge amount of funds and therefore, this study evaluated if the COVID-19 pandemic accelerated the accumulation of this amount of outstanding loans. The data from SACCOS also indicated that 50% of the borrowers had unpaid loans balance of 50% and above and 34% of them had not started repaying their loans. Therefore, it was plausible to use MMTS as a case for this study. The loan repayment in SACCOS is influenced by diverse factors including; demographic, loan and borrowers' characteristics, loan appraisal and monitoring procedures, borrowers and SACCOS' staff integrity, ICT influence and effects of social ties (Yeboah & Oduro, 2018; Katula & Kiriinya 2018; Haule & Magali, 2020; Gotifridi & Magali, 2021; Pamuk et al., 2021). The literature review discloses that pre and post-disbursement of loan training, setting the realistic rate of interest, clients' monitoring and appropriate appraisal of loans are used as the strategies used by MFIs/SACCOS to enhance loan repayment (Addae-Korankye, 2014). Most studies have assessed how the borrowers' demographic characteristics affect loan repayment (Addae-Korankye, 2014; Muthoni, 2016; Priyankara & Sumanasiri, 2019). Despite Magali and Ndohelo (2020) assessing the strategies used by Village Community Banks (VICOBA) borrowers to repay their loans in Korogwe town, Tanzania; studies are silent on how the borrowers' repayment strategies have affected loan repayment during contingency situations. Notwithstanding, the strategies proposed by Magali and Ndohelo (2020) focused on normal situations and not during contingency.

Emergency of COVID-19
According to Sweeny et al. (2020), COVID-19 firstly was reported in China in December 2019 before its spread across the globe. As of 17th December 2021, the numbers of worldwide cases were 271,963,258 and the numbers of deaths were 5,331,019. In Tanzania, the number of cases and deaths from

January 2020 to December 17, 2021, were 26,483 and 734 respectively (WHO, 2021). UNDP (2020) predicted that in Tanzania, COVID-19 was likely to affect the income of individuals and enterprises and eventually reduce the government revenue and social-economic services provisions. The effects were anticipated to be devastating for marginalized groups such as; youth, women and people with disabilities. The COVID-19 control measures that were taken included lockdown and social distancing policies in countries such as China, Kenya, Uganda and Rwanda. In Tanzania there was no lockdown. COVID-19 restrictions reduced both production and consumption and ultimately affected the growth of the economy in many countries (Zhou et al., 2020). Zhou et al. (2020) further reported that fertilizers production factories in Hubei province in China stopped production for more than one month and this limited not only the supply of agricultural inputs but also production. Different investments declined because the pandemic brought uncertainty (Zheng & Zhang, 2021). The COVID-19 outbreak increased unemployment and poverty in most countries in the world (Schwab & Zahidi, 2021).

The majority of low-income microfinance institution (MFI) clients who worked in the informal sector were highly affected by the COVID-19 pandemic than the higher-income households in India (Bhattacharya et al., 2020). Loss of jobs and payments caused by COVID-19 negatively affected the SACCOS' clients ability to save their income in East African countries (Buchenau & Cuevas, 2020). COVID-19 had negative repercussions on loan repayment too. Most clients of Vision Fund MFI reported an income decrease of 92% in Rwanda and Uganda due to the COVID-19 pandemic. The decrease in income was associated with the decrease in products/services demand. Moreover, few clients sold their assets to survive (Vision Fund, 2020). This study examined how the borrowers' demographic characteristics and strategy influenced loan repayment among SACCOS clients during the COVID-19 pandemic. Demographic analysis deepens the elaboration of phenomena or circumstances (Guillaume et al., 2014). Salleh et al. (2019) unveiled that diverse demographic factors among Islamic MFIs differentiate perceptions in their understanding of MFIs services. Hence, any intervention in MFIs should consider demographic factors. However, the study focused

only on Islamic MFIs which have different loan repayment strategies compared to conventional MFIs such as SACCOS. Nevertheless, the study did not assess how the loan repayment strategy influenced the loan repayment during the contingency situation. Therefore, the current study assessed the loan repayment strategies used by borrowers during the pandemic. The study applied the contingency theory to assess how the SACCOS borrowers had prepared to repay their loans during the contingency situations. Despite scholars such as; Shrestha (2020), Cytonn (2021), Mgema and Komba (2020) and Yeboah et al. (2021) declaring that COVID-19 has affected the provision of financial services in MFIs and SACCOS but none of the studies had assessed empirically how the COVID-19 pandemics influenced the loan repayment. Furthermore, the studies concentrated on MFI related variables and not on how borrowers' strategies promoted loan repayment during contingency situations such as COVID-19 pandemic. This was the study's motive. This study addressed the following research questions/key issues: the status of demographic variables in SACCOS during the COVID-19 pandemic, the extent of loan repayment during the COVID-19 pandemic, strategies which enhanced loan repayment during the COVID-19 pandemic, the proposed strategies which would have promoted borrowers to repay their loans during pandemic such as COVID-19 and the relationship between demographic variables, strategy and loan repayment during COVID-19.

Contingency Theory of Management and Loan Repayment during Pandemics

Fiedler (1964) initiated the Contingency Theory of Management to explain how individuals behave during the contingency. The theory contended that internal and external environmental circumstances determine the performance of a behavior or an action of an individual. The contingency theory succinctly focuses on two variables: the personality of an individual and the extent to which the individual influence, power and control affect the situation. According to Fiedler (1964), individual preference promotes him to overcome various situations. MonizJr (2010) articulated that the contingency theory balances individual preferences and situational factors. According to Macharia (2016) contingency theory is guided by four groups of variables

which are; user characteristics, organisational attribute environmental variables and societal variables. In this study, the author classified demographic variables as user variables while the strategy is congruent with environmental variables. Saparila (2019) demonstrated that age, gender, marital status, distance and experience in business positively and significantly influenced repayment of loans for MFIs in Indonesia. Wenner (1995) articulated how a riskier environment influences loan repayment for Costa Rican group lending clients. However, the study did not articulate how contingency situation influences loan repayment. Makorere (2014) asserted conducive environments facilitated loan repayment in SACCOS in Dar es Salaam and Morogoro regions in Tanzania. However, nothing was reported on how contingency situations influenced the repayment of loans. Munene and Guyo (2013) considered microfinance investment technical training as entrepreneurial environments which facilitated loan repayment and cushioned Kenyan MFI clients against capital challenges. Nevertheless, nothing was reported on how the training helped the borrowers to overcome the contingency environment. Jote (2018) stated that social and environmental circumstances may influence loan repayment. Notwithstanding, the study did not assess the influence of the two variables in a contingency situation.

Despite Mot et al. (2013) articulating that changes in the environment should be considered in devising the credit terms, the study did not articulate how the credit terms should be designed to enhance loan repayment during contingency situations. Saleem et al. (2014) confirmed that borrowers' characteristics influenced largely the loan repayment for farmers in D.I.Khan district in Pakistan. Angaine and Waari (2014) demonstrated that characteristics of individuals such as; hobbies, level of education and dependents' number influenced loan repayment of MFIs in Kenya. Nonetheless, the two studies did not disclose how the mentioned factors influenced loan repayment in the contingency situation. Mirpourian et al. (2016) comprehended that borrowers' characteristics influenced loan repayment in India. However, the study did not disclose how the situation is likely to be in a contingency state. Mota et al. (2018) unveiled that individual borrowers particularly married ones repaid their loans earlier than single borrowers in Portugal. Nevertheless, the study disclosed the situation in a

normal situation and not a contingency. Al-Azzam et al. (2020) associated individual characteristics, particularly honesty and diligence with loan repayment. However, the contribution of individual factors on loan repayment during the contingency state like COVID-19 pandemic was not covered. Therefore, despite the studies assessing how environmental and individual factors influence loan repayment, they did not ascertain how the two factors behaved during the contingency situation. This is why the study integrated the contingency theory to assess how borrowers' demographic variables influenced loan repayment during the COVID-19 pandemic. According to Zhou et al. (2017), a theoretical gap or contribution can cover the application of the variables of the theory to explain the practical situation. Therefore, this study assessed how the contingency theory variables of individual circumstances and environmental factors influenced loan repayment during the COVID-19 pandemic. The variables of the contingency theory were aligned with demographic variables and strategy influence on loan repayment during the contingencies. These variables have been applied by previous scholars to assess their influence on loan repayment during ideal situations and not during contingency.

Ajmal et al. (2021) argued that the COVID-19 pandemic resulted in a decline in goods and service consumption, stock prices and investments and production of goods. The study suggested the application of the contingency theory to overcome the situation. Arthur et al. (2013) recommended that MFIs in Uganda to use the contingency theory of management for controlling the MFIs' operational activities such as; monitoring, evaluation, budgeting and reporting. Nonetheless, nothing was reported on how the application of the contingency theory facilitated loan repayment. Ongosi and Otinga (2020) asserted that accurate financial reporting for MFIs in Kenya was a function of sufficient internal controls. Lyonga (2021) elucidated that the contingency theory cannot be properly explained if the disbursed loans are small and clients fail to align with MFI policies. However, the study did not assess how COVID-19 affected MFIs loan repayment in Cameroon. Pinz and Helmig (2015) argued that the adaptation of the new social and cultural contexts is essential for MFIs to overcome the contingency situation. However, this study did not consider the overwhelming contingency circumstances such as

COVID-19 pandemic. Muithya (2019) avowed that the contingency factors such as; internal environment, external environment, structure, size, strategy, technology and culture influence the performance of SACCOS in Kenya. Notwithstanding, the study did not analyse how the contingency situation affected loan repayment. Scholars such as Fiedler (1964), MonizJr (2010) and Macharia (2016) have argued that albeit the contingency theory is the right theory that explains the contexts occurring during the contingency state, the theory can't explain all variables which are resultants of the crisis and this is the major weakness of the contingency theory (Ahiafor, 2019). Therefore, this study applied the contingency theory because the researcher perceived that individual characteristics and existing environment influence the repayment of loans during a pandemic more than other variables of the theory. The theoretical gap/contribution of this study was to assess the extent demographic factors and strategies influenced loan repayment during the COVID-19 pandemic. The study used the contingency theory to assess the way repayment of loans behaves during the contingencies. The individual borrowers' characteristics and loan repayment strategies were used to examine how borrowers repaid their loans during the contingency circumstances.

COVID-19 Influence on Loan Repayment in MFIs
The COVID-19 pandemic accelerated the negligible asset growth for the Kenyan SACCOS between March and May 2020. The average gross loan growth rate was more negative than in the two previous years (Tanui, 2021). Zheng and Zhang (2021) found out that COVID-19 decreased all types of financial efficiencies except social one. The findings further revealed that the rate of lending mediated the efficiency and impact of COVID-19. COVID-19 in Nepal made MFIs' lending activities decline and NPL rise. As the result, the profitability of MFIs declined too (Shrestha, 2020). Unpaid leave for temporary employees due to the COVID-19 pandemic affected savings and poor performance of the SACCOS businesses and ultimately affected the loan repayment in Kenya (Cytonn, 2021). The COVID-19 restrictions limited the SACCOS members' attendance in the annual general meetings and hence affected the clients' savings, loan disbursement, loan recovery, and increased non-performing loans (Mgema & Komba, 2020). However, the study did not

assess empirically the extent to which COVID-19 affected the loan repayment performance in SACCOS. The COVID-19 pandemic denied physical contact and hence decelerated the physical collections of MFIs credits in China (Zheng & Zhang, 2021). In India, agricultural loans were seldom affected by the COVID-19 pandemic more than the other types of loans (Sangwan et al., 2021). This was catalyzed by the high demand for food during the pandemic (OECD, 2020). Since the lockdown was accompanied by business closure or insufficient sales; MFIs' activities in lockdown countries experienced more severe impacts than in countries that were not in lockdown (Dąbrowska, et al., 2020). In Ghana, COVID-19 restricted MFI's new loan disbursement, collections and repayments. Therefore, the COVID-19 pandemic prompted MFIs to reschedule repayment of loans, reduce physical loan activities and apply digital loan technologies (Yeboah et al., 2021). In Pakistan, the income of the MFIs clients declined by 90% due to the COVID-19 pandemic. Malik et al. (2020) reported that 70% of MFI borrowers failed to repay their loans in Pakistan because of the COVID-19 pandemic.

The pandemic also affected negatively the financial inclusion and final security of MFI clients in Tamil Nadu, India. Guerin et al. (2021) established that COVID-19 pandemic forced the reduction of the global mortgage loans rate from 22% to 1.75% from May 2019 to March 2020 (Svobodová & Hedvičáková, 2021). The clients of Appui au Développement Autonome (ADA) microfinance in Myanmar, Bhutan, Cape Verde, Senegal, Rwanda, El Salvador and Togo experienced a decline in income from generating activities due to COVID-19 pandemic. The situation ultimately reduced household meal intake for the clients (ADA, 2021). COVID-19 encouraged the increase of NPLs' in Bosnia and Herzegovina (Žunić et al., 2021). Tiwari and Somani (2021) revealed a positive correlation between the decrease in income during COVID-19 and Ekphathana Microfinance Institution (EMI) clients' loan delinquency in India. Fidow (2021) uncovered the significant and negative association between COVID-19 and the prevalence of small business owners' loan repayment in Eastleigh. Digital financial services by SACCOS members increased due to the prevalence of COVID-19. Scholars such as; Nichols (2020), Brown (2021) and Murshid and Murshid (2021)

reported similar instance in Michigan, Arizona and Bangladesh respectively. The assets of Imarisha Kenyan SACCOS grew from Kenyan 12.3 to 14.1 billion Shillings from 2019 to 2020 because of using digital financial services. The value of turnover also grew from Kenyan Shillings 2 to 2.14 billion and members increased from 81,227 to 102,132 (Tanui, 2021). Notwithstanding, studies that have examined the influence of COVID-19 on MFIs' financial service provision and performance, there seems to be data paucity on how COVID-19 has affected the loan repayment for MFIs' borrowers, particularly in the SACCOS. Moreover, despite the studies underscoring that COVID-19 has influenced loan repayment in MFIs; none of the studies have assessed the borrowers' loan repayment strategies during the contingency state. Therefore, this study was conducted to fulfill this gap.

Methods
This section articulates the research design, strategy and sampling procedures. The section further presents the data collection and analysis tools and techniques, variables and measurement procedures. Validity and reliability of the research instrument and consideration of the research ethical issues are also covered.

Research Design
The study applied a cross-sectional design, which allows data collection at once. This design was applied because of the time and financial limitations (Cooper & Schindler, 2014). The explanatory design was applied in order to explicate the relationship between the independent and dependent variables (Saunders et al., 2019). The survey strategy was used to facilitate the data collection. Through a survey, a researcher performed a range of activities such as; participants' recruitment, data collection and utilization of various data collection instruments including a questionnaire, checklist and interview guide (Ponto, 2015). Survey techniques aided the researcher to compose a questionnaire with closed-ended questions. The questionnaire contained the demographic and 5-Likert-like scale questions. Data for the study was collected in August 2021, almost a year after the severe COVID-19 pandemic attack. Despite the infection rate been low during data collection, a study was still useful because it enlightened the various stakeholders on how the

borrowers behaved during contingency situations. Therefore, the study recommended strategies which would have helped borrowers to repay their loans during contingencies.

Sampling Design and Procedures
The study used simple random sampling procedures to pick the respondents. The population of the study was 673 borrowers. The study targeted 120 respondents which were 17.8% of the borrowers. Bullen (2014) asserted that 10% of the population could be picked as a sample size if the total number of the population does not exceed 1000 objects.

Data Collection and Analysis Techniques
The structured questionnaires were distributed to borrowers by the SACCOS staff. The researcher intended to collect 120 questionnaires but only 103 questionnaires were returned. This was an 85.8% response rate. According to Hair et al. (2018), a researcher can be allowed to analyse data if the response rate is 30% or above. Data were also screened and checked for consistency and the presence of outliers. Seven questionnaires with incomplete information were dropped from the analysis and there were no outliers. The data were coded and entered into IBM SPSS statistics version 20. The study relied only on descriptive and multiple regression analysis.

Variables and Measurements Procedures
Table 3.1 presents the variables and measurement procedures. The Table covers the type of variables and methods used to measure the variables by previous scholars. According to Venkataramana et al. (2016), categorical variables can be transformed into dummy variables with 0 and 1 values and enhance running of regression analysis. However, in order to avoid the dummy variables trap, the number of dummy variables should not exceed the number of categories for each categorical variable. In the regression model, the number of dummy variables was 5 and the maximum categories were found in the education variable which had 5 categories; 1- primary, 2-secondary, 3-certificate, 4-Diploma, 5-Bachelor and above. Hence, the number of dummy variables did not exceed the number of categories in the

independent variables and hence the use of the dummy variables was justified (Venkataramana et al., 2016).

Table 1: Variables and Measurements

Type of Variables	Data analysis technique	Measurements	Source (s)	Sign
Marital status	Multiple regression analysis	Dummy variable 1- married; 0 borrowers with another marital status	Saleem et al.(2014)	+
Level of education	Multiple regression analysis	Dummy variable 1- secondary education; 0 other education	Saleem et al.(2014)	-
Sex	Multiple regression analysis	Dummy variable 1- male ;0 female)	Mejeha et al.(2018)	+
Age of respondent	Multiple regression analysis	Year of living	Saleem et al.(2014)	-
Experience of respondent	Multiple regression analysis	Years in MFIs	Saleem et al.(2014)	+
Number of dependents	Multiple regression analysis	Number of dependents	Saleem et al.(2014)	-
Loan Strategy	Descriptive analysis	1 Borrower had a strategy; 0 no strategy	Magali & Ndohelo (2020).	None
loan borrowed	Multiple regression analysis	Amount of loan borrowed	Mejeha et al.(2018)	+
Loan economic activity	Multiple regression analysis	Dummy variable 1- farming; 0 other activity	Saleem et al.(2014)	+
Major sources of income	Multiple regression analysis	Amount of fishing income	Acquah, &Addo, (2011	+

Source: Literature review, (2022)

Validity, Reliability and Research Ethical Issues Consideration

The questionnaire was pretested to 12 borrowers who were not respondents to prove its validity. The Cronbach alpha reliability scored a value of 0.89, which is within the recommended range (Sharma, 2016). The researcher adhered to the research ethical issues such as; anonymity, confidentiality and consent seeking. He also avoided data falsification, fabrication and plagiarism.

Results and Discussion

The following section covers the responses to the research questions. The sections explain the status of borrowers' demographic variables, loan repayment status and proposed strategies which promoted borrowers to repay their loans during COVID-19. The section also presents the findings on relationship between demographic variables, strategy and loan repayment during COVID-19.

Status of Demographic Variables in SACCOS during COVID 19 Pandemic

Bwire (2020) attested that COVID-19 affected more males than females the findings from Table 3.1 showed that 57.1% of the respondents were males while 42.9% were females. The findings indicated that majority of respondents were males, hence were more prone to COVID -19 infection than females. Chong et al. (2010) Shahriar et al. (2019) revealed that in Malaysia and Pakistan, gender differences influenced loan repayment where females were more likely to repay their loans than males. Concurrently, Muthoni (2016) approved that female SACCOS clients in Kenya had high loan repayment rates. The findings from Table 3.1 further indicates that majority (54.1%) of the respondents were married. The single and divorced marital status possessed a large proportion of the married respondents. The data show that SACCOS comprised diverse marital statuses. The married respondents were affected more by COVID-19 because if one member of the family was affected, the effects spread to the whole family (Budiartini, 2021). For avoiding none repayment threat to the whole family, Muthoni (2021) expounded that married borrowers repaid their loans earlier than that of other marital statuses. The findings from Table 3.1 showed that the majority

(32.7%) of the respondents possessed a certificate level of education. This was because primarily the MMTS SACCOS was founded to assist the primary school teachers to deal with the problem of capital access, whose majority had certificates level of education. However, the data indicated that the SACCOS had clients of different education levels. Magali (2013) demonstrated that SACCOS clients with a higher level of education were having a low loan repayment rate. Contrary, Kassegn and Endris (2021) unveiled that the education level of the borrowers positively influenced the loan repayment of the Amhara Saving and Credit MFI. Chong et al. (2010) displayed that the level of education did not influence significantly the loan repayment performance of non-bank financial institutions in Malaysia.

Table 2: Borrowers' Demographic Characteristics

Variable (s)	Frequency	Percent
Sex: Males	56	57.1
Females	42	42.9
Marital status		
Single	31	31.6
Married	53	54.1
Divorced/Separated	10	10.2
Widow/widower	4	4.1
Education level		
Primary	5	5.1
Secondary	9	9.2
Certificate	32	32.7
Diploma	25	25.5
Bachelor and above	27	27.6
Main occupation		
Agriculture	20	20.4
Livestock keeping	14	14.3
Business	32	32.7
Employment	30	30.6
Technical Work	2	2.0
Loan activity		
Agriculture	20	20.4
Business	37	37.8
Education	27	27.6
Livestock	14	14.3
Total	**98**	**100.0**

Table 3: Quantitative Demographic Variables

Variable	N	Minimum	Maximum	Mean
		Statistic	Statistic	Statistic
Age of respondents	98	20	70	39.44
Experience of respondent	98	1	23	6.22
Number of dependents	98	1	11	3.21
Loan borrowed in 2019/2020	98	88000	16000000	3286431.12
Loan repaid	98	75500	12000000	1834834.42
Monthly Repayment before COVID-19	98	20000	600000	189567.38
Monthly repayment after COVID-19	98	20000	600000	161961.65

Source: Field data, (2021)

The findings from Table 3.1 portrays that the majority (32.7%) of respondents mentioned business as their major occupation. The rest of the respondents listed down agriculture, livestock keeping, employment and technical works. The findings indicated that the majority of respondents borrowed loans for business activities. OECD (2020) postulated that the businesses which were not selling basic needs such as food were relatively more affected by the pandemic than those that sold other types of merchandise. Hence, investing loans in businesses that were not selling basic needs threatened loan repayment. During the COVID-19 pandemic, agricultural activities were not affected much in Tanzania compared to countries that experienced lockdowns and high infection rates (Marchant-Forde & Boyle, 2020; Sangwan et al., 2021). Loss of temporary employment declined the purchasing power of customers (Schwab & Zahidi, 2021). The findings from Table 3.1 showed that the number of borrowers' dependents ranged from 1-11. Having many dependents puts more pressure on basic needs provision (Yeboah & Oduro, 2018). The findings are in tandem with Abu et al. (2017) who revealed the same for small-scale enterprise borrowers in Ghana. Contrary, Muthoni (2016) revealed that the number of dependents negatively influenced loan repayment in Kenya. The findings from Table 3.1 showed that the minimum and maximum age of borrowers was 20 and 70 respectively. The data unveiled that borrowers were composed of diverse age

ranges. COVID-19 pandemic affected more people with old age (CDC, 2021). Hence, borrowers with old age used their income to cover treatment or protective expenses for themselves and their family members and this negatively influenced the loan repayment. The finding is contrary to Muthoni (2016) and Kassegn and Endris (2022) who disclosed that borrowers of older ages repaid their loans better than the youths. Notwithstanding, Chong et al. (2010) and Kosen (2013) displayed that age did not influence loan repayment. Results from Table 3.1 showed that the clients' experience in borrowing category ranged from 1 to 11 years. Experienced borrowers usually had learned how to mitigate the risks which result in non-repayment of loans than inexperienced borrowers. Muthoni (2016) advanced that the experience of MFI borrowers in business influenced loan repayment positively in Kenya. However, in the case of COVID-19 since it was a new pandemic, borrowers did not have experience on how to alleviate its effects to promote loan repayment. The loan borrowed in 2019/2020 ranged from TZS 88,000 to 16 million (1 USD=2309 TZS) while the maximum loans of TZS 12 million were repaid after the pandemic. The findings indicated that the SACCOS offered a loan to borrowers with different income. Moreover, the findings evidenced that some borrowers repaid their loans during the pandemic.

COVID-19 and Loan Repayment Status
This section explains the effects of COVID-19 on loan repayment. It articulates the extent that COVID-19 influenced Loan repayment, reasons for low loan repayment during COVID-19 pandemic, and strategies that made borrowers repay the loan during COVID-19.

Extent of Loan Repayment during the COVID-19 Pandemic
About 40.8% of the borrowers acknowledged that COVID-19 pandemic affected the repayment of their loans while 59.2% refuted it (Table 3.2). Malik et al. (2020) revealed that 70% of MFI borrowers failed to repay their loans in Pakistani during COVID-19. The findings of the current study indicated a relatively small influence of COVID-19 on loan repayment in SACCOS because Tanzania did not experience a full lockdown like other countries. Table 3.2 portrays the borrowing information of the randomly

selected borrowers from the loan portfolio of 240 borrowers. The findings confirmed that COVID-19 pandemic affected the repayment of loans in MMT SACCOS. The data in Table 3.2 present the amount of loan borrowed, the loan balance and the percentage of the loan balance. The data depicted that the amount of loan balance ranged from 16.7% to 100%. The findings further demonstrated that the quality of the loan portfolio was not convincing. The overall loan portfolio illustrates that at least 50% of the borrowers were having a loan balance of 50% and above while 34% of borrowers had a 100% loan balance. It implied that they did not start repaying their loans as required. Despite the fact that Tanzania did not experience a lockdown like the neighboring countries such as Rwanda, Uganda and Kenya, the data depicts that COVID influenced negatively the loan repayment in MMT SACCOS.

Table 4: Extent of Loan Borrowed and Repaid During COVID -19 Pandemic

S/NO	Amount Borrowed (TZS)	Loan Balance (TZS)	Loan Balance (%)
1	1,507,000	920,944.32	61.1
2	13,109,530	7,282,793.80	55.6
3	18,000,000.00	13,935,000	77.4
4	1,800,000	675,000	37.5
5	1,056,000	176,000	16.7
6	2,766,750	2,238,750	80.9
7	4,110,000	3,767,750	91.7
8	1,986,200	496,000	25.0
9	3,750,000	3,750,000	100.0
10	8,400,000	3,850,000	45.8

Source: MMTS, (2021)

Strategies that Enhanced Loans Repayment during the COVID-19 Pandemic

The borrowers mentioned a decline in the business's sales as the main reason which threatened low loan repayment during the COVID-19 pandemic. The findings in Table 3.3 indicated that using personal income to pay for COVID-19 treatment, providing monetary assistance to friends and relatives who suffered from COVID-19 and saving money to have treatment capability if a

family member or relatives would be infected by COVID-19 did not register the significant responses. The sales declined for the businesses which sold the non-basic need items because during the pandemic citizens concentrated on satisfying their basic needs. The findings concur with OECD (2020) who disclosed that purchasing food items was highly prioritized by the majority of the population in many countries during the COVID-19 pandemic. The data from Table 3.3 showed that only 40.8% agreed COVID-19 pandemic affected loan repayment.

Borrowers' Strategies that Promoted Loan Repayment during Pandemics

Findings from Table 3.3 showed that the majority (25.5%) of borrowers used alternative income as their strategy which promoted them to repay their loans during the COVID-19 pandemic. Other strategies included using the previous sources of income and reduction of family consumption and hence accumulating more savings. Nonetheless, the borrowers who were not affected did not register any strategy. The findings further indicated that reducing home consumption was attained by 22.4%. The findings were in tandem with Magali and Ndohelo (2020) who reported that VICOBA borrowers in Korogwe town had different strategies which promoted loan repayment. The strategies included concentrating on diverse businesses, and family members to accept paying the loans and paying loans from other sources. However, Magali and Ndohelo (2020) did not assess the borrowers' strategies that enhanced the repayment of loans during the contingencies. Hitherto, the findings from this study signified that a strategy of having diversified income promoted loan repayment during a pandemic such as COVID-19. Guérin et al. (2021) reported that during COVID-19 Tamil Nadu MFI clients borrowed from other sources to repay their loans. This could not have happened if they had diversified income sources which could boost the loan repayment during the period of contingency.

Table 5: COVID-19 and Loan Repayment Status

COVID-19 affected the loan repayment		
Response	**Frequency**	**Percent**
Yes	40	40.8
No	58	59.2
Total	98	100.0
Why low repayment of loans during COVID-19?		
Reduction of sales in business	26	26.5
Using personal income to pay f COVID-19 treatment	6	6.1
Providing monetary assistance to my friends and relatives who suffered from COVID-19	5	5.1
Saving money to have 19 treatment capabilities if a family member or relatives will be infected	5	5.1
Not affected	56	57.1
What strategy made you to repay loans during COVID		
I used the previous sources as COVID does not affect my loan/life	8	8.2
I repaid the loan using alternative sources of income	25	25.5
I reduced the family expenditure to increase my ability to repay the loan	9	9.2
No strategy	56	57.1
What future strategy you are proposing for repaying loans during pandemics such as COVID-19?	Frequency	Percent
Have diversified income	76	77.6
Reducing home consumption	22	22.4
Total	**98**	**100.0**

Source: Field Data, (2021)

Relationship between Demographic Variables, Strategy and Loan Repayment during COVID-19

The regression analysis was executed to establish the relationship between the independent and dependent variables. The findings from Table 3.4 revealed that the variables of the model were well specified. The testing of the multiple regression assumptions proved that the regression model did not

exhibit the problems of heteroscedasticity, multicollinearity and autocorrelation as indicated for the value of calculated versus tabulated chi-square, VIF and tolerance and Durbin Watson coefficients. The results of the analysis revealed that the amount of loan borrowed positively and significantly influenced the loan repayment while age, level of education and economic activity showed a significant and negative influence. The findings argument the repayment of loans during the COVID pandemic was not conducive for borrowers with old ages, high levels of education, and those who borrowed for business purposes (business was considered as a major loan activity and was coded as 1 while other activities were coded as 0). The findings further indicated that sex, borrowers' experience, number of dependents, Loan strategy, and major sources of income scored insignificant influence. The insignificant influence of the experience of the borrower on loan repayment during the pandemic implies that no borrower had experience on how to enhance loan repayment during the pandemic because COVID-19 was not anticipated, The findings are concurrent with Chirwa (1997) who found out the same results for Malawi farmers. Muthoni (2016) revealed that in an ideal situation, the experience of borrowers in business influenced loan repayment positively and significantly in Kenya.

Table 6 : Regression Analysis-Model Summary, ANNOVA and Coefficients

Model	R	R Square	Adjusted RS	Std. Error	Durbin-Watson
1	.927[a]	.859	.843	.19367	1.808

ANNOVA Table

Model		Sum of squares	df	Mean Square	F	Sig.
1	Regression	19.929	10	1.993	53.134	.000[b]
	Residual	3.263	87	.038		
	total	23.192	97			

Table 7: Independent Variables Coefficients

Regression variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Err	Beta			Tolerance	VIF
(Constant)	.677	.279		2.427	.017		
Marital Status	.078	.043	.079	1.813	.073	.842	1.188
Sex	-.028	.042	-.029	-1.664	.508	.868	1.153
Age	-.009	.003	-.190	-2.836	.006	.360	2.776
Experience	.004	.006	.046	1.802	.424	.503	1.989
Number of dependents	.019	.011	.088	1.715	.090	.618	1.619
Loan strategy	-.024	.021	-.050	-1.167	.246	.882	1.134
Amount of loan borrowed	.912	.045	.940	4.083	.000	.738	1.354
Loan economic activity	-.093	.047	-.092	-1.985	.050	.749	1.335
level of education	-.099	.044	-.096	-2.268	.026	.911	1.097
Major sources of income	.115	.059	.082	1.947	.055	.901	1.110

Source: Field Data, (2021)

Conclusion and Recommendations

The study established that 40.8% of the borrowers failed to repay their loans timely due to COVID-19. The pandemic deteriorated the loan portfolio where 50% of the borrowers were having large amounts of loan balances. The study divulged that most of the borrowers repaid loans using alternative sources of income. The regression analysis revealed that the amount of loan borrowed positively and significantly influenced the loan repayment while age, level of education and economic activity negatively and significantly influenced the loan repayment. The study recommended policy makers to design policies

that enhance the repayment of loans during the pandemic for SACCOS borrowers. Reduction of interest rates and extension of the loan repayment period may help to overcome the loan repayment problems during the pandemic. The study contributes to the contingency theory by suggesting flexible loan repayment strategies during contingency situations. Notwithstanding, the study had the following limitations; it used only quantitative analysis hence the mixed-methods design is suggested in future. Furthermore, upcoming studies might analyse how COVID-19 affected the execution of other financial services such as; remittance, training, insurance, savings and deposits.

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Challenges of Implementing World Health Organisation Measures on Covid-19 for People with Disabilities in Tanzania

Nasra Kara
The Open University of Tanzania
nasra.kara@out.ac.tz

ABSTRACT

Tanzania like other countries was also affected by the COVID 19 pandemic. Following the coronavirus outbreak, Tanzania decided to adopt health control measures from World Health Organisation. Even though the measures were taken, it was more challenging to disabled people. This study intended to examine the challenges that affected disabled people in implementing WHO health measures during COVID-19 outbreak. The study used a desk review study whereby full-length articles published in academic journals between 2019 to date were reviewed. Data were generated from WHO reports, health reports from Tanzania, online coronavirus news via Google scholar using keywords such as "disabled people," "COVID-19", and "government responses." 48 articles were generated, and analysed using content analysis. The findings revealed that people with disabilities faced challenges in implementing WHO measures even though Tanzania has several laws and regulations to protect people with disabilities. The Ministry of Health, community Development, Gender, Elderly and Children in Tanzania needs to use an acceptable form of communication that is user-friendly to disabled people when announcing coronavirus news. Maintaining social distancing is challenging for disabled people. Most of them depend significantly on others, but investing in building health centers specifically for them would help them to socially distance themselves from the mainstream population. Although wearing of face mask is crucial, but transparent face mask is the way to go as this would help those with hearing issues to interpret the lips movement. Health workers need to be trained on how to communicate with disabled people properly. Special lines need to be introduced in every public hospital to assist them in hadling emergencies for disabled persons.

Keywords: COVID-19, People with Disabilities, Government Responses, Tanzania

INTRODUCTION

Corona Virus Disease-(COVID-19) hit the world in 2019. Global media news all over the world reported that the pandemic started in Wuhan, China (Yu, Xu, & Shang, 2020) and spread quickly to other parts of the world through the movement of people in early 2020 (Ozili, COVID-19 in Africa: socio-economic impact, policy response and opportunities, 2020). On March 11, 2020, the World Health Organisation (WHO) had publicly announced that COVID-19 is a global pandemic health emergency that needs serious health attention (Middleton, Martin-Moreno, & Barros, 2020). The seriousness of this pandemic is reflected based on the current number of reported confirmed death cases by WHO. As of March 18, 2021, there were 120,915,219 confirmed cases of COVID-19; out of that, a total of 2,674,078 died as a result of this tragedy (WHO, WHO Coronavirus (COVID-19) Dashbord, 2021). The report further highlighted that America had 53,340,393 current confirmed COVID-19 cases, Europe has 41,811,235, South East Asia has 14,031,749, Eastern Mediterranean had 7,013,125, and Africa had 2,974,616 while Western Pacific had 1,743,356. In Africa, countries such as; South Africa, Egypt, Algeria, Morocco, and Cameroon were among the severely affected countries by COVID-19 (Ozili, , 2020).

The spread of COVID-19 has affected different sectors across the globe, some of them including; health care infrastructure (Ather *et al.,* 2020), tourism (Gossling, Scott, & Hall, 2020), the mining sector (Laing, 2020), and countries economy (Fernandes, 2020; Ozili & Arun, 2020; Fornaro & Wolf, 2020). Tanzania, just like other countries in the world, was severely hit by the pandemic. In 2020, it was reported that Tanzania experienced a decline of the economy to 2.5% from the 6.9% growth reported in 2019 (World Bank, 2020). COVID-19 was expected to push 500,000 people below the poverty line at the national level, especially those employed in the informal sector (World Bank, Press release June 8, 2020). Even though the pandemic has affected most of the economic activities in the country, Tanzania was declared by the World Bank the middle-income country in 2020 (Abdul, 2021). To combat the spread of COVID-19, Tanzania decided to follow health control measures as advised by the WHO. On January 30, 2020, WHO

requested governments worldwide to inform their people to maintain social distancing of at least 1 meter away from others (WHO, 2021). The Government of Tanzania, via the Ministry of Minister of Health, Community Development, Gender, Elderly and Children, announced the need to maintain social distancing when people were in public areas. The effectiveness of this measure was done when the public and private transport owners were asked to practice level seats—making sure that enough space is provided between passengers. People were also asked to keep their distance when they are in church, mosque, or social events. Such measures were also implemented in other sectors such as; the banking industry, health sector, and other service industries. Furthermore, WHO also advised the governments across the globe to inform their people to wear masks. To ensure that people weared masks properly, WHO offered a public announcement on wearing masks properly.

Leaflets and brochures were developed for the world to see how to wear them properly. The advice was for the general public to make sure that they should clean their hands before they put on the masks. People were told to make sure that the mask covers both nose, mouth, and chin; when masks are taken off. They were supposed to be stored in a clean plastic bag. Those who preferred to use a fabric mask had to wash them immediately after using them. The general public was asked not to use masks with valves and dispose off the used masks in the dust bins. This measure was also practiced in Tanzania as the Government told the citizens via the Minister of Health Community Development, Gender, Elderly, and Children to make sure that they put on masks whenever they were in public areas. The seriousness of this measure was seen when people were refused to enter into public areas such as; hospitals, banks, and other public offices without wearing masks. Some of the private offices also took this measure seriously. WHO also advised the governments to avoid being closed, crowded, and close contact environments during COVID-19. WHO reports indicate that most of the areas that allowed the virus to thrive well included; restaurants, fitness areas, nightclubs, offices, worship places, and public areas. The reports indicated that these areas were the most congested; hence the environment allowed the spread of the viruses quickly. For similar reasons, Tanzania also closed entertainment areas and public events, including conferences, social gatherings, for a month. The

intention was to stop the spread of the virus. WHO insisted people across the globe to wash their hands using an alcohol-based hand rub or using soap and running water, Tanzania implemented this measure by ensuring that the sanitizer machine was installed at the largest international Airports and in some public offices. Furthermore, sanitizers were placed in most of the public offices, universities, and schools. In public areas, people were told to put buckets of water with hand soap. People were forced to abide by the rule by washing off their hands frequently. In line with this rule, the public was also advised to avoid touching their eyes, nose, and mouth because if hands are contaminated with the virus, it would have been easy to spread the virus to other parts of the body, including the mouth, eyes, and nose. To make sure that this measure is implemented, the citizen of Tanzania were advised via the Ministry responsible to frequently wash their hands and limit the spread of the contamination.

WHO also instructed the public that people should cover their mouth and nose with their bent elbow or tissue when they sneezed or cough. This measure was also practiced in Tanzania, and people started covering their mouths with hanger chief/tissue when sneezed. To date, people are still practicing this measure to protect themselves against flu or cold. This measure is one of the measures that are part of human hygiene. The citizens of Tanzania were also advised to use disinfectants such as anti-bacteria soap to clean door handles, phone screens, desks, and other areas. Some of the citizens decided to use spirits to clean the environment of their homes. WHO also informs the public that whenever one was experiencing high fever, dry cough, tiredness, losing taste, body pains, headache, sore throat, nasal congestion, red eyes, they should rush to the hospital for medical attention. The Government of Tanzania advised the public to be aware of the early symptoms. they felt sick or experiencing some of the symptoms, they should visit the allocated health centres for treatment. Apart from measures suggested by WHO, on March 25, 2020, the Government of Tanzania imposed a travel ban to limit movements of flights to and from the country. The Government believed that by setting a travel ban, the spread of the virus would be controlled. The Government also started using themo-scanners at the entry points (including airports) to measure travelers' body temperatures.

A similar measure was also adapted to measure employee's body temperature in both public and private offices. The intention of using themo-scanners was to detect COVID-19 victims at an early stage. Later on, the Government removed the travel ban (Crises24, May 2020). Still, international travelers were advised by the Government to submit a negative COVID 19 certificate when arriving in Tanzania. Certificates were used as evidence that the travelers were COVID free. Although Tanzania adopted health measures as advised by WHO and the Government, it seems that these measures were meant for then on-disabled persons and not for people with disabilities. Issues of disability in Tanzania started to be taken seriously in 1965 when the government introduced the Ministry of Health and Social Welfare under social welfare to handle issues of people with disabilities.

In 1997 the Constitution of Tanzania under article 13 prohibited discrimination against people with disabilities. To make sure that disabled issues are handled well, the Mainland of Tanzania developed several laws and acts, including the disabled persons (care and maintenance) Act of 1982 (No. 3), Disabled Persons (Employment) Act of 1982 (No. 2), Vocational Education and Training Act of 1994 (No. 1), National Employment Promotion Service Act of 1999 (No.9), National Policy on Disability of 2004 as well as National Strategy for Growth and Reduction of Poverty (NSGRP) or MKUKUTA in its Kiswahili acronym from 2005 to 2010, the establishment of National Fund for Disabled people in 2004, Tanzania also rectified Convention on the Rights of Persons with Disabilities CRPD in November 2009. In 2010, the country introduced the Persons with Disability Act No. 9 and introduced National Disability Advisory Council in 2014. The intention of establishing all the laws was to remove any discrimination against people with disabilities. Despite all the initiatives done by the Government to make sure that the rights of people with disabilities are maintained equally the same as non-disabled citizens, this group has continues to suffer in their own country. According to the 2012 national population and housing census, there are 3.6 million people with disabilities in Tanzania, almost 8% of the total population (URT, 2012). Disability data indicates explicitly that people with albinism cover 0.04%, visually impaired people cover 1.93%, 0.9% have hearing impairements, those with mobility

impaired cover 1.19%, about 0.74% is covered by those who cannot help themselves, those with impaired mental body constituted 0.91%, while 0.23% covered those with hidden disabilities (URT, 2012). {In Tanzania, most health facilities to the largest percent are inaccessible to people with disabilities (URT, 2004). Most of the people with mental health issues are staying in health care centers or hospital wards. The areas are too congested, and lack facilities to assist PWDs hence put them in a more severe state. The environments they live in are not conducive to allow them to social distance. Additionally, disabled people in Tanzania face accessibility challenges (especially in public buildings, which most of them are not disabled user friendly), transport and infrastructure are not disabled user friendly. Additionally, the societies as a whole are still seeing them as if God curses them. Accessibility of information to people with disabilities has also been a major challenge that limits them from enjoying life the same way as others (Yau & McKercher, 2004).

While non-disabled people are taking an active role in implementing WHO health measures against COVID-19, people with disabilities seemed to be left out. WHO has warned the society to stop discriminating against disabled people during emergencies and advised them to involve them in every step when preparing a pandemic response (WHO, 2013). This is not surprising because governments worldwide have been slow to appreciate the unique and diverse needs of PWDs (Kavanagh, et al., 2020). The primary means of communication used to inform the public to protect themselves were not user-friendly to people with disabilities. This was also indicated in the national policy on disability of 2004 that the campaigns against diseases in the country are not prepared in user-friendly communication to people with disabilities (URT, 2004). Braille should be used to assist visually impaired people, and spoken information should be translated into sign language to benefit hearing-impaired people. People with Disabilities (PWDs) are entitled to accessible information just like others because the development of PWDs depends significantly on the available information (URT, 2004). Although Tanzania has several laws and acts in place to protect people with disabilities, as it is highlighted in the Disability Act of 2020 that "A person with disability shall be entitled to receive appropriate information related to health in the

accessible format" (URT, 2010, p.23), this act pointed out that there should be clear means of communication when it comes to the provision of health information to persons with disabilities. Furthermore, the act insisted that the communication contents need to be accessible to the person concerned (URT, 2010, P.29). In the same Act, it was clearly explained that "where a public body communicates in electronic form with one or more persons, the head of the body shall, as far as practicable to persons with visual impairment to whom adaptive technology is available" (URT, 2010, P.29). Furthermore, the Act highlighted that "the head of a public body shall, as far as practicable, ensure that, information published by the body, which contains information relevant to persons with intellectual disabilities, is in a clear language, legible and easily understood by such persons" (URT, 2010, P.29).

PWDs in Tanzania are facing more significant challenges to implementing measures as stipulated by the WHO. For example, the means of communication used to promote COVID-19 issues in the country were from WHO website, WHO reports, online news displayed in the Ministry of Health website, country reports' displayed on government websites, public notice boards, company emails, news from radio & television (TV) and information from social media. On March 23, 2020, honorable Prime Minister Kassim Majaliwa urged the Regional Commissioners to place announcements regarding the proper ways of protecting against COVID-19 in public transport areas and community radios to educate citizens (Vatican News, 2020). This kind of communication ignored the fact that disabled people in the country would miss the information. This shows that, to the most considerable extent, the form of communication used by the authority to educate the public against COVID-19 has not been user-friendly to people with disabilities. Therefore, this information shows that somehow the information used to inform the people to follow health WHO health guidelines and other measures requested by the Ministry of health against COVID-19 did not reach disabled people. How could deaf people hear the coronavirus news if the means of communication used were not user-friendly to them? How could a blind person or those with mental issues keep social distance while needing immediate assistance from others? How could intellectually disabled people comprehend coronavirus news from the media?

How could people who are slow in speech get the message regarding the coronavirus if the communication used is not accessible to their needs? Therefore, this study intends to shed some light on this topic by highlighting what the Government of Tanzania could do to improve the situation. This literature review study focuses on drawing lessons from other countries to accommodate PWDs during the COVID-19 pandemic.

Motivation for Conducting this Study

Ryan (2020) and Kibria et al. (2020) reported that older people, PWDs, and people with serious medical conditions appear to be more vulnerable to the COVID-19 virus hence may become severely ill once infected. It is also believed that disabled people with other chronic diseases such as; stroke and cancer (Kibria et al., 2020), cardiovascular and pulmonary disease (Hughes, et al., 2019). Furthermore, reports from various journalists overshadowed older people and PWDs because they looked at them as disposable or expendable (Arielle, 2020; Held, 2020). They are marginalized and seen as less important people in the community (Lund & Ayers, 2020). Even the policymakers have failed to accommodate them in the mainstream policies because they have been seen as objects of care or control (Brennan, 2020). On the other hand, PWDs are anxious regarding the coronavirus, but this minority group feels as if they are left out or ignored during the pandemic (Royal Commission, 2020). The accessible information regarding COVID-19 to PWDs remains a critical issue (Qi & Hu, 2020). PWDs had limited access to health information because the information provided was not offered in an accessible format (Qi & Hu, 2020). On top of that, PWDs are at greater risk of getting infected during the coronavirus because it is difficult for them to maintain social distancing (Sakellariou, Malfitano, & Rotarou, 2020). They are at greater risk because of so many uncertainties of living without their social support. In most countries, including Tanzania, health care assistance provided is meant to assist non-disabled people. Even the emergency responses taken in the country are tailored to assist non-disabled person leaving with the disabled people un-attended. The other thing is that Tanzania is in third phase of the pandemic, but it is reported that after the coronavirus, people may be left with long-term lung problems or physical conditions (Moldofsky & Patcai, 2011). Therefore, many may develop a new form of

disability; hence, the importance of conductig this study to start creating the right measures in place before the country reaches a new phase. This study is important since PWDs are equally affected by the epidemic as non-disabled people, and they have been included in the mainstream policy with others. This has to stop because PWDs differ in terms of their needs and are affected differently by the epidemic compared to non-disabled people.

Methodology

The main focus of the current study was to review and analyse studies that examined challenges limiting people with disabilities in implementing WHO health measures. This study assessed the extent to which the published academic articles, WHO reports, health reports in Tanzania, health information news from other countries, online news have shed some light on the challenges limiting PWDs from implementing health measures. The literature assessment was done after critically reviewing the relevant literature from different parts of the world. The literature review was based on the author's interpretation. This method was appropriate in the current study because issues regarding the coronavirus and disabled people are still in their infancy stage. After all, the coronavirus pandemic news was aired out first to the world in December 2019. Additionally, this method helps a researcher capture the concepts' intended meaning from the researchers' original idea. The researcher reviewed the relevant literature on the coronavirus and disabled people from different parts of the world. In this study, full-length articles published in academic journals and displayed in Google scholar, WHO coronavirus information, health information in Tanzania, countries coronavirus news/reports, online news were included. Conference articles, book reviews, dissertations/thesis, and conference proceedings were excluded from the analysis because of their limited, if any, contributions to the existing knowledge. However, information from WHO country reports and statistical data from world meter related to disability and coronavirus were used to justify the current problem. Information such as definitions of people with disability was taken from the persons with disability Act, while another concept such as content analysis was generated from the book. Google scholar was the leading search engine used to download the reviewed articles. This database, among others, is one of the

largest and most popular online search engines. In the process of searching for articles, the researcher used several keywords to search for the articles, words such as "covid-19," "people with disabilities," "government responses" were used separately, and at times a combination of words was employed to generate the relevant articles for the study. Additionally, references cited in the published articles were also traced to assess their relevance in the study. The decision to include an article for the analysis was primarily based on its relevance to the theme of the study. The search retrieved a total of 48 articles. Then, each article was critically reviewed twice by the researcher to justify its inclusion and ensure its accuracy and objectivity.

The articles were critically reviewed, and finally, it was concluded that "COVID-19," "people with disabilities "and" government responses" were among the main key search words used to get the final articles. Content analysis was employed to analyse content and concepts that were related to the theme of the study. This technique is a common data analysis method in the social sciences (Berg, 2009). This method involves a careful, detailed, systematic assessment and interpretation of a particular body of material to identify patterns, themes, biases, and meanings. The technique identifies the meaning of the text and maintains a qualitative textual approach (Elo & Kyngä, 2007). The advantage of this method is that if done properly, it offers replication of outcomes (Duriau, Reger, & Pfarrer, 2007), it is analytically flexible (Duriau, Reger, & Pfarrer, 2007), can be employed for inductive or deductive research (Elo & Kyngä, 2007). This technique allows different analyses to be performed using qualitative or quantitative approaches (Duriau, Reger, & Pfarrer, 2007).

Literature Review

Persons with Disability (PWD) are defined as "a person with a physical, intellectual, sensory or mental impairment and whose functional capacity is limited by encountering attitudinal, environmental and institutional barriers" (URT, 2010, P.9). PWD in this study include those people with physical mobility challenges i.e. wheelchair users, blind, & senior citizens, deaf and intellectually challenged persons.

Challenges of Implementing WHO Health Measures during COVID-19 among People with Disabilities

PWDs in Tanzania face many challenges like other disabled people in other parts of the world. Issues of discrimination in every sphere of life, negative attitudes towards them, and bad cultural beliefs towards them are critical problems affecting PWDs worldwide. Among other issues that limit disabled people include; lack of accurate, reliable, and access to information which affects PWDs in taking the proper precautions against COVID-19. Generally, disabled people are deprived of accessible information that affects a larger part of their lives. During COVID-19 in Tanzania, non-disabled persons managed to access health information messages clearly from the source, but PWDs were somehow left out, though they were equally affected by the pandemic. Unfortunately, health information news in Tanzania was not announced using appropriate means of communication accessible to PWDs.

Tanzania opted to display COVID-19 news via TV, Radio as well as government health reports. But PWDs are using different forms of communication compared to non-disabled persons. Therefore, to the greatest extent, PWDs were left in vain regarding protecting themselves during this pandemic. National and private newspapers, government health reports, and WHO health reports were supposed to be translated into Braille to visually impaired information. Spoken news on TV, Radio, video clips in social media should have been translated to assist hearing-impaired people. Information from social media should have been transformed to large text to assist those with low vision challenges; audio text should have been developed for blind people to access all the information. Information from TV and press conferences should have been presented using sign language and tactile to assist deaf impaired people. Audiotapes, large text print are required to assist deaf-blind impaired and people with low vision, as indicated in the Persons with Disability Act of 2010. Furthermore, slow speech human audio news should have been used to air out health information to people with intellectual or speaking impairments. Moving away from sources of information, citizens of Tanzania were told to wash their hands properly using soap and running water to control the spread of the

coronavirus. Powell *et al.* (2020) pointed out that there are inadequate hand hygiene facilities in Tanzania, and the country was able to comply by 6.9% as recommended by WHO. But this did not specify how blind people who depend primarily on their senses of touch to assist themselves will affect them. Touching parts of their bodies increases the chance of getting the coronavirus (Jalali *et al.,* 2020). People who are amputees place more focus on their prostheses and residual limb hygiene. At the same time, those with a mobility impairment may not follow the instructions as directed by the health workers independently. Most mobility-impaired people depend on the assistance of their caregivers or family/friends. Therefore, a clear message on how blind people can protect themselves without getting infected is needed.

Since the means of communication used by PWDs is quite different from those used by non-disabled people. How, for example, can deaf people who are also supposed to wash their hands properly using running water and soap do in this situation if the communication used does not favor them? This is also another critical area that needs to be looked at closely by the Government. In Tanzania, WHO and the Ministry of Health requested people maintain a reasonable distance of at least 1 meter away. Goggin and Ellis (2020) and Senjam (2020) have highlighted that the social distancing rule is not possible to the deaf-blind community as distancing is not an option; such people need immediate assistance from other people. Deaf-blind people cannot communicate without touching people who assist them in their daily life. The essential service they desire from their caregivers cannot be ignored or stopped because of this disease. PWDs cannot pass a day without the assistance of caregivers. A similar problem is also seen in people who are intellectually challenged. Preventive measures like social distancing may not be the feasible solution since they cannot isolate themselves from their caregivers (Kuper *et al.,* 2020). Researchers also thought that this measure would be impossible to be implemented by senior citizens who need close supervision of others. Therefore, maintaining this rule to PWDs will be somehow impossible, considering that the successful life of this population depends mainly on their caregivers or those close to them. WHO also advised the general public to observe whether they have coronavirus symptoms to rush to the hospital for medical assistance. However, the transport system in

Tanzania is not user-friendly for people with disabilities. There are no ramps to help wheelchair users from boarding the buses. Although the government could allocate special seats for PWDs in rapid bus transports, a larger part of the system doesn't accommodate their needs. PWDs are forced to board public transports, which non-disabled people also use. It is difficult to maintain distance between one another in those buses, but the government somehow managed to maintain level seats during the first phase of the COVID-19 period. The existing transport system cannot allow wheelchair users, blind people, and mobility issues to board the buses comfortably as non-disabled people. Furthermore, the lack of ramps in public roads, a limited area designed to accommodate wheelchair users on streets, has made it difficult for them to enjoy using the role of other citizens.

Blind people are also facing challenges to board public transport as the environment does not favor them. A similar problem also affects senior citizens and those with mental challenges. Wearing a mask is another measure championed by WHO and the Government in the country against the spread of the coronavirus. The Government of Tanzania announced that children below the age of 5 and those with asthma or breathing-related diseases should not wear the mask because wearing them may put them in a more vulnerable state. However, people in this group can be infected with the coronavirus just like others, so what best can these people do to protect themselves without getting infected? This is another challenge that needs a close eye. Wearing a non-see-through mask will prevent people with hearing challenges from reading lips (Shakespeare, Ndagire, & Seketi, 2021). Evidence in the UK has reported that people with intellectual disabilities face challenges in comprehending the directives given by health care regarding proper ways of wearing masks. As a result, this may limit them from socializing with other members of society during this pandemic disease (Tromans, et al., 2020).

Measures taken by other Countries during COVID-19 to assist PWDs
To control the spread of the coronavirus, some of the countries decided to develop a proper means of communication that is user-friendly to PWDs. Countries such as Iran agreed to offer news in accessible formats that are

user-friendly to PWDs. They have published serious measures in a newspaper called Iran Sepid in Braille to cover issues related to the coronavirus (Jalali *et al.,* 2020). Through this way, disabled people in Iran could get a clear message regarding protecting themselves against the pandemic. In the UK, COVID-19 information was offered using sign language to help those with hearing challenges (Royal Association for deaf people, 2020); the information needs to be in a simple format that is easy to be understood by intellectually challenged (Mencap, 2020). Beijing also called for a press conference and decided to hire a sign language interpreter to assist those with hearing issues (Qi & Hu, 2020). Government briefings must be translated into sign language like what Nepal and Bangladesh did (Rohwerder, et al., 2021). A similar lesson can be drawn and applied in Tanzania. After all, section 55 of the 2010 Persons with Disability Act articulated that all TV stations, educational programs, and other programs covering national events should be broadcasted using sign language or subtitles that will be user-friendly to PWDs.

The government can ensure that the news is released in two different formats (the one used by non-able and accessible formats). National newspapers can also be printed in Braille to assist blind people and large text in helping those with low vision. National TV and radio should air out information regarding COVID-19 using sign language to help disabled people get the message. Press conferences regarding the coronavirus have to be translated into sign language. This measure was used in Beijing Municipal government for the first time, whereby an interpreter was hired to translate coronavirus information into sign language (Meng, 2020). Health workers at the national hospitals need to be trained on using sign language to assist PWDs in emergencies. Furthermore, updated information regarding the coronavirus should be released daily and timely. PWDs have the right to receive clear and accurate information timely because clear and accurate information is essential for PWDs (Goggin & Ellis, 2020). Social media can be used to release coronavirus news. Twitter, for example, can be a valuable tool to disseminate coronavirus news to assist PWDs in adjusting their lifestyles to cope with the pandemic. Twitter seems to offer important information regarding the coronavirus to PWDs (Thelwall & Levitt, 2020). The

information in social media needs to have a simple sentence structure or images to help those with intellectual disabilities. This is because people with intellectual challenges are difficult to comprehend corona virus information (den Houting, 2020). People with intellectual impairments need people to slow down in their speeches, which will help them get the intended messages. A positive tone of voice and simple sentences should be used when communication is done to people with intellectual challenges. In 2020, it was reported that there are 4.5 million people accessing social media users in Tanzania. The number of social media users increased to 13% between April 2019 to January 2020 (Simon, 2020). Since there are no statistics regarding the number of disabled people who are using social media in the country, the Government needs to start translating information regarding coronavirus in accessible formats that will be user-friendly to PWDs. Informative videos should be developed in sign language with accessible scripts so that those with hearing issues could benefit from the news (Qi & Hu, 2020).

To maintain social distancing, Iran took the initiative to introduce video-conferencing technology to assist disabled people during rehabilitation services during the coronavirus era. This technology has helped them to avoid close contact between doctor-patient direct connections. Although adopting this measure is very challenging to PWDs, Singapore decided to set a time for PWDs to shop. They are allowed to shop from 08: am to 09:00 am for 24 hrs. This offer was also enjoyed by senior citizens (above 71 years old and pregnant mothers). A similar technique was also used in Australia whereby disabled people were allowed to shop alone. India also was thinking of having a particular time for older people and those with disabilities to shop. Tanzania can also opt to use a similar strategy to assist PWDs during the coronavirus era. This will give disabled people ample time to shop without being in an overcrowded environment. Furthermore, Kibria *et al*. (2020) suggested that telemedicine programs should be introduced whereby a particular line is created to assist PWDs in emergencies. This way, PWDs will get the assistance they need without being physically at the health centers. A similar measure was adopted in Australia, where hotlines were introduced to assist PWDS (Kavanagh, et al., 2020). On the other hand, China decided to offer online healthcare consultations to help those with

mental issues during the epidemic (Liu, Yang, & Zhang, 2020). Nepal and Bangladesh also used an online system to assist PWDs to get health and social benefits (Rohwerder, et al., 2021). Tanzania can also develop a special line to assist PWDs during the epidemics; that way, people with disabilities can get immediate attention whenever they need it. It is known that non-disabled people also use most of PWDs board public transport but the same services. Therefore, Kibria *et al.* (2020) proposed that emergency transport services be introduced to help PWDs. Researchers suggested special stickers be placed so that disabled people could easily spot them. In Tanzania, the rapid bus transport systems have managed to place stickers inside the buses indicating the special seats for older people and those with disabilities. But those seats are very few to accommodate the increasing demand of disabled people. Tanzania can encourage investors to inject their funds to introduce a unique transport system to accommodate PWDs and older people. This strategy will help PWDs and older people to feel safe whenever they board public transport.

The transport system should have ramps; the seat should be installed at a lower level to assist those with mobility issues, voice-recordings of all the stops, larger texts in front of the buses indicating the location which is moving to and from, sign language officers at the ticket counters as well as enough lights inside and outside the buses to allow those with low vision to see clearly. Bus stops need to have accessible facilities such as accessible toilets, accessible seats, and buses announcements should be made using proper communication that PWDs understand. Training is very important to be considered as PWDs face challenges of getting assistance from healthcare workers. This problem is partly because most healthcare workers cannot communicate appropriately with disabled people. Training on sign language among healthcare staff is essential. The training will assist them in communicating effectively with disabled people. All information regarding how to protect themselves against COVID-19 and other diseases can be easily understood. Apart from that, Kibria *et al.* (2020) proposed that every hospital need to have a disability unit so that disabled people can get immediate attention as others in case of emergency. Liaison officers need to be introduced in every public hospital as they will be dedicated entirely to

assist PWDs. Tanzania can also do the same to help people with disabilities from getting proper care. Many governments, including Australia, have approached disability non-government organisations (NGOs) to work jointly to prepare emergency plans to assist PWDs during COVID-19 (Kavanagh, et al., 2020). The disability services in Australia established a special scheme jointly funded by the state and commonwealth. The intention of establishing the special funds were meant to assist PWDs in health, social and economic issues. Therefore, introducing a disability-inclusive policy during COVID-19 response is highly needed not only in the UK but also in different parts of the world (Kuper *et al.,* 2020). Governments can take initial steps by including disability issues in the mainstream policy not to leave them out (Sakellariou, Malfitano, & Rotarou, 2020). Disability issues need to be featured in both short-term and long-term plans of the governments, that way whenever there is an emergency PWDs will be served just like others.

Implications of the Study
Government of Tanzania via Ministry of Health, Community Development, Gender, Elderly and Children need to know that disabled people have unique needs and desire that are different from the mainstream. Therefore, information regarding health measures to control the spread of the coronavirus needs to be offered in a format that is understood by all people, including those with disabilities. Large text/images should be used to advertise health issues in brochures, banners, in newspapers to assist those with intellectual/mental challenges. Sign language interpreters should be hired to translate coronavirus news on TV. This form of communication will help those with hearing challenges to get clear coronavirus messages. The Government press conference should be done by ensuring a sign language interpreter who assists those with hearing issues. In line with this, the government also needs to make sure that coronavirus news is offered frequently. The information must be updated more regularly because failure to provide appropriate, updated, and accurate information will limit PWDs from getting the message on time. This can be detrimental to them. Some of them may die without knowing that there is a coronavirus or how serious is the disease. Suppose emergency health news is offered at the right time using the right communication channel. In that case, the Ministry of Health,

Community Development, Gender, Elderly and Children will reduce the spread of infections and perhaps reduce the mortality rate among disabled people. Although wearing a mask is one of the remedies people can use to protect themselves from the coronavirus, a see-through mask is needed to be used so that people with hearing challenges can get messages by reading other people's lips. All the government briefings regarding health issues, especially during emergencies, should use sign language interpreters to allow those with hearing challenges to get the messages. A Voice recorder should also be used in a press conference for deaf people to follow up the information. The large text needs to be used when preparing banners or announcements to assist those with low vision or those with intellectual issues. Although social distancing could be one of the best strategies to protect people from getting the virus, the literature has shown that PWDs, including senior citizens, need the immediate assistance of others during emergencies.

Therefore, those confined in a hospital or health care center need to be given proper training on protecting themselves against the virus? Health care staff needs to be trained to sign language to assist those with hearing issues. Slow and clear speech should be the right form of communication to assist those with mental or intellectual issues. Physical activities needs to be introduced as they help them improve their mental health and reduce loneliness and stress (Kamyuka *et al.,* 2020).In line with this, the government needs to raise healthcare insurance for PWDs which will be of reasonable price since most of them are economically disadvantaged than the non-disabled person (Lund, Forber-Pratt, Wilson, & Mona, 2020). This will help them from getting medical assistance more efficiently. Also, caregivers need to be offered reasonable health insurance so that they can be treated easily whenever they fall sick and continue with their tasks of assisting disabled people. The idea of introducing a disability unit in every public hospital should be the priority as PWDs suffer from the waiting line with other people when in need of health care attention. Therefore, a liaison health care staff should be placed in each disability unit in every public hospital. This will speed the process of helping PWDs from getting the immediate medical attention they need.

Furthermore, online consultation should be done to assist those who are in distant areas. The unique line should be created in every public hospital so that issues of disabilities can be easily attained.

Limitations and Areas for Further Studies
This study was conducted in Tanzania, with the main focus was addressing challenges affecting PWDs in implementing health measures as directed by WHO during COVID-19. Further studies could be done addressing the challenges of implementing PWDs in East African countries. This way, similarities and differences in implementing the health measures can be seen, and the country which is doing better among others in implementing the health measures can be used as an example in other countries. This study drew lessons from countries such as Australia, Iran, UK, the USA, Nepal, Bangladesh, India, and Singapore in implementing health measures as advised by WHO. Comparative study within disabled people should be conducted as they differ in terms of how they are affected by the pandemic. The study may develop a finding that identifies the form of disability that is mainly affected by the coronavirus.

This information is critical since the Ministry of Health, Community Development, Gender, Elderly and Children in Tanzania can use such information to prepare a viable environment to accommodate people with different disabilities. Currently, Tanzania is in the third wave of coronavirus, just like other countries. Therefore, further studies need to be conducted during post-COVID-19 to evaluate the extent to which PWDs have been coping with the virus. This will provide a clear picture of how PWDs have been using different strategies to manage the corona virus. Additionally, this is the literature review study; therefore, the assessment was done based entirely on the published papers from December 2019 to 2022. Therefore, future studies need to be done using different data collection methods such as in-depth interviews and focus group discussions. Using these techniques may help to reveal the genuine emotions from PWDs regarding what they truly feel or how they have been treated during the coronavirus pandemic. True feelings from them can shed light on their long-term cry regarding

discrimination they have been facing and what best can be done to solve the problems.

Conclusion

Although Tanzania adopted WHO health measures against the corona virus to the greatest extent, PWDs are still lagging in follow-up health information as most of them are not offered in accessible formats. The major problem started with the fact that there is no current disability data in the country. Currently, the 2012 census data is used to estimate the number of disabled people in Tanzania. The seriousness of the problem extended when the government announces the coronavirus news using formats that are not user-friendly to PWDs. But this could have been solved if disabled people were included in the government emergency plans.

Disabled people organisations (DPOs) need to be involved in the planning process because they have enough details regarding disabled people; hence they will be valuable to assist policymakers in the policy preparation process. Furthermore, instead of encouraging people to wear heavy masks, the government can encourage the private sector to chip in and invest in the preparation of see-through masks. Those with slow speech or those with hearing challenges can read lips. Sign language training needs to be offered to healthcare workers, news reporters, and those involved in disseminating coronavirus news or any emergency epidemic. Also, the Government needs to encourage the private sector to invest in the construction of healthcare centers specifically to cater to the needs of PWDs.

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