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African Journal of Management Research (AJMR)

Content

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Editorial

Welcome to volume 31 issue 1 of the *African Journal of Management Research*. This issue is dated June 2024. We thank authors who continue to patronize us. We continue to receive submissions from more and more African countries. We are extremely grateful to our reviewers, who continue to do such excellent work. We depend on both to stay relevant. Of the eight papers in this issue, the authors of one are from Nigeria, of three are from Tanzania and authors of four are from Ghana. The papers address issues about women, public project success, non-traditional actors in healthcare, cultural perspectives in accounting for disasters and the role of profitability in business.

Authors of these articles used varied methodologies for their investigations – panel regression, qualitative data analysis, factor analysis, time series analysis and structural equation modelling. The reader will find these useful.

Happy reading and please stay tuned for more interesting research findings in respect of Africa and beyond in subsequent volumes and issues.

Analysis of Human and Financial Resources as Drivers of Project Success in Local Governments in Tanzania

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Abstract

This paper aims to present information regarding the drivers of project success in Local Government Authorities of Tanzania. Key interviews and desk reviews were used and content analysis was used to analyze qualitative data. Findings show that Projects in local government still suffer from a shortage of qualified manpower, high turnover of human capital, and weak incentives for staff motivation who are engaged in the project lifecycle. On the other hand, delay of funds, limited funds, fund deviation, and fund misuse have been reported to impact negatively the success of projects in local governments. Thus, this calls for the government to devise robust measures to ensure that both financial resources and human capital are converted to the best level as input for project success

Key words: Local Government, Project, Financial Resource, Human Resource.

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Introduction

Local Government Authorities (LGA) is a form of public administration which in a majority of contexts, exists as the lowest tier of administration within a given state. LGA administrative authorities over areas that are smaller than a state (Mgonja and Tundui, 2012). LGAs have two major divisions, urban and rural authorities (URT, 2015, REPOA, 2008). The urban authorities comprise of City, Municipal, and Town Councils while rural authorities comprise district councils. For administrative and electoral purposes, all urban authorities are divided into wards and neighborhoods (Mitaa), while all rural authorities are divided into wards, villages, and sub-v

illages (hamlets). As of 2018 statistics, there are 48 urban councils of which 5 are cities, 21 municipalities, and 22 town councils. Rural authorities constitute 137 district councils. In totality, there are 185 LGAs (URT, 2018).

Tanzania's government has an independent internal audit unit that ensures the roles of internal controls are effective in promoting and realizing good corporate governance. Despite the existence of internal audits in various LGAs with internal control systems in place, financial crimes persist in the form of fraud, irregularities, and even breaches of other controls (Fadzilah*et al.,* 2005).

Tanzania's Local Government has several policies and legal systems that favor LGAs functioning these include; the Local Government Finance Act of 1982 (Revised 2000); Standing Order for Public Service of 2009; Public Procurement Act of 2011; Public Procurement Regulations of 2013; Local Authority Financial Memorandum of 2009 and Local Authority Accounting Manual of 2009.

Financial and Human Resources are key drivers of project success in local government programming. The local government's competitiveness partly depends on the success of its projects. Evidence from various studies shows that Project success is the closure of a project within scope, time, cost, quality, resources, and risk (Heldman, 2011; Jha & Iyer, 2007). The first studies in the paradigm of programming and project success looked at the 'iron triangle', which includes factors related to project success in terms of time, budget, or resources, and according to quality specifications as a measure of project success (Pinto & Slevin, 1987; Heldman, 2011).

Several researchers have identified

important factors such as financial resources, time, and human capital, in project success (e.g. Clarke, 1999; Jugend et al., 2016; Rodríguez-Segura et al., 2016). Several studies have highlighted the organizational factors in the field of project management and the importance of these factors for the success of projects (e.g. Bredin & Söderlund, 2011; Brem & Wolfram, 2017). Those organizational factors can be grouped into the following dimensions (Dezdar & Ainin, 2011; Shao, 2018; Wai et al., 2013): top management support (Brem & Wolfram, 2017; Ekrot et al., 2016), communication (Pinto & Mantel, 1990; Wu et al., 2017), change management (Hwang & Low, 2012; Martinsuo & Hoverfält, 2018), organizational culture (Situmeang et al., 2017), and training (Dandage et al., 2018; Ramazani & Jergeas 2015).

Project management since early times in America was practiced to ensure projects were stable and add value to community development (AICPA, 2017 & Peterson, 2014). Governments of different empires for the sake of managing the projects imposed various systems such as checks and balances, job rotation, and segregation of duties on the implemented projects.

Internal and external systems were designed basically to minimize project errors to improve the performance of the projects (Ammons, 1995).

The value-for-money is a key indicator of the projects' performance response, to the changing circumstances (Boyne, 2001; Millow, 2012). The value-for-money shows the degree to which a project is economical, efficient, and effectively implemented. Nevertheless, there is limited empirical evidence in Tanzania to explain factors affecting project performance in LGAs (Mushi & Melyoki,

2015; REPOA, 2008; Vragov & Kumar 2013). Development projects implemented by Local Government Authorities (LGAs) consume a greater portion of the national budgets (Axelsson *et al.,* 2010; Schmidthuber 2019).

Besides having a clear system of administration in LGAs and various LGA reforms taken by the government, the performance of development projects (particularly conditional block grants projects) is low (Chaligha, 2007; Chalu, 2007; Masanja, 2018). Inadequate performance of projects in Tanzania is an outcry that hinders social and economic development for a long time (Chaligha, 2008; Masanja, 2018). Despite the increasing importance of organizational factors to achieve organizational objectives, the theoretical and empirical literature has not much focused on evaluating the performance of development projects (Johnson, 2009; Masanja, 2018) while less is done to assess or establish factors that contribute to the performance of projects in LGAs.

More importantly, some literature suggests that the nature of LGAs where the projects are located and their age might have an impact on the performance of projects. The old LGAs have a better experience; infrastructure and resources for the project performance compared to the newly established LGAs (Mgonja & Tundui, 2012). On top of that, the projects' location may affect the projects' performance as the projects implemented in the urban councils may have strong systems that may lead to better performance of projects when compared to projects implemented in rural areas (Masanja, 2018, Latifa, 2015). This paper therefore aims to provide evidence as to how both financial and human resources are key determinants of project success in LGAs in Tanzania.

Literature Review
Theoretical Review

This paper is guided by two famous theories namely the Institutional theory and the Organization behavior theory. The choice of the two theories is based on the fact that they explain how both financial and human resources are the key factors to the success of the project. The Institutional theory that was founded by an Economist Douglas North in America in the 1970s (Baltaci&Yilma, 2006; Battilana, 2006; Hargadon &Dauglas, 2001) argues that whenever there is a robust flow of funding to the project system to cater to all phases of the project, there is a high likelihood that the project success to easily be realized (Scott, 2013; Di Maggio & Powell, 1983). On another hand, Ribot (2002) argues that it is not only funding that can influence the institutional capacity to ensure the project is well managed and successful but the amount of funding and regular flow of funding are key to the success of the project. If the funds are disbursed in a manner that they are delayed, deviated, or less then the project's success is likely to be compromised. On the other hand, The Organizational behavior theory which was founded in 1913 by John Broadus Watson shows that human resources are key to the success of the project. When a project deploys a workforce that is productive and well-motivated then there is a likely chance that the project can be successful. For this matter, both theories are fundamental to the narrative of the influence of key drivers to success such as financial and human capital.

Empirical Review

While there is relative clarity of accountability in LGAs, the financial performance and accountability mechanisms remain problematic and challenging. As regards administrative capacity, most councils are still operating with limited human resource capacity, particularly in rural councils. Moreover, in terms of decentralization by devolution (D-by-D) policy, little progress has been made in taking forward the issues of human resource decentralization. In addition, lack of popular understanding of the role and responsibilities of LGAs, a lack of understanding of the planning and budgeting processes, and the virtual absence of LGAs' appreciation of the collective inputs particularly from civil society organizations related to policy advice or service delivery (Masanja, 2018, Mgonja and Tundui, 2012). Furthermore, the results of LGA reforms that have been introduced via LGA reforms 1 and II process have been mixed, though generally welcomed by councils (REPOA, 2008, Boex, Vazquez, 2006). The process has faced several constraints such as a lack of sector harmonization undermines efforts to establish organizational structures and staffing levels that are consistent with locally determined planning priorities.

In India, Maor, (2004), Mulgan and Uhr (2001) found that independent agencies have become major repositories of institutional capacity in government efforts to promote integrity systems and fight corruption. Furthermore, Bottom and Medew, (2004) found that institutional agencies should have powers and resources for monitoring the adequacy of local government control systems. However, Maor (2004), and Mulgan and Uhr (2001) in their studies showed that

institutional capacities have limited capacities such as staffing, skills, funds, and organizational objectives in performing their task of utilizing internal controls and promoting accountability in local government. In addition, Saeed and Dashti, (2014) found out that, the challenges in the implementation of internal controls especially considering that the audit unit and its function are not well extended to the upcountry centers which have affected their efficiency. In Uganda, Steffensen et *al.,* (2004) on their studies found that a lack of systems for funding and competent workforce education and experiences in local government systems particularly on accounting and financial aspects for institutional capacities in monitoring the implementation of internal control systems is extremely important. However, Eton *et al.,*(2018), in their studies urged that the relationship between internal control systems and financial accountability in local government appeared to be weak and the actual contribution of internal control systems actors in the financial operations of the Councils is negligible.

In Tanzania, Kelsall and Mmuya, (2005) and Chalu (2007), in their findings comprehended show that when there are clear funding flow in the project as well as proper internal control systems for the same as well as when there are no clear policies for better use of human capital that is trained and well distributed in the productive systems of LGA, then LGAs can still suffer from poor implementation of projects. Likewise, Mgonja and Tundui, (2012), and Sasaoka (2005), found challenges facing project success are mostly inclined toward funding and this is from the development partners' (Donors) side where sometimes it is difficult to

predict their flow. Andrew and Goddard (2016) found that the establishment of internal control systems in LGAs is not adequate if other factors are not taken into account namely human resources and financial resources for the successful implementation projects.

In Nigeria, Aramide and Bashir, (2015) found that internal audit is positively significant for good financial accountability in the local government projects. However, if other factors are not well addressed such as lack of staff, and lack of funds to ensure that projects are implemented well and on time, then even if you have good internal control systems in place, they can't provide a green light for the success of the project.

In Kenya, Kang and Kinyua, (2016), Mwindi, (2008), and Steffensen*et al.,* (2004), found that proper funding flow to the project has a significant impact on the success of the project. However, Trevor,(2010) and Magara, (2013) found that even if there is a proper flow of funds to the project and the internal audits are weak then there is less chance that the success of the project to be met.

Measuring Value-for-Money

The debate on how best to allocate scarce public resources is not new in Tanzania. For the past 15 years, the term Value-for-Money (VfM), sometimes also called Value for Investment, has been used by policymakers to describe general principles governing good planning, procurement, and management. Increasingly, however, VfM has begun to refer to a more specific set of criteria applied to programs and projects. The term is now used widely by development actors such as International Non-Government Organisations (NGO) umbrella networks, institutional donors, and multinational organizations such as

the Development Assistance Committee (DAC) and Local Governments in Tanzania. VfM is often expressed through three different criteria – Economy, Efficiency, and Effectiveness. UK agencies have recently added a significant fourth 'E' – Equity – which refers to the fair allocation of benefits. Frequently, these criteria serve as principles that inform the decision-making of funders. A key principle of VfM analysis is that to judge whether an intervention was worthwhile, the money spent on that intervention needs to be assessed alongside what has been delivered (outputs) or achieved (outcomes and impact). The findings of VfM analyses that determine how they relate to each other can then provide crucial information for planning and decision-making. VfM analysis can sometimes enable organizations to choose amongst interventions, based on which one can achieve the best.

Measuring Project Success

Measuring the success of a project can be difficult in that success means something different to each person involved in the project. To determine measures of performance to define success, a method of measuring success objectively has been developed. A literature search revealed seven common criteria were used to measure success: technical performance, efficiency of project execution, managerial and organizational implications, personal growth, project termination, technical innovativeness, and manufacturability and business performance. Limited to the viewpoints of the sponsor and the project manager, and consistent with the discounted cash flow (DCF) principles, a common focus was found in financial factors for evaluating the success of a business venture.

In the 1990s, researchers resumed investigating the Iron Triangle in connection with its success. During this time, the literature increasingly measured project managers' insights into the Iron Triangle, investigating cost (Freeman & Beale, 1992; Wateridge, 1998), De Wit, A., (1988), Ika, L.A., (2009), as features causative to or assessing project success.

Success levels on projects are often assigned on a subjective, individual basis. (Freeman & Beale, 1992) argue that the term "success" can have a variety of meanings depending on whom you ask. Therefore, a multi-dimensional, multi-criteria approach is required for complete success criteria to consider a wide range of perspectives and interests.

Success criteria are accepted and dependent variables, including principles and standards by which anything can be judged and defined. These criteria should be evaluated under six important elements that guarantee a "consistent, high-quality evaluation within a common framework". These elements are relevance, coherence, effectiveness, efficiency, impact, and sustainability. Since success is dependent on the area that is inspected, these parts must be addressed individually, since although one area might be perceived as a failure, the other areas can still be perceived as successful.

Methodology

Data were collected from Dodoma City Council, Ilala City Council, Iringa Municipal Council, Singida District Council, and Chamwino District Council and the study included projects related to agriculture, water, health, and TASAF in the selected LGAs. A total of 1002 staff were involved as a sample. The sample was derived from a sampling frame of 1002 staff from the selected LGAs who were part of the project implementation and thus these were the key units of analysis. The proportional sampling was used since the target population was greater than 1,000 but less than 10,000 staff from five different LGAs. Thus, a sample size of 278 staff was selected from the population of 1,002 based on the simple random sampling size determination formula shown below.

This formula was applied in line with Mugenda and Mugenda's (2003) statistical technique, for selecting a sample from a population of less than ten thousand.

$$n = \frac{\frac{z_{\alpha/2}^2 P(1-P)}{e^2}}{1+\frac{z_{\alpha/2}^2 P(1-P)}{Ne^2}} = \frac{\frac{1.96^2 \times 0.5(1-0.5)}{0.05^2}}{1+\frac{1.96^2 \times 0.5(1-0.5)}{1002 \times 0.05^2}}$$

= 277.69 approximately to 278

Thus, the level of confidence which is placed at 95% provides us a Z Value of 1.96 per the normal table. Where Z is the critical value 1.96 e is the margin error of 5% which is 0.05, p is the probability proportion which is 0.5, N is the population and n is the sample size. The proportional sampling technique is used when the population is large like in this study. Out of the 278 respondents that were picked up to provide the information on the implemented projects. Data provided by the sampled respondents includes, the working facilities of the projects, the knowledge and skills of the implementers of the projects, the scope of work on the implemented projects and the rewarding systems on the implementation of the projects. Four key informants were

sampled from each LGA. These were the coordinators of projects who were directly concerned with the performance of projects. A purposeful sampling technique was used to get the key officials. Information provided by the key informants includes, the level of manpower on the implementation of the projects, information on the independence of implementers of the projects, information on auditing of the projects, information on the documentation of the projects and information on the financial resources of the projects.

Test for validity and reliability were carried out and this ensured the best data for the study. Correction of errors was made as well.

Factor analysis was used to test the validity of the study items. Factor analysis enabled the researcher to make decisions on whether the items under the study explain the dependent variable. In this study, validity shows whether the findings clearly show the human and financial factors on the performance of projects in the LGAs. Factor analysis was computed for the variables under the study and the results had a factor loading above 0.5. Cooper and Schindler (2011) stated that a loading factor which is 0.4 and above is considered acceptable. This statement is also supported by Hakanen *et al.* (2008) in their studies.

Cronbach's alpha was used to measure the consistency of variables under the study. Zikmund *et al.* (2010) stated that Cronbach's alpha is an appropriate measure of variance attributable to the subjects and variance attributable to the interaction of subjects and items. Hence, Cronbach's alpha was used as a measure of internal reliability. In terms of the specific testing of reliability, the following scores were obtained by testing Cronbach's alpha.

The values in Table 1.1 indicate that knowledge and skills $\alpha=0.701$; working facilities $\alpha=0.831$; The scope of work $\alpha=0.819$ and the rewarding systems of LGA staff $\alpha=0.703$ are sufficient confirmation of the data reliability for the independent variables. It is supported by Zikmund *et al.* (2010) that a Cronbach's alpha of 0.60 is an acceptable minimum level.

This paper used only qualitative data. Both primary and secondary data were collected in this study and were used as input. The study has used interviews and desk review methods to collect data qualitative data. The discussions were conducted at convenient places to make the informants comfortable. Each interview session took 25–35 minutes. Information collected through semi-structured interviews include how the LGA staff were involved in human resources, and financial resources; and the effectiveness of project execution.

Table 1.1: Reliability Statistics

Variable	Cronbach's Alpha	Number of Items
Performance of the project	0.707	8
Knowledge and skills	0.701	14
Working facilities	0.831	10
The scope of work	0.819	12
The rewarding systems	0.703	5

In this study, written materials were obtained from the financial statements of projects implemented under the selected LGAs. The researcher mainly used financial statements from the five consecutive years (2014/2015–2018/2019) to understand how the value-for-money was achieved in the projects. In addition, financial progress reports and government financial guidelines issued from time to time were used to get more information regarding projects in the LGAs.

Information from financial statements enabled the researcher to obtain project budgets, amount of funds received for projects implementation, funds spends for projects implementation. Furthermore, analysis was done for the project working capital, liquidity of the projects and the level of rewarding systems. Hence the researcher after examining the information obtained was able to determine the value-for-money if were achieved on the implemented projects.

The working capital was obtained by computing the ratio of the projects' current assets and the projects' current liabilities. The working capital of the projects for five years was on average 0.5:1. This signifies the projects cannot recover the payables. Moreover, the projected liquidity sounded not good as the projects' cash flows were inadequate. Furthermore, the project staff were not well motivated as there were inadequate reward systems for the implemented projects. This enabled less commitment of project staff.

Value-for-money of projects includes the effectiveness, economy, and efficiency of the implemented projects. Project funds were not utilized as per the approved budget. Furthermore, projects were not completed on time. Hence, communities

and the public at large did not obtain the project benefits as planned. Therefore, projects were not effectively and efficiently achieved

Results and Discussion

The problem of shortage of skilled personnel in Local Government Authorities seems to have existed for a long time in Tanzania. The Controller and Auditor General-CAG (2017) stated that there was inadequate staffing and management of personnel in implementing projects in poor-performing LGAs and recommended the government fill the staffing gap for qualified technical personnel. The performance of projects depends on several factors namely knowledge and skills, facilities, human resources, and financial resources. This paper attempts to understand the way human capital and financial resources are instrumental in the course of improving the performance of Local Government programming.

Evidence from analysis and data collection from staff who work on the projects reported several issues related to human resources in the project cycle. Interviews undertaken have revealed that most of the projects that have been implemented such as TASAF, Agriculture, and water face three core challenges namely the shortage of qualified staff, limited experience related to the projects, high labor turnover, lack of staff motivation and incentive and issues related to recruitment and deployment. Some respondents noted that nowadays the Government tends to publish vacancies but in the end, thousands of applicants turn up for very few posts. There is a serious problem in terms of even recruiting the right staff

who fit better to the existing projects.

In some cases and projects such as agriculture, and revenue collection to mention a few, the council depends on the part-time staff as well as those who are in field attachment. While the shortage of skilled manpower is a threat to the sustainability of the projects, project implementers also face the problem of deploying unqualified people such as students who are in field attachment. The CAG (2017), Ribot (2002), Venugopal, and Yilmaz (2010) emphasize that for the projects to be successful thus a need to recruit the right staff, who are well-motivated and well-trained.

Development of projects in local government starts with the initiation of ideas that take place through a community participatory approach. The local people are involved in the identification of problems and setting priorities. In addition, the community has been involved in deciding which projects to implement, how much funds to be assigned for each activity, and where to get funds.

Interviews with key project staff show several challenges related to financial resources namely limited funds, delay in funds disbursement, relocation of funds, and even deviation of funds to other projects. Some project staff informed the research team of the shortage of Financial resources that in turn has affected the pace and adequacy of the implementation of the project. There is a tendency to receive more funding in the early phase of the project but as time goes on the flow of funding tends to decelerate and this has happened in big projects such as water, agriculture, and health projects. Even findings from the CAG report of 2020 reported that TZS 55.85 billion was disbursed for projects against 253.87 billion which was approved for 144 entities through agriculture, education, energy and mining, health, and water.

Further analysis shows that Insufficient funds for the projects cause staff to be idle most of the time thus causing the government to pay officers who did not work for the community. In addition, whenever there is a shortage of funding, the project team decides to reduce the project scope, revise the strategies and approaches, and even develop an acceleration plan. All these may affect negatively the performance of the project. When projects stop due to the unavailability of funds, the value-for-money may not be obtained since the desired benefits may not be received by the intended community.

On the other hand, respondents reported that delays in receiving funds for the implementation of the projects affect the value-for-money since the impact of the project is not realized timely and also due to fund delay thus it is likely that changes in prices and costs of materials and labor charges may emerge. Timely disbursement of funds to Local Government Authorities is a key for the management to effectively underperform their duties and assignments as per project Terms of References which seems to be a critical area of debate in this paper. The project coordinators need funds to execute the project as planned. However, in most cases this is not properly done as a result the project coordinators end up providing information on the uncompleted projects due to the non-release of funds. This is a problem for the Project managers and accounting officers who are supposed to put in place all the project requirements before the kick-off of project implementation. Furthermore, results

made from the investigation have found that there is a serious problem in the disbursement of project funds timely. This paper has realized that even some interviews that were undertaken with key staff have proved that project funds are disbursed not at the right time. In addition, inadequate availability of project funds has been mentioned by staff as a challenge facing the implementation of projects in Local Governments of Tanzania. This has led some of the Local Governments to underperform and even be, awarded qualified audit reports as the project value-for-money was compromised. Evidence drawn from the report by the CAGs (2017) recommended the Government take measures to ensure the disbursement of the project funds is done timely, despite this remark the pace to address the issue is still a paradox.

The availability of human resources to implement the project in Local Government Authorities is a key for the management to effectively underperform their duties and assignments as per project Terms of References which seem to be a critical area of debate in this paper. For the project to be effectively executed the availability of human resources is inevitable. However, in most cases, this is not properly done as a result shows that there is inadequate availability of human resources for the project. This is a problem for the Project managers and accounting officers who are supposed to put in place all the project requirements before the kick-off of project implementation. Furthermore, results made from the investigation have found that there is a serious problem with human resources. This paper has realized that even some interviews that were undertaken with key staff have proved that

the human resources are inadequately recruited. In addition, inadequate availability of project human resources has been mentioned by staff as a challenge facing the implementation of projects in Local Governments of Tanzania. This has led some of the Local Governments to underperform and even be, awarded qualified audit reports as the project value-for-money was compromised. Evidence drawn from the report by the CAGs (2017) recommended the Government take measures to ensure the recruitment of human resources of the project funds is done timely, despite this remark the pace to address the issue is still a paradox.

For the auditors to undertake the audit assignment effectively, they need to have in place a list of frameworks or strategies that are in line with international as well as local accounting practices. In this study, this was one of the areas of inquiry and the interest was to understand whether there is an effective auditing undertaken by the auditors and whether they follow all the time a set strategies. Findings from a survey of staff have shown that there is a serious ignorance of auditors to abide and comply with the auditing strategies and framework. There is an expectation that the conclusion made from the audit may mislead the public due to non-compliance on their side. It is only a few of them that confess that they always comply with the listed strategies. There is a list of reasons as to why auditors don't follow the strategies for audit and this is from inadequate capacity building and refresher courses so that they update their skills and also due to changes in the international audit standards that force them to regularly update their skills. Even evidence drawn dram desk review of the CAG report (2017) and Magara (2013)

remarked that the internal auditing for projects was not effective due to the non-application of audit standards.

Conclusion and Recommendations

This paper aims to present information regarding the importance of both financial resources and human capital as input for project development, execution, and success. The paper has used descriptive analysis with evidence from key staff who have been part of the project lifecycle. Projects such as TASAF, water, and health have been discussed in connection with the financial and human capital as input of production. Projects in local government still suffer from a shortage of qualified manpower, high turnover of human capital, and weak incentives for staff motivation who are engaged in the project lifecycle. On the other hand, delay of funds, limited funds, fund deviation, and fund misuse have been reported to impact the success of projects in local governments. Thus, this calls for the government to devise robust measures to ensure that both financial resources and human capital are converted to be the best input for project success.

Policy Recommendations

Human and financial resources are critical to the performance of projects. When these resources are weak, poor performance of the projects is obvious. Thus, to improve the performance of projects, there should be effective human resources and financial resources. It is recommended that government policies should insist on effective human capital. This is important because policies would enhance institutional capacities in the projects. Moreover, it is recommended that there should be a reward policy for

the implemented projects to raise the morale of the staff. This observation is also supported by Simiyu (2011) and Schultz (2015).

Therefore, the study recommends the establishment of a People-Centered Holistic Engagement (PeCHE) Model, which would ensure that poor-performing LGA staff were maximally engaged during the cycle of project development.

Recommendations to Institutions

Project performance requires effective human resources and financial resources. The study recommends effective knowledge and skills for the poor-performing LGA staff who are the implementers of projects, availability of working facilities for the projects as well as the human resource and timely availability of the project funds. This is to further cement the recommendation by the CAG (2017), as recommended that, project staff should possess the required knowledge and skills for an effective project implementation. An absence or inadequate institutional capacities results in poor performance of the projects. To ensure that the poor-performing LGA projects are flourishing and project performance is maximized, this study recommends the Government establish a Tailor-Made Institutional Development Framework (IDF) that will customize the requirements of each poor-performing LGA related to human and financial resources. This is important to optimize performance issues, particularly in the implementation of projects.

Recommendations on Project Working Culture to Poor Performing LGAs

As for working culture, it is recommended that staff should be oriented to project

performance. Further, information and communication among the staff and management of the projects should be effective; the reward system should be effective and there should be a commitment to the projects. This study suggests the Government revise the Culture of poor-performing LGAs and develop a Culture Friendly Framework (CFF) to ensure that, the poor-performing LGA staff fit into the existing culture. They should comply with the internal organizational factors to improve project performance.

Audit Recommendation to Poor Performing LGA Projects

The study recommends that audit strategies, conservative and value-added strategies should be used in auditing the human and financial performance of projects by internal and external auditors rather than conservative strategies, which are currently mostly used. Conservative strategies should be used for compliance with the projects while value-added strategies of the projects should be used to assess the value-for-money of the projects particularly on the human and financial items. Once both strategies are used in auditing, the performance of projects will be improved. In addition, all project implementation should be monitored and evaluated regularly by internal audit to enrich the project management with assurance on the adequacy and effectiveness of the factors that management has put in place to facilitate improvement of the performance of projects. This study recommends that the Government should establish a Tailor-made compliance and value-for-money framework (CVMF) that will customize the requirements for auditing development

projects.

Recommendations to Project Implementers in Poor Performing LGAs

The study recommends that project implementers should ensure that expenditures were correctly made from the respective budget lines and prior approval should be sought for additional requirements. This suggestion is also supported by Arthur (2018) who remarked that expenditures should be incurred in line with the budgeted codes. Furthermore, the project implementers should ensure that expenditure was made from the authorized activities according to the project/program agreements to avoid ineligible expenditure. This is because project implementers are required to utilize funds according to the existing project guidelines. Moreover, the study recommends that project implementers should exert more effort in project contract management.

Necessary Preparations for disbursement of funds to Local Government Authorities

Timely disbursement of funds to Local Government Authorities is a key for the management to effectively underperform their duties and assignments as per project Terms of References which seems to be a critical area of debate in this paper. The project coordinators need funds to execute the project as planned. However, in most cases this is not properly done as a result the project coordinators end up providing information on the uncompleted projects due to the non-release of funds. This is a problem for the Project managers and accounting officers who are supposed to put in place all the project requirements

before the kick-off of project implementation. Furthermore, results made from the investigation have found that there is a serious problem in the disbursement of project funds timely. This paper has realized that even some interviews that were undertaken with key staff have proved that project funds are disbursed not at the right time. In addition, the inadequate availability of project funds has been mentioned by staff as a challenge facing the implementation of projects in Local Governments of Tanzania. This has led some of the Local Governments to underperform and even be, awarded qualified audit reports as the project value-for-money was compromised. Evidence drawn from the report by the CAGs (2017) recommended the Government take measures to ensure the disbursement of the project funds is done timely, despite this remark the pace to address the issue is still a paradox.

Necessary Action to be taken on the Availability of Project Human Resources to Local Government Authorities

The availability of human resources to implement the project in Local Government Authorities is a key for the management to effectively underperform their duties and assignments as per the project Terms of References seem to be a critical area of debate in this paper. For the project to be effectively executed the availability of human resources is inevitable. However, in most cases, this is not properly done as a result shows that there is inadequate availability of human resources for the project. This is a problem for the Project managers and accounting officers who are supposed to put in place all the project requirements before the kick-off of project

implementation. Furthermore, results made from the investigation have found that there is a serious problem with human resources. This paper has realized that even some interviews that were undertaken with key staff have proved that the human resources are inadequately recruited. In addition, inadequate availability of project human resources has been mentioned by staff as a challenge facing the implementation of projects in Local Governments of Tanzania. This has led some of the Local Governments to underperform and even be, awarded qualified audit reports as the project value-for-money was compromised. Evidence drawn from the report by the CAGs (2017) recommended the Government take measures to ensure the recruitment of human resources of the project funds is done timely, despite this remark the pace to address the issue is still a paradox.

Strategies to be undertaken to carry out project audit assignment

For the auditors to undertake the audit assignment on human and financial resources effectively, they need to have in place a list of frameworks or strategies that are in line with international as well as local accounting practices. In this study, this was one of the areas of inquiry and the interest was to understand whether there is an effective human and financial auditing undertaken by the auditors and whether they follow all the time a set strategies. Findings from a survey of staff have shown that there is a serious ignorance of auditors to abide and comply with the auditing strategies and framework, particularly on human and financial auditing. There is an expectation that the conclusion made from the audit may mislead the public due to non-compliance on their side. It is only a few

of them confess that they always comply with the listed human and financial strategies. There is a list of reasons why auditors don't follow the human and financial strategies audit and this is from inadequate capacity building and refresher courses so that they update their skills and also due to changes in the international audit standards that force them to regularly update their skills. Even evidence drawn dram desk review of the CAG report (2017) and Magara (2013) remarked that human and financial audit was not effective due to the non-application of audit standards.

REFERENCES

AICPA. (2017). *Consideration of Fraud in a Financial Statement Audit.* New York.

Ammons, D. N. (1995). Overcoming the Inadequacies of Performance Measurement in Local Government: The Case of Libraries and Leisure Services. *Public Administration Review*, *55*(1), 37–49.

Axelsson, K., Melin, U., & Lindgren, I. (2010). Exploring the importance of citizen Participation and involvement in e-government projects: practice, incentives, and Organization. *Transforming Government: People, Process and Policy*, *4*, 299-321.

Boyne, G. (2001). Accountability and Local Authority Annual Reports: The Case of Welsh District Councils. *Financial Accountability & Management*, *7*(3), 179-194.

Bredin, K., & Söderlund, J. (2011). The HR quadriad: a framework for the analysis of HRM in project-based organizations. *International Journal of Human Resource Management*, *22*(10), 22022221. http://dx.doi.org/10.1080/09585192.2011.580189.

Brem, A., & Wolfram, P. (2017). Organization of new product development in Asia and Europe: results from Western multinational's R&D sites in Germany, India, and China. *Review of Managerial Science*, *11*(1), 159-190. http://dx.doi.org/10.1007/s11846-015-0183-7.

CAG. (2017). *Controller and Auditor General report*. Dar -es -Salaam.

Chaligha, A. (2007). *Local governance in Tanzania: Observations from six councils, 2002–2003*. Dar -es -Salaam.

Chalu, H. (2007). *A model of determinants of accounting information system effectiveness; An empirical Study for Tanzania Local Government Authorities.* Germany: Lambert Academic Publishing.

Cooper, D. R., & Schindler, P. S. (2011). *Business research methods*. New York, NY: McGraw-Hill.

Clarke, A. (1999). A practical use of key success factors to improve the effectiveness of project management. *International*

Journal of Project Management, *17*(3), 139-145. http://dx.doi.org/10.1016/S0263-7863(98)00031-3.

Crawford, L. (2000) Profiling the competent project manager. In *Proceedings of the PMI Research Conference*. Newton Square: Project Management Institute.

Dandage, R. V., Mantha, S. S., Rane, S. B., & Bhoola, V. (2018). Analysis of interactions among barriers in project risk management. *Journal of Industrial Engineering International*, *14*(1), 153-169. http://dx.doi.org/10.1007/s40092-017-0215-9.

Dezdar, S., & Ainin, S. (2011). The influence of organizational factors on successful ERP implementation. *Management Decision*, *49*(6), 911-926. http://dx.doi.org/10.1108/00251741111143603.

DFID (2011). DFID's Approach to Value for Money (VfM). Department for International Development, UK, July 2011

Ekrot, B., Rank, J., Kock, A., & Gemünden, H. G. (2016). Retaining and satisfying project managers–antecedents and outcomes of project managers' perceived organizational support. *International Journal of Human Resource Management*, 29(12), 1950-1971. https://doi.org/10.1080/09585192.2016.1255903.

De Wit, A., (1988) 'Measurement of project success', Project Management Journal, 6(3), p.164-170.

Freeman, M., Beale, P, (1992) 'Measuring project success', Project Management Journal, 23(1), p.8-18.

Ika, L.A., (2009), 'Project success as a topic in project management journals', Project Management Journal, 40(4), p.6-19

Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The Job Demands Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work and Stress*, *22*(3), 224–241.

Heldman, K. (2011). *Project management jumpstart*. Indianapolis: John Wiley & Sons.

Hwang, B. G., & Low, L. K. (2012). Construction project change management in Singapore: status, importance and impact. *International Journal of Project Management*, *30*(7), 817-826. http://dx.doi.org/10.1016/j.ijproman.2011.11.001.

Jha, K. N., & Iyer, K. C. (2006). Critical determinants of project coordination. *International Journal of Project Management*, *24*(4), 314-322. http://dx.doi.org/10.1016/j.ijproman.2005.11.005.

Jha, K. N., & Iyer, K. C. (2007). Commitment, coordination, competence, and the iron triangle. *International Journal of Project Management*, *25*(5), 527-540. http://dx.doi.org/10.1016/j.ijproman.2006.11.009.

Johnson, R. (2009). *Financial Performance and Internal Controls* (2nd edition). London: Sage Publications.

Jugend, D., Silva, S. L., Salgado, M. H., & Miguel, P. A. C. (2016). Product portfolio management and performance: evidence from a survey of innovative Brazilian companies. *Journal of Business Research*, *69*(11),5095-5100. http://dx.doi.org/10.1016/j.jbusres.2016.04.086.

Latifa, E.-R., & Ahmed, E. K. M. (2015). Android: Deep look into Dalvik VM. *2015 5th World Congress on Information and Communication Technologies (WICT)*,

4(1), 35–40.
https://doi.org/10.1109/WICT.2015.7
489641

Martinsuo, M., & Hoverfält, P. (2018). Change program management: Toward a capability for managing value-oriented, integrated multi-project change in its context. *International Journal of Project Management*, *36*(1), 134-146. http://dx.doi.org/10.1016/j.ijproman.2017.04.018.

Masanja, N. M. (2018b). The Impact of Internal Control Challenges on Organizationa Financial Performance for Selected Local Government Authorities in Arumeru District, Arusha Tanzania. *International Journal of Research and Innovation in Social Science*, *2*(11), 206–211.

Mgonja, B., & Tundui, C. (2012). Institutional Impacts of the Local Government Reform Program on Good Local Governance in Tanzania, *International Journal of Academic Research in Business and Social Sciences*, *5*(206), 2222–6990.

Millow, L. (2012). *The Role of Auditors and Accountants* (2nd edition). California: Thousand Oaks.

Mugenda, O. M. M., Mugenda, A. G., & Mugenda, G., A. (2003). *Research Methods Quantitative and Qualitative Approach.* Nairobi: Acts Press Publishing

Mushi, R., & Melyoki, L. (2015). *Financial Transparency in Local Government Authorities in Tanzania, Research on Poverty Alleviation.* Dar Es Salaam.

Peterson, N. A. (2014). Empowerment theory: clarifying the nature of higher-order multidimensional constructs. *American Journal of Community Psychology, Vol.*,
53(1/2), 96-108.

Pinto, J. K., & Mantel, S. J. (1990). The causes of project failure. *IEEE Transactions on Engineering Management*, *37*(4),269-276. http://dx.doi.org/10.1109/17.62322.

Pinto, J. K., & Slevin, D. P. (1987). Critical factors in successful project implementation. *IEEE Transactions on Engineering Management*, EM-34(1), 22-27. http://dx.doi.org/10.1109/TEM.1987.6498856.

Ramazani, J., & Jergeas, G. (2015). Project managers and the journey from good to great:: the benefits of investment in project management training and education. *International Journal of Project Management*, *33*(1), 41-52. http://dx.doi.org/10.1016/j.ijproman.2014.03.012.

Ribot, J. C. (2002). *African Decentralization: Local Actors, Powers and Accountability.* Geneva: UNRISD.

Rodríguez-Segura, E., Ortiz-Marcos, I., Romero, J. J., & Tafur-Segura, J. (2016). Critical success factors in large projects in the aerospace and defense sectors. *Journal of Business Research*, *69*(11), 5419-5425. http://dx.doi.org/10.1016/j.jbusres.2016.04.148.

Shao, J. (2018). The moderating effect of program context on the relationship between program managers' leadership competencies and program success. *International Journal of Project Management*, *36*(1), 108-120. http://dx.doi.org/10.1016/j.ijproman.2017.05.004.

Situmeang, F. B., Leenders, M. A., & Wijnberg, N. M. (2017). New product performance
and the benefit of periodically changing the relative influence balance between

marketing and R&D. *Journal of Business and Industrial Marketing*, *32*(1), 179-190. http://dx.doi.org/10.1108/JBIM-01-2015-0020.

Venugopal, V., & Yilmaz, S. (2010). Decentralization in Tanzania: An assessment of local government discretion and accountability. *Public Administration and Development*, *30*(3), 215–231.

Vragov, R., & Kumar, N. (2013). The impact of information and communication technologies on the costs of democracy. *Electronic Commerce Research and Applications*, *12*(6), 440–448.

Wai, S. H., Yusof, A. M., Ismail, S., & Ng, C. A. (2013). Exploring success factors of social infrastructure projects in Malaysia. *International Journal of Engineering Business Management*, *5*(2), 1-9. http://dx.doi.org/10.5772/55659.

Wu, G., Liu, C., Zhao, X., & Zuo, J. (2017). Investigating the relationship between communication-conflict interaction and project success among construction project teams. *International Journal of Project Management*, *35*(8), 1466-1482. http://dx.doi.org/10.1016/j.ijproman.2017.08.006

Zikmund, W.G., Bahn, B.J., Carr,J.C. & Griffin, M. (2013). *Business Research Method.* Boston, USA: Cengage Learning

Women Inclusion in the Context of Multilateral Trade Agreements: The Nigerian Experience

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Abstract

In 2017, Nigeria, a member of the World Trade Organization (WTO), signed the agreement on 'Gender and Trade'. The main focus of the agreement is 'inclusive trade and gender equality'. Similarly in July 2019, Nigeria signed the African Continental Free Trade Area Agreement (AfCFTA). The main objective is to remove tariffs on 90% of goods, thereby encouraging more intra-regional trade across the African continent. In 2020, a World Bank report on women and trade argues for the positive and negative effects of trade, trade agreements, and trade policies on women. Women in developing countries including Nigeria are said to make up 33% of the total workforce of exporting firms. Based on the World Bank report, there are concerns that AfCFTA may facilitate competitive pressures on labor and capital markets which tend to discriminate against women due to lack of capacity. Therefore, this study aims to investigate the direct and indirect effects of exports on women's social inclusion in the period before and after 2017. Utilizing the autoregressive distributed lag (ARDL) with a policy shift period of 2017, in the short-run, results reveal that, increases in all exports, majorly, have positive and significant indirect effects on women inclusion that is more prominent in female primary school enrollment rate. In the long run, increases in manufactured and agriculture exports had positive and significant indirect effects on women inclusion through female primary school enrollment. The study recommended among others the targeting of parents or guardians of children in primary schools for some trade incentives or employment in the export sector. Women's participation in agriculture should be encouraged through access to high quality inputs and provision of gender-focused training in their application. Revamping of the food export sector and improved investment in human capital development; mainly health and education with a special focus on the female folk in order to enhance women inclusion are advocated.

Key words: Inclusive trade; trade impacts; trade liberalization; women labor force participation; human capital

Introduction

Following a post-2015 development agenda for 2030, the United Nations (UN) adopted the Sustainable Development Goals (SDGs). The goals were created to address the social, economic and environmental challenges that were faced by both humans and the planet. Therefore, at the center of the SDGs is sustainability and it highlights the connections between the environmental, social and economic aspects of sustainable development. Specifically, the goals are outlined as; no poverty (1), zero hunger (2), good health and well-being (3), quality education (4), gender equality (5), clean water and sanitation (6), affordable and clean energy (7), decent work and economic growth (8), industry, innovation and infrastructure (9), reduced inequalities (10), sustainable cities and communities (11), responsible consumption and production (12), climate action (13), life below water (14), life on land (15), peace, justice, and strong institutions (16), and partnerships for the goals (17) (UNDP 2024). Very prominent amongst the seventeen agenda of the sustainable development goal, is the achievement of gender equality stated as goal 5. Gender equality is meant to be achieved across all spectrums of life and economic activities which ensures socio-economic development for the women folk (UNDP 2022; USAID 2020). This makes gender equality not only a fundamental human right but also an economic imperative. It is especially important for developing economies with prevailing high levels of inequality between men and women in terms of education, health, and income (arising from a disproportionate ratio of labor participation rate against women (Lo bue et al. 2022; Banerjee 2019; Revenga & Shetty, 2012).

Trade is one major activity a lot of women

in developing countries love to participate in. Their contribution to international trade through export is quite significant (Afrika & Ajumbo, 2012). As producers, they produce products (especially food and textiles) that are exported. As workers, it is a fact that in developing countries, 33.2 percent of export workers in all major sectors are women (World Bank & WTO, 2020). In addition, women constitute 36.7 percent of the workforce of Global Value Chain (GVC) firms, and 37.8 percent of the workforce of foreign-owned firms. In Nigeria, statistics show that women participate significantly in the manufacturing, agriculture, and food export sector (STATISTA 2023a). This is because the type of jobs they do require unskilled labor with a very low or minimal level of formal education (Alban Conto & Forti, 2022). With just a primary school certificate, a woman can secure a factory or laborer job with which she can sustain herself and complement her husband's income (STATISTA 2023b; Omorodion 2019; Uwakwe 2004). Low education is also a factor that has seen many women resort to petty trading.

Drawing from the 2015 sustainable development goal agenda of the United Nations (UN) which had gender equality as one of its goals, the World Trade Organization (WTO) in 2017, came up with the 'gender and trade' agenda. Nigeria, a member of the World Trade Organization (WTO), signed the agreement on 'Gender and Trade'. The main focus of the agreement as given by the informal working group (IWG) is 'inclusive trade and gender equality'. Similarly in July 2019, Nigeria signed the African Continental Free Trade Area Agreement (AfCFTA). The main objective is to remove tariffs on 90% of goods, thereby encouraging more intra-

regional trade across the African continent. Amongst the many benefits expected from the WTO and AfCFTA agreements is their impact on women's social and economic inclusion. Under the new arrangements, trade export can provide jobs for the skilled labor force amongst women (Echandi et al. 2022; Xolani et al. 2022). World Bank and WTO (2020), established that businesses that are part of a global value chain or with foreign investors on average, employ 11 to 12 percent more women compared to other firms. According to this report, because export companies pay better wages and employ more women, trade agreements such as AfCFTA have the potential to double the value of exports leading to an increase in the average female wage share from 24 percent to about 30 percent, especially for skilled workers. Trade exports under a free trade policy can also lead to the creation of more formal jobs with better benefits for women. Lastly, trade openness can increase women's consumption and spending on education and health. The report concluded that even with the benefits that trade portends for the women folk, trade can also lead to job losses and a concentration of work in lower-skilled jobs except that there is an objective assessment of the potential impact of trade rules on various groups of people (including women) and the development of policies based on evidence. Some other empirical works on trade policies and gender (OECD, WTO 2017; Nsowaa-Adu and Fornale, 2023) have argued for the positive and negative sides of trade agreements and the need to make provisions for gender equality and socio-economic development. This study therefore aims to examine the impact of trade (export) on women's inclusion proxied by female labor participation rate and primary school enrollment in the period before and after the commencement of the implementation

of the trade agreements. The work is limited by the non-availability of disaggregated data on exports to show the actual employment of men to women, the contribution of women to men, and the wages of men to women. However, as displayed in STATISTA (2023a), it is believed that the women folk in Nigeria have significant participation in the three export sectors captured (manufactured, agriculture, and food).

This work contributes to the trade and economic growth literature by highlighting the crucial role trade rules and policies play in gender equality and development in an emerging economy. This makes comparison across developing and emerging countries of the world possible. Further, it provides a veritable feedback channel for global and domestic policymakers and practitioners. For analysis, the following questions are raised; first, what are the effects of trade policy influenced exports on women's inclusion? Second, what are the indirect effects of trade policy influenced exports and (maternal mortality rate/female life expectancy) on women's inclusion? The rest of this paper is organized as follows. Section 2, presents the review of the literature, Section 3 contains the method of study, Section 4 is the analysis and discussion of findings while Section 5 concludes the work.

Literature Review

In the theoretical propositions of neo-classical economics (Becker 1971), the reduction of trade barriers, evident in trade liberalization is meant to promote international trade and competition. The assumption is that trade policies and agreements are unbiased toward the issues of gender, race, or class. The globalization effect that comes with trade liberalization fosters competition and the competitive

pressures generated underscore the need to allow both men and women to take opportunities and fully maximize their potential. This guarantees a buoyant economy that is competitive internationally (UN-IANWGE 2011). However, neo-liberalists think that these positive effects can only be realized when trade barriers that are against women are lifted and trade policies are tailor-made with provisions that consider women (Pieters 2015; Cagatay & Erturk, 2004). This position aligns with some theoretical models relating to the impact of trade liberalization on gender gaps in wages and employment. Some of those include the trade-induced competition model, human capital model, technical-change-based model, and factor-price equalization (Stolper-Samuelson theorem). However, only trade-induced competition and wage discrimination are relevant to this work.

The trade-induced competition and wage-discrimination model (Juhn et al., 2014; Busse and Spielman 2006; Becker 1971) assumes that education attainment for both men and women regardless, a shift in trade would lead to greater competition which makes discrimination between men and women costly and eventually close the gaps in employment and wages. This position has been proven to be non-applicable in developed countries where it has been established that male and female labor inputs are imperfect substitutes (Acemoglu et al., 2004). The implication is that trade liberalization may not necessarily lead to higher female labor participation in such countries. When applied to developing countries, on the one hand, some studies (Pieters 2015; Alhazzawi 2014) have findings that show trade liberalization can reduce gender gaps in wages and employment. On the other hand, some other studies (Baliamoune-Lutz 2020;

Fontana 2003) reveal that trade liberalization even though may increase employment, may not usually lead to higher wages for the women folk in Africa especially. The argument is that a shift in trade will usually increase the demand for higher-level skills which the majority of the women do not have.

Concerning developing countries, trade liberalization could have some unfavorable gendered impacts evident in the inequalities observed in access to and control of economic and social resources, and opportunities (von Hagen, 2014). UNCTAD (2016) noted that trade policies will usually have effects on economic and social activities that differ by gender. Skills, capacity, and access to productive resources are never the same for men and women. Therefore, it can be expected that the impact of trade liberalization on women is double-edged. This impact is also mediated by the different conditions under which people live, and the roles they have in society (von Hagen 2014). On the one hand, trade liberalization provides an opportunity for women (especially in the export-oriented sectors), to earn extra income thereby fostering their economic and social empowerment (Fontana 2003). On the other hand, trade liberalization can lead to the restructuring of labor markets (Zi Hui & Chang, 2023; AlAzzawi, 2014). Under this new arrangement, occupational and wage segregation coupled with bad working conditions becomes common in many export industries. Because women are mostly employed in the export sector compared to other sectors within the space of international trade, they tend to be the first beneficiaries of this unpleasant situation (Baliamoune-Lutz, 2020). Favorable employment and wage effects of trade policy are only observed in countries that specialize in the production of labor-

intensive manufactures. Such effects are not like to be observed in agriculture where less well-established land-use policies and other resources will reduce the gains derivable for women in this sector (Berik, 2011).

Several works in the area of trade liberalization and gender equality (Audi and Ali 2017; Pieters 2015; Verick 2014), have advocated for an increase in women's capacity to be able to take advantage of trade opportunities that accompany trade policies. World Bank (2004) a study on Uganda, came up with findings which show that the achievement of gender equality evidenced by improved access to education and formal employment could increase the country's GDP by 2 percent. A similar conclusion was revealed for Kenya pointing out that improved access to education and agricultural inputs for both men and women could increase the GDP by 4.3 percent.

Arguing for how the capacity development of women in terms of access to education and skills development can facilitate gender equality and thus generate positive trade outcomes, WDR (2012) reveals that larger exports are witnessed in sectors characterized by female-intensive labor and higher gender equality. Investments in infrastructure, education, and health systems can improve the human capital of women and better position them for greater labor participation (Georgieva et al. 2022). This should be complemented with macroeconomic stability, functioning labor markets, and good governance (Cagatay and Erturk 2004).

In addition, WDR (2012) reveals that owing to globalization and trade openness there were increases in female labor force participation across countries and at every

income level between 1980 and 2008. Fontana (2016), a study on Asia and Latin America, finds that trade openness influenced increases in paid employment and wages of women mainly in labor-intensive production, manufacturing and service exports. Wagner (2012); and Do et al., (2011), argue that increases in paid employment and wages owing to trade openness are only observed in countries whose comparative advantage lies in female-labor-intensive sectors such as textile and apparel manufacturing industries. The reverse could be the case when the country has a comparative advantage in technological-based and industrially advanced male-dominated sectors. Trade openness will not only have less positive effects, it may have outright negative effects which further exacerbate the issue of gender inequality.

Trade openness can also be expected to put pressure on the functioning of industries thereby resulting in the restructuring of labor markets. This situation is characterized majorly by the transition from formal to informal employment. Informal employment is quite volatile as workers are employed on a casual basis under unfavorable working conditions. Because women have a significant representation in the manufacturing industries and possess lower skills compared to their male counterparts, shifts in labor demand affect them significantly (World Bank 2014).

An increase in the income of women resulting from trade openness could also have significant effects on their children and families. Women tend to invest in the education of their children and attend to their personal and family health needs. Glick (2002) a review of empirical evidences on women's employment and the

effects on children's education and health in developing countries, established that women's work may have significant impact on their investment in children's schooling which may be positive or negative. The study argued that this will depend upon women's preferences for educating their children compared to their spouses. There is the concern that women who work or trade may either engage substitute caregivers or keep their older children out of school to care for younger siblings. Naturally, going by the existing pattern of the household economy, the girl child is most likely to be the one to take that role of substitute caregiver. This has some negative implications for the girls' future economic status.

Available pieces of evidence show that additional household resources have a positive association with the schooling of the girl child (Glick and Sahn 2000; Behrman and Knowles 1999). From a study in Guinea, Glick and Sahn (2000) established that, in situations where maternal work adds to household income, children's school enrollment probabilities are expected to be even higher. This is because mothers are more inclined to spend on their children. Moreover, mothers also have relatively strong preferences for schooling the girl child.

Data Collection and Methodology

Data Collection
This study identifies the female labor force participation rate and female primary school enrollment rate as important factors indicating the outcome of women's involvement in trade whether as workers or as entrepreneurs (WDR 2012; Wagner, 2012; Glick & Sahn, 2000). Therefore, the two have been adopted as proxies for women's inclusion. Factors such as female life expectancy and maternal mortality rate are also found to play moderating roles. Hence, they are adapted to function as both independent variables and interaction variables. Current expenditures on education and health are found to be important factors determining enrollment and retention in schools, and, ultimately, the number of skilled or unskilled workers/entrepreneurs available in an economy (World Bank 2023; Idrees et al. 2021; World Bank 1995; Psacharopoulos 1994). They are adopted as independent variables. Gross national income per capita (Flug et al., 1998), and current health expenditure per capita (Gaies 2022), are important factors describing the economic contributions of individuals; male and female to economic growth, and the health provisions for individuals; male and female in an economy. Both serve as control variables reinforcing other variables like female life expectancy and maternal mortality rate (Anwar et al. 2023; Onofrei et al. 2021; Jaba et al. 2014). They are adopted as independent variables. Export values are taken from agriculture, manufactured, and food statistics. Annual data on all the variables identified are collected from secondary sources from 1990- 2022. The details of data collection are presented in Table 1.

Table 1. Variable Description and Measurements

Variables	Description	Units of Measurement
FLFP	Female labor force participation rate	Total, percent of national estimate
FPER	Female primary school enrollment rate	Total, percent of national estimate
X'	Manufacture, Agriculture, and food exports	Thousands US dollar
CEXPD	Current expenditure on education	Billion naira
CHEXPD	Current expenditure on health	Billion naira
GPCI	Gross national income per capita	Billion naira
MMR	Maternal mortality rate	Per thousand live birth
HPCI	Current Health expenditure per capita	Billion naira
D	Policy variable	Dummy: 1 = policy shift, 0 otherwise
FLEP	Female life expectancy	Per thousand live birth

Note: data on FLFP, FPR, X', and MMR are sourced from World Development Indicators, published by the World Bank. Data on other variables are sourced from statistical bulletin of the Central Bank of Nigeria.

Research Model

As suggested in Korinek et al. (2021), for analyzing the impacts of recently adopted trade policies in country reviews, an overall employment outcome of trade policy in the context of general equilibrium can be modelled using gender-differentiated data.

Therefore, following the trade-induced competition and wage-discrimination model (Juhn et al., 2014; Busse and Spielman 2006; Becker 1971), a general equilibrium with baseline regression models of the following forms are developed in equations (1 & 2) as follows;

$$FLFP_t = \beta_0 + \beta_1 X'_t + \beta_2 CEXPD_t + \beta_3 CHEXPD_t + \beta_4 GPCI_t + \beta_5 HPCI_t + \beta_6 FLEP_t + \beta_7 MMR_t + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots(1)$$

$$FPER_t = \beta_0 + \beta_1 X'_t + \beta_2 CEXPD_t + \beta_3 CHEXPD_t + \beta_4 GPCI_t + \beta_5 HPCI_t + \beta_6 FLEP_t + \beta_7 MMR_t + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots(2)$$

Equations (1) and (2) above are adjusted to reflect the interaction terms and the resulting equations are presented as;

$$FLFP_t = \beta_0 + \beta_1 X'_t + \beta_2 (X' * MMR)_t + \beta_3 (X' * FLEP)_t + \beta_4 CEXPD_t + \beta_5 CHEXPD_t + \beta_6 GPCI_t + \beta_7 HPCI_t + \beta_8 FLEP_t + \beta_9 MMR_t + \varepsilon_t \ldots\ldots\ldots\ldots\ldots(3)$$

$$FPER_t = \beta_0 + \beta_1 X'_t + \beta_2 (X' * MMR)_t + \beta_3 (X' * FLEP)_t + \beta_4 CEXPD_t + \beta_5 CHEXPD_t + \beta_6 GPCI_t + \beta_7 HPCI_t + \beta_8 FLEP_t + \beta_9 MMR_t + \varepsilon_t \ldots\ldots\ldots\ldots(4)$$

Where, female labor participation rate and female primary school enrollment rate both proxy for women inclusion, X' proxies for Agriculture, manufactured and food exports, MMR is the maternal mortality rate, CEXPD is the current expenditure on education, CHEXPD is the current expenditure on health, HPCI is health expenditure per capita, FPER is female life expectancy rate, t is the period; 1990 – 2022.

Empirical Results and Discussion

Table 2. Descriptive statistics

	Mean	Max	Min	Std. Dev.	Jarque-Bera	Probability	Observations
AGRIEXP	1.93	18.05	0.00	3.60	226.02	0.00	33
FOODEXP	1.11	7.64	0.00	1.56	126.11	0.00	33
MANUEXP	1.94	6.63	0.06	1.92	4.03	0.13	33
CEXPD	203.16	646.75	0.29	212.35	4.45	0.11	33
CHEXPD	123.72	423.33	0.15	137.25	4.99	0.08	33
GPCI	275.07	892.75	4.92	267.62	3.65	0.16	33
HPCI	51.57	106.12	17.65	30.48	2.97	0.23	33
FPER	84.36	94.29	72.48	5.72	1.25	0.54	33
MMR	1028.73	1200.00	917.00	99.72	3.56	0.17	33
FLEP	50.12	53.32	47.03	2.26	3.28	0.19	33
FLFP	55.15	56.93	51.46	2.33	5.72	0.06	33

Note: AGRIEXP FOODEXP MANUEXP respectively stand for agriculture exports, food exports, manufactured exports, non-oil exports.

The result illustrated in table 1 shows the descriptive statistics of the data for all the variables employed in the study. All the export variables have data whose mean fall below the standard deviation. Their mean values are also far below the median values. This is an indication of high level of fluctuation in export data. However, there is a goodness-of –fit of all the export data as indicated by the Jarque-Bera test.
The data on female primary school enrollment rate, maternal mortality rate, female life expectancy and female labor participation rate have similar characteristics. They have mean values close to their median, their mean values are also greater than their standard deviation which are very low compared to the mean. This implies lesser fluctuation in these values. However, only the data on female labor force participation rate have a goodness-of-fit that can be accepted at 10%. The goodness of fit of others is rejected as they are all above the level of significance. The result of the descriptive statistics has made it imperative to test for unit root in the time series data employed in this study.
The unit root test reveal that while some export and other explanatory variables are

non-stationary, others, like agriculture export, manufactured export, gross national per capita income and current expenditure on education are stationary. The combination of I(0), I(I), and I(II) variables in the result necessitate the use of the autoregressive distributed lag (ARDL) technique to generate the short and the long run regression results. ARDL approach is well known for its capacity to generate short run and long run elasticities for a small sample size while also presenting the co-integration properties of variables in the order of ordinary least squares (Duasa 2007).

The ARDL is employed bearing in mind the need to separate the period before the trade policies from the period after. In order to achieve this, another unit root test with structural break was conducted using both the Zivot & Andrews (1992) and the

Narayan & Popp's (2010) methods. The structural break results from both tests have 2017 in common. Therefore, the ARDL technique is adopted with a policy shift period assigned to 2017. Incidentally, 2017 coincides with the signing of the first agreement by Nigeria with the WTO. The agreement is based on inclusive gender and trade. The bounds co-integration test embedded in the ARDL framework was also carried out. The result shows critical values with acceptable probabilities of long-run co-integration relationships among variables.

In the ARDL model, variables in equations 1 & 2 are first converted to their natural log form. A dummy variable is introduced to reflect the trade policy. The model constructs are presented as follows;

$$\Delta \ln FLFP_t = \beta_0 + \sum_{k=1}^{n} \beta_1 \Delta \ln FLFP_{t-k} + \sum_{k=1}^{n} \beta_2 \Delta \ln X'_{t-k} + \sum_{k=1}^{n} \beta_3 \Delta \ln CEXPD_{t-k} + \sum_{k=1}^{n} \beta_4 \Delta \ln CHEXPD_{t-k} +$$

$$\sum_{k=1}^{n} \beta_5 \Delta \ln GPCI_{t-k} + \sum_{k=1}^{n} \beta_6 \Delta \ln HPCI_{t-k} + \sum_{k=1}^{n} \beta_7 \Delta \ln FLEP_{t-k} + \sum_{k=1}^{n} \beta_8 \Delta \ln MMR_{t-k} + \sum_{k=1}^{n} \beta_9 \Delta D_{t-k} +$$

$$\lambda_1 \ln FLFP_{t-1} + \lambda_2 \ln X'_{t-1} + \lambda_3 \ln CEXPD_{t-1} + \lambda_4 \ln CHEXPD_{t-1} +$$

$$\lambda_5 \ln GPCI_{t-1} + \lambda_6 \ln HPCI + \lambda_7 \ln FLEP_{t-1} + \lambda_8 \ln MMR_{t-1} + \lambda_9 D_{t-1} + \varepsilon_t \dots\dots\dots\dots\dots\dots\dots(5)$$

$$\Delta \ln FPER_t = \beta_0 + \sum_{k=1}^{n} \beta_1 \Delta \ln FPER_{t-k} + \sum_{k=1}^{n} \beta_2 \Delta \ln X'_{t-k} + \sum_{k=1}^{n} \beta_3 \Delta \ln CEXPD_{t-k} + \sum_{k=1}^{n} \beta_4 \Delta \ln CHEXPD_{t-k} +$$

$$\sum_{k=1}^{n} \beta_5 \Delta \ln GPCI_{t-k} + \sum_{k=1}^{n} \beta_6 \Delta \ln HPCI_{t-k} + \sum_{k=1}^{n} \beta_7 \Delta \ln FLEP_{t-k} + \sum_{k=1}^{n} \beta_8 \Delta \ln MMR_{t-k} + \sum_{k=1}^{n} \beta_9 \Delta D_{t-k} +$$

$$\lambda_1 \ln FLFP_{t-1} + \lambda_2 \ln X'_{t-1} + \lambda_3 \ln CEXPD_{t-1} + \lambda_4 \ln CHEXPD_{t-1} + \lambda_5 \ln GPCI_{t-1} + \lambda_6 \ln HPCI +$$

$$\lambda_7 \ln FLEP_{t-1} + \lambda_8 \ln MMR_{t-1} + \lambda_9 D_{t-1} + \varepsilon_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(6)$$

Where, β_0 is the drift component, Δ is the first difference, dummy variable which is

also tagged INCLUSION variable is represented as D (D = 0 before 2017, and

D = 1 above 2017), ε_t is the white noise. Equation (5) and (6) is the conditional error correction method. This method allows us to generate coefficients for all the variables in the model in the short-run. In choosing the lag length, the study relies on the Akaike information criterion (AIC).

Diagnostic and Stability tests

The diagnostic test results illustrated in table 3 consists of both the diagnostic tests for the four baseline regression models analyzed respectively (i.e equations 1 – 4). Each of the export sector variants (manufacture, agriculture, and food) and their interaction terms are separated into models for analysis, thereby resulting in twelve models. As can be observed, all the models satisfy conditions for the absence of no serial correlation, the variances are constant over time (no heteroskedasticity), the models are selection are appropriate (RESET). Further, there is no presence of any form of ARCH effect, neither there is any worry about the normality of the error term associated with each model. The CUSM and CUSUM of squared that provides information about the stability of the models also indicate that the models are stable. In summary, the diagnostic tests for each of the model which involve; serial correlation, jarque-bera (normality), heteroscedasticity, arch and reset, show F-statistics and P-values leading to a rejection of the null hypothesis and the acceptance of the alternate hypothesis of serially uncorrelated residuals, normality, correct functional model form, and, homoscedasticity of all the models analyzed. Also, the models are stable going by the F-statistics and the associated *chi-square* of the CUSUM and CUSUME of square[1].

Table 3. Diagnostic and Stability Tests

CATE-GORY	MODEL	Jacque-Bera	Serial Corr.	Hetero	ARCH	RESET	CUSUM	CUSUM-SQUARED
FLFP	MANUFEXP	2.71 [0.22]	0.88 [8.99]	1.67 [0.16]	0.99 [0.33]	0.27 [0.79]	STABLE	STABLE
	MANUF*MMR	1.124 [0.541]	0.483 [0.910]	0.892 [0.351]	1.670 [0.161]	1.143 [0.268]	STABLE	STABLE
	AGRIC	1.731 [0.421]	0.480 [0.676]	0.345 [0.953]	0.188 [0.672]	0.672 [0.549]	STABLE	STABLE
	AGRIC*MMR	0.544 [0.531]	0.725 [0.529]	1.289 [0.386]]	0.015 [0.901]	0.301 [0.218]	STABLE	STABLE
	FOODEXP	1.344 [0.514]	1.106 [0.114]	0.632 [0.376]	1.079 [0.331]	1.533 [0.112]	STABLE	STABLE
	FOOD *MMR	2.512 [0.234]	0.332 [0.723]	0.501 [0.903]	0.281 [0.611]	0.562 [0.533]	STABLE	STABLE
FPER	MANUFEXP	1.338 [0.163]	0.283 [0.798]	0.668 [0.762]	0.757 [0.391]	0.258 [0.531]	STABLE	STABLE
	MANUF*FLEP	0.571 [0.681]	1.198 [0.341]	1.127 [0.425]	0.875 [0.357]	1.697 [0.111]	STABLE	STABLE
	AGRICEXP	0.099 [0.999]	1.174 [0.251]	0.267 [0.993]	0.611 [0.441]	0.287 [0.778]	STABLE	STABLE
	AGRIC*FLEP	0.129 [0.557]	0.1645 [0.851]	0.622 [0.788]	0.349 [0.555]	0.099 [0.925]	STABLE	STABLE
	FOOD	3.256 [0.393]	0.471 [0.679]	0.184 [0.974]	1.047 [0.294]	0.208 [0.848]	STABLE	STABLE
	FOOD*FLEP	0.744 [0.790]	0.435 [0.387]	1.565 [0.209]	2.121 [0.156]	1.413 [0.182]	STABLE	STABLE

*Note:; *,**,*** indicate significant at 10%, 5% and 1% respectively; values in parentheses are t-statistics*

[1]The graphs of CUSUM and CUSUM of square are available on request. Also, the comprehensive report of the diagnostic tests can be accessed on request

Following the satisfactory results from the diagnostic tests, we now proceed to presenting and discussing the estimated models.

Short-run Regression Results

In the short run regression results illustrated in table 4, 5 and 6, the four models are seen to be non-parsimonious with virtually all the export and other variables including the interaction terms having their first, second, and third differences significant. The analysis of result will therefore focus on the coefficients and probabilities of the policy variables revealed under each model.

In table 4, except under the female labor force participation model, the policy variable signifying inclusion, reveals a positive effect of increases in manufactured export in the short run in all other models.

Increases in manufactured export under the female labor force participation rate without interaction has a negative, however, insignificant effect. Notably, the policy variable under the female labor force participation model with the interaction term is positive and significant. This implies that increases in manufactured export with the interaction of maternal mortality rate and female life expectancy in the short run (the period leading to the adoption of the policy), positively and significantly affected female labor force participation rate. This finding provides support for the conclusions reached in: WDR (2012); Wagner (2012); Glick and Sahn (2000). The same can be said for female primary school enrollment model with the interaction term except that the policy variable signifying inclusion is positive, however, not significant here.

Table 4. Short-run dynamic result of the effect of trade on women's inclusion: Manufactured Export

	1	2	3	4
C	-0.551** (2.297)	-0002 (-0.960)	-0.591 (-1.045)	-0.285 (-1.235)
FLFP(-1)	-0.268** (-2.959)		-0.542* (-1.773)	
FPER(-1)		-0.874*** (-4.737)		-0.988*** (-4.823)
MMR(-1)	-0.005** (-2.182)	0.019* (1.183)	-0.003 (-0.810)	-0.032* (-1.805)
FLEP(-1)	0.290** (2.929)	0.560 (1.370)	0.427* (1.895)	0.599* (1.935)
HPCI(-1)	-0.061*** (-3.963)	0.055 (0.691)	-0.112*** (-3.600)	0.301** (2.885)
GPCI	0.001 (0.288)	-0.086** (-2.272)	0.019 (1.259)	-0.257*** (-3.544)
CEXPD	-0.014*** (-3.115)	0.216*** (3.145)	-0.017 (-1.389)	0.045 (0.793)

Table 4 continued

	1	2	3	4
CHEXPD(-1)	0.003 (0.402)	-0.208* (-1.954)	-0.030 (-1.151)	0.174 (1.345)
MANUEXP	-0.043 (-0.600)	-0.693* (-1.728)	0.263 (0.329)	0.149*** (4.831)
FLEP(-1)*MANUEXP(-1)				0.131*** (5.642)
D(MMR)	0.001 (0.642)		0.001 (0.474)	-0.002 (-0.171)
D(FLEP)	-0.456 (-1.107)		-0.370 (-0.566)	-0.016 (-0.005)
D(FLEP(-1))	-0.047* (-1.717)		-0.248 (-1.634)	
D(HPCI)	-0.019 (-1.322)		0.066** (2.092)	-0.764** (-2.714)
D(HPCI(-1))	0.025 1.826		0.025 1.607	
D(GPCI)		0.110** (2.176)	-0.034 (-1.844)	0.147*** (3.272)
D(GPCI(-1))				0.185** (2.031)
D(CEXPD)		0.082** (2.201)	-0.005 (-0.481)	
D(CEXPD(-1))		-0.085** (-2.477)	0.018** (2.443)	
D(CHEXPD)		-0.036 (-0.721)	-0.006 (-0.403)	0.042 (0.608)
D(CHEXPD(-1))		0.125** (2.554) (0.180)	(1.604)	-0.069 (-1.527) (-4.777)
D(MANUEXP(-1))			0.981 (1.153)	0.361** (2.545)
D(MANUEXP*MMR)			-0.005 (-0.984)	0.122** (4.287)
D(MANUEXP(-1)*MMR(-1))			-0.005 (-0.780)	

Table 4 continued

	1	2	3	4
D(FLEP*MANUEXP)			-0.496*	0.584***
			(-1.798)	(4.857)
D(FLEP(-1)*MANUEXP(-1))			-0.523	-3.944**
			(-1.255)	(-2.482)
INCLU	-0.013	0.011	0.014**	0.042
	(-0.72)	(0.41)	(2.765)	(0.266)

Note: *models 1 to 4 indicate the model for female labor force participation rate, female primary school enrolment rate, female labor force participation rate interaction (MANUEXP*MMR)), and female primary school enrolment rate interaction (FLEP*MANUEXP) respectively; ; *,**,*** indicate significant at 10%, 5% and 1% respectively; values in parentheses short-rustics. Any variable with -1 indicates the previous year.*

Table 5. Short-run dynamic result of the effect of trade on women's inclusion: Agriculture Exports

	5	6	7	8
C	0.520**	-0.617	1.702	0.754***
	(2.291)	(-1.010)	(0.456)	(3.251)
FLFP(-1)*	0.000		0.100*	
	(0.054)		(1.806)	
FLFP(-1)*				
FPER(-1)*		-0.913***		-1.486**
		(-4.151)		(-2.470)
MMR**		0.030*	0.002**	-0.190**
		(1.901)	(2.067)	(-2.737)
FLEP**	-0.047	2.151	-0.195	-0.214**
	(-0.405)	(1.516)	(-1.454)	(-3.470)
HPCI(-1)	0.007	0.031	0.018***	0.463**
	(1.211)	(0.351)	(3.248)	(2.251)
GPCI(-1)	-0.002	-0.049	0.005**	-0.607**
	(-1.002)	(-1.686)	(2.420)	(-2.614)
CEXPD**	0.006**	0.055*	-0.004	1.567**
	(2.501)	(1.997)	(-1.139)	(2.650)
CHEXPD**	-0.009**	-0.018	-0.004	-1.289**
	(-2.345)	(-0.435)	(-0.964)	(-2.618)
AGRIEXP**	-0.150***	-0.298	-0.075***	-0.174***
	(-8.221)	(-0.970)	(-4.134)	(-3.285)
AGRIEXP(-1)*MMR(-1)			0.001	0.774**
			(1.340)	(2.826)

Table 5 continued

	5	6	7	8
AGRIEXP(-1)*FLEP(-1)			0.329*** (4.310)	0.814*** (3.588)
D(MMR)				-0.145** (-2.587)
D(MMR(-1))			-0.001** (-2.698)	0.791 (1.739)
D(FLEP)	0.108 (0.897)		0.069 ((0.86)	
D(FLEP)	-0.206 -1.359			0.107 (0.015)
D(FLEP(-1))			-0.228 (-0.251)	3.160 (0.651)
D(HPCI)	-0.004 (-0.662)	0.000 (0.001)	0.003 (0.774)	-0.216 (-1.033)
D(HPCI(-1))		0.199* (1.874)		-0.753** (-2.169)
D(GPCI)	0.009*** (4.713)	0.064 (1.206)	0.014*** (6.658)	-0.160 (-0.888)
D(GPCI(-1))			-0.010*** (-3.717)	0.618 (1.658)
D(CEXPD)	0.000 (-0.037)		-0.007*** (-3.001)	0.710** (2.551)
D(CEXPD(-1))			0.004** (2.280)	-0.562** (-2.639)
D(CHEXPD)	-0.001 (-0.541)		0.004 (1.510)	-0.498** (-2.430)
D(CHEXPD(-1))	0.003* (1.971)		0.004*** (3.253)	0.564** (2.680)
D(AGRIEXP)	0.099*** (7.483)		-0.284 (-5.762)	-0.835** (-2.380)
D(AGRIEXP(-1))	0.127*** (6.858)		-1.997*** (-3.758)	1.476** (2.446)
D(AGRIEXP*MMR)			0.001** (2.926)	0.796** (2.586)

Table 5 continued

	5	6	7	8
D(AGRIEXP(-1)*MMR(-1))			0.002*** (3.999)	- 0.373*** (-3.003)
D(AGRIEXP*FLEP)			0.236*** (6.136)	1.115* (1.811)
D(AGRIEXP(-1)*FLEP(-1))				-0.980** (-2.041)
INCLU	-0.011 (-0142)	0.002 (1.38)	0.003** (1.105)	0.000 (-0.010)

*Note: the models 5 to 8 indicate model for female labor force participation rate, labor force participation rate interaction (AGREXP*MMR), female primary school enrolment rate and primary school enrolment rate interaction (AGRIEXP*FLEP) respectively. Any variable with -1 indicates previous year.; *,**,*** indicate significant at 10%, 5% and 1% respectively; values in parentheses are t-statistics*

The short run regression result for agriculture export illustrated in table 4 reveals similar characteristics to those of the manufactured export. Like in manufactured export, in the short run (the period leading to the adoption of the policy), increases in agriculture export when interacted with maternal mortality rate and female life expectancy, as revealed by the policy inclusion variable, has a significant positive effect on the female labor force participation rate. Increases in agriculture export without interaction has a negative, however, insignificant effect on female labor force participation rate. The policy inclusion variable under the female primary school enrollment rate with the interaction term reveals that, in the short run, increases in agriculture export when interacted with maternal mortality rate and

life expectancy, positively and significantly affects female primary school enrollment. These findings provide support for those of Maskaeva and Omamuli (2023), who simulated the impact of policy reforms both from the literature and from government proposals on key indicators of women's economic empowerment, using the computable general equilibrium models (CGE). Amongst others, when the impact of policies to provide women with equal access to agricultural land (alongside increasing the number of women farmers) was simulated, the study has findings which show that the reform has positive impacts on agricultural output, demand for female labor, and households' purchasing power. Without interaction, policy variable reveals agriculture export has positive, however insignificant effect on female primary school enrollment.

Table 6. Short-run dynamic result of the effect of trade on women's inclusion: Food Exports

	9	10	11	12
C	-0.779* (-1.968)	-0.542 (-1.026)	-0.933 (-1.218)	-0.607** -(2.299)
FLFP(-1)*	-0.007 (-0.076)	-0.984*** (-4.562)	0.017 (0.106)	
FPER(-1)*		-0.984*** (-4.562)		-0.945*** (-3.348)
MMR(-1)	-0.001 (-0.687)	0.031** (2.078)	0.001 (0.361)	0.017 (0.949)
FLEP**	0.258* (1.823)	0.199 (1.606)	0.220 (0.742)	0.241 (2.769)
HPCI(-1)	-0.007 (-0.917)	0.059 (0.673)	-0.005 (-0.418)	-0.223 (-1.046)
GPCI(-1)	-0.002 (-0.716)	-0.057** (-2.035)	0.007 (1.032)	-0.032 -(0.522)
CEXPD(-1)	0.001 (0.208)	0.063** (2.291)	-0.016** (-2.263)	-0.085 (-0.915)
CHEXPD(-1)	-0.002 (-0.293)	-0.016 (-0.407)	0.009** (2.129)	0.077 (1.191)
FOODEXP(-1)	-0.265*** (-3.470)	-1.140 (-1.509)	0.419** (2.041)	-0.177*** (-3.096)
FOODEXP(-1)*MMR(-1)			-0.013*** (-3.104)	0.117** (2.769)
FOODEXP(-1)*FLEP(-1)			-0.405 (-1.546)	8.201*** (3.037)
D(MMR)	-0.001 (-0.688)		0.001 (1.028)	0.020 (1.096)
D(MMR(-1))	-0.002** (-2.030)		-0.001 (-0.802)	-0.024 (-1.386)
D(FLEP)			0.102 (0.452)	
D(FLEP(-1))			-0.278 (-0.707)	
D(HPCI)	-0.030** (-2.777)	0.012 (0.091)	0.013 (0.723)	-0.538** (-2.284)

Table 6 continued

	9	10	11	12
D(HPCI(-1))	-0.023** (-2.273)	0.242** (2.275)	0.039 (1.657)	
D(GPCI)	0.013*** (3.893)	0.067 (1.363)	0.015*** (3.875)	0.112* (1.862)
				0.112 (1.643)
	-0.010*** (-4.065)		-0.014*** (-3.333)	-0.080 (-1.108)
				0.061 (1.364)
	0.009** (2.404)			
	0.003 (1.332)			
	0.170*** (3.037)		-0.818 (-0.485)	9.227 (0.283)
D(GPCI(-1))			-0.675*** (-3.168)	
			-0.003 (-1.157)	0.004 (0.094)
			0.010*** (4.394)	
			0.169 (0.857)	-1.057 (-0.370)
			0.412** (2.651)	-0.071* (-1.854)
	-0.008 (-0.975)	0.066* (1.829)	0.002* (1.829)	0.008* (1.903)

*Note: models 9 to 12 indicate the model for female labor force participation rate, labor force participation rate interaction (FOODEXP*MMR), female primary school enrolment rate, and female primary school enrolment rate interaction (FLEP*FOODEXP) respectively; Any variable with -1 indicates previous year *,**,*** indicate significant at 10%, 5%, and 1% respectively; values in parentheses are t-statistics*

The short run regression result illustrated in Table 6 for food export reveals, yet similar characteristics as in table 3 and 4. However, the policy variable is not only positive in other models apart from female labor participation without interaction, they are all significant. The implication is that in the period leading to the adoption of the policy, food export directly and indirectly, positively and significantly affect women

inclusion through female primary school enrollment. This finding provides support for Urama and Yuni (2019), a study on the food crop sector in Nigeria from 1999 – 2016. The study has findings which show that food production in Nigeria after series of fluctuations in per capita value starting with US$204 in 1999 - 2001, US$220 in 2004 -2006, and, US$192 in 2008, increased geometrically to an all-time high between 2014 and 2016 with a corresponding increase in the value of food production per capita of US$204 between 2012 -2014. The study further reported a decline in value of food production per capita from 2014 which as at 2016 had gone back to the 1999 value. Women in different regions of Africa including Nigeria, have been actively involved in the food export sector. Before trade liberalization, women had been involved in cross-border trade in food crops and livestock contributing as much as 43 percent of income to the national income of the entire continent (Ajumbo & Afrika, 2012).

Long run Regression Results[2]

The long run regression result for manufactured export reveals the direct and indirect effect of manufactured export on female labor participation rate and female primary school enrollment rate. Directly, manufactured export has negative, however, not significant effect on women inclusion (female labor force participation and female primary school enrollment rate). Indirectly, when interacted with maternal mortality rate and female life expectancy, manufactured export, negatively, however insignificantly, impacted on female labor force participation. It positively and significantly, impacted on women inclusion through female primary school enrollment rate. The implication is that the

involvement of women in the manufactured export sector post-trade liberalization brought more benefit in terms of higher wages which enabled them to enroll their female children in primary school. However, the labor participation of women in that sector has reduced over time, although insignificantly. At the initial stage, adoption of export-oriented policies tend to encourage massive movement of female workers into labor intensive manufacturing production which has led to the feminization of labor (UNCTAD 2014c). Because most of these women offer unskilled labor, they are employed en-masse, and offered cheap wages thereby helping the manufacturers meet up with the pressure to supply the international competitive market. Due to lower levels of skills and education, resulting in lower mobility, these women accept precarious conditions of employment. The jobs created in non-agricultural sector such as manufacturing are often informal in nature. They are hardly covered by labor law, therefore they offer low remuneration and protection (Otobe, 2015). Even tough women earn regular wages from manufactured export sector, with which they are able to support their families and send their female children to school (this may not have been possible without the woman's income) (Glick 2002; Glick & Sahn 2000), feminist economist have raised concerns over the employment which they consider as "decent work deficit" (Otobe 2015).

The long run regression result for agriculture export reveals it has direct negative effects on women inclusion through female labor force participation rate and female primary school enrollment

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[2]Owing to limited space, tables showing the long run results are not presented. However, the table will be made available on request

rate which is more significant in female primary school enrollment rate. Agriculture export when interacted with maternal mortality rate has no significant indirect effect. However, when interacted with female life expectancy, on one hand, it has negative and significant indirect effect on female labor force participation, on the other hand, it has positive and significant indirect effect on female primary school enrollment. The implication is that overtime, trade policy have reduced female labor force participation in the agriculture export sector, however, it has made agriculture export more lucrative for the women who participated. FAO (2004) a report of selected developing countries' case study on the effect of trade liberalization strategies on welfare and livelihoods of women pointed out that women's work in the agricultural sector is often integral to the functioning of smallholder farms, by carrying out sustenance activities and participating in post-harvesting. Trade liberalization alters the course of resource allocation as competition for higher production becomes stiff. Women tend to be dislocated from the land they tend. Therefore, benefits of the economic and trade reforms largely accrue to medium and large farmers who are mostly not women. This position is expatiated in Spieldech (2007) in the discussion of women in global agriculture in the face of trade and economic liberalization. Women producers who cannot favorably compete in the agricultural sector have been forced to offer their labor and services to other sectors such as hotel operations and tourism. Others who have stayed in the agricultural sector no longer cultivate their own crops but are employed in the post-harvest packing and processing. Some women even find employment in the non-traditional agricultural export sector and in export

processing factories as pickers, sorters, graders, and, packers.

The long-run regression result for food export reveals it has no significant direct or indirect effects on women inclusion either through female labor force participation or female primary school enrollment. The rising quantum of food import from the USA and other Western countries into Nigeria since the last two decades and the rising impact of climate change, extremist insurgencies and insecurity (ITA (2023), are some of the major factors that can be attributed to the no effect situation of food export on women inclusion post-trade liberalization. Lecoutere et al. (2023) a study on women in agri-food systems and the effect of climate risk in India, argue that when structural constraints to gender equality underlie unequal access to resources, and services, and constrain women's agency, local climate hazards and stressors such as drought, floods, or shortened crop-growing seasons tend to negatively affect women more than men as women's adaptive capacities tend to be more restrained than men's. The study concluded that low-middle income countries (LMICs) at highest risk are majorly situated in Asia and Africa.

Conclusion and Policy Recommendations

Generally, in the short run, trade policy could not cause any significant direct effect on women's inclusion in all the major export sectors. However, it had significant and positive indirect effects on women's inclusion in all the major export sectors. An exception occurred in food export where a direct positive and significant effect was revealed for female primary school enrollment. In the long run, the positive and significant effects of increases in manufactured and agriculture exports on

women's inclusion were indirect through female primary school enrollment.

Therefore, for policy considerations, it should be noted that the trade benefits that come to women easily manifest in the rate at which they enroll their children in elementary schools. Policymakers can target young women who are likely to have their children in primary schools for some trade/skill incentives or improved employment condition in the export sector. Women's participation in agriculture should be encouraged through access to high quality inputs and provision of gender-focused training in their application. Gender-focused training in high-quality inputs in the agricultural sector to a large extent, is not happening yet in Nigeria (Sahay & Geist, 2023; Bello et al. 2021; Ikhide et al. 2021; Rufai et al. 2018).

While there are government policies for economic empowerment in Nigeria such as N-power, Cash Transfer for the poorest households, and, some recent initiatives like She-works here, Women's Investment Fund, She-Trades et.c, all of which addresses the needs of women traders or exporters, currently, there are no economic policy, legislation, or aspect of an existing policy that focuses on labor conditions or incentives for women who are employees in the export sector in Nigeria. It is reported in ILO (2019); UN-women (2015a); UNCTAD (2014c) that women employees in developing countries, especially those offering unskilled labor in the export sector, are the worst victims of casualization, harassment, and lack of incentives. To date, there are no government policies or legislation on the issue of casualization in all the export sectors. In addition to the issue of casualization and harassment, women in these sectors are not entitled to maternity leave/allowance. Therefore, there is a need to revisit the Nigerian labor laws with a view to introducing clauses that discourage temporary employments for permanent jobs and also including some conditions favorable to women.

Special attention needs to be paid to the food export sector which had significant positive contributions to women's inclusion before the implementation of the trade policy, however, has seized to have any significant contribution in the period after. In addition, improved investment in human capital development; mainly health and education with a special focus on the female folk to enhance women's inclusion is advocated. It is generally reported that the food export sector in Nigeria has been negatively affected by climate change, extremist insurgencies and insecurity (ITA 2023; Lecoutere et al. 2023). The food sector in mostly Asian and African countries has been under-performing with an increasing volume of food import witnessed in the last two decades and the attendant negative effects on smallholder women producers (Lecoutere et al. 2023).

REFERENCES

Acemoglu, D., Autor, D., & Lyle, D. (2004). Women, war, and wages: The effect of female labor supply on the wage structure at mid-century. *Journal of Political Economy*, 112(3): 495-551

Afrika, J., & Ajumbo, G. (2012). Informal cross-border trade in Africa: Implications and policy recommendations. *Africa Economic Brief*, 3, 1-13.

AlAzzawi, S. (2014). Trade liberalization, industry concentration and female workers: the case of Egypt. *IZA Journal of Labor Policy*, 2014, 3:20.

Alban Conto, C., & Forti, A. (2022). *Education and skills for women's integration into the labor market: A comparative analysis of eight sub-Saharan African countries*. UNESCO-IIEP, Dakar.

Anwar, A., Hyder, S., Nor, N.M., Younis, M. (2023). Government health expenditures and health outcome nexus: A study on OECD countries. Frontiers of Public Health, Sec. Health Economics, 11. https://doi.org/10.3389/fpubh.2023.1123759

Audi, M., & Ali, A. (2017). Gender gap and trade liberalization: An analysis of some selected SAARC countries. MPRA Paper no 83520. https://mpra.ub.uni-muenchen.de/83520

Baliamoune-Lutz, M. (2020). Trade and women's wage employment. RP-20/01. Policy Centre for the New South, Morroco.

Banerjee, M. (2019). Gender equality and labor force participation: mind the gap. *Indian Journal of Women and Social Change*, 4(1), 113-123. https://doi:10.1177/2455632719831827

Becker, G. (1971). *The Economics of Discrimination*. Chicago University Press, Chicago.

Behrman, J.R., & Knowles, J. (1999). Household income and child schooling in Vietnam. *The World Bank Economics Review*, 13(2), 211-256.

Bello, L.O., Baiyegunhi, L.J.S., Danso-Abbeam, G., & Ogundeji, A.A. (2021). Gender decomposition in smallholder agricultural performance in rural Nigeria. Scientific African, 13, e00875.

Berik, G. (2011). Gender aspects of trade in "Trade and Development: From Myths to Facts" (M.Jansen, R.Peters and J.M Salazar-Xirinachs (Eds.)), European Union/International Labor Organization, Geneva.

Catagay, N., Erturk, K. (2004). Gender and globalization: A macroeconomic perspective. Working paper no 19. Policy Integration Department, Commission on Social Dimension of Globalization, International Labor Office, Geneva.

Do, Q., Levchenko, A.A., & Raddatz, C. (2011). *Engendering Trade*. World Bank policy Working paper no 5777

Duasa, J. (2007). Determinants of Malaysian trade balance: An ARDL bounds testing approach. *Global Economic Review*, 36(1), 89-102. http://doi.10.1080/12265080701217405.

Echandi, R., Maliszewska, M., & Steenbergen, V. (2022). *Making the most of the African Continental Free Trade Area: Leveraging Trade and foreign direct investment to boost growth and reduce poverty*. World Bank Group, Washington D.C

FAO (2004). *Impact of International Agricultural Trade and Gender Equity: Selected Country Case Studies*. Food and Agricultural Organization, Geneva.

Flug, L., Spilimbergo, A., & Wachtenheim, E. (1998). Investment in education: Do economic volatility and credit constraints matter? Journal of Development Economics, 55(2), 465-481. https://doi.org/10.1016/s0304-3878.

Fontana, M. (2003). The gender effects of trade liberalization in developing countries: A review of the literature.

Discussion Paper 101, Department of Economics, University of Sussex.

Fontana, M. (2016). *Gender Equality in Trade Agreements*. Directorate General for Internal Policies, Department for Citizen's Rights and Constitutional Affairs, Women's Rights & Gender Equality, European Union, Brussels. http://www.europarl.europa.eu/supporting-analyses.

Gaies, B. (2022) Reassessing the impact of health expenditure on income growth in the face of the global sanitary crisis: The case of developing countries. *European Journal of Health Economics*, 23, 1415-1436. https://doi.org/10.1007/s10198-022-01433-1

Georgieva, K., Sayeh, A.M., & Sahay, R. (2022 September 8). How to close gender gaps and grow the global economy. IMF Blog, Washington D.C.

Gideon, A., & Nani, S. (2019). *The Web of Globalization. Africa's Position in International trade*. Munich, GRIN Verlag. https://www.grin.com/document/505173.

Glick, P. (2002). Women's employment and its relation to children's health and schooling in developing countries: Conceptual links, empirical evidence, and policies. Cornell Food and Nutrition Policy program working Paper no 131. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=424101

Glick, P., & Sahn, D. (2000). Schooling of girls and boys in a West African country: The effects of parental education, income, and household structure. *Economics of Education review*, 19(1), 63-87.

Idrees, M., Khan, F., & Omar Fauzee, M.S.B. (2021). Analysis of the effect of government expenditure on school enrollment in Pakistan. *Responsible Education, Learning and Teaching in Emerging Economies*, 3(1), 27-35.

ILO (2019). *Non-standard employment around the world: Understanding challenges shaping prospects*. International Labor Organization, Geneva.

Ikhide, E., Beyene, L.M., Umaru, E.K., Oyebola, F., & Omoju, O.E. (2021). A CGE analysis of gender disparities in productivity in Nigeria's agricultural sector. PEP working paper series, 2021-05. https://portal.pep-net.org

ITA (2023). Nigeria – Country Commercial Guide. International Trade Administration, Washington, D.C.

Jaba, E., Balan, C.B., Robu, I. (2014). The relationship between life expectancy at birth and health expectations estimated by a cross-country and time-series analysis. Procedia Economics and Finance, 15, 108-114.

Juhn, C., Ujhelyl, G., & Villegas-Sanchez, C. (2004). Men, women, and machines: How trade impacts gender inequality. Journal of Development Economics, 106(C), 179-193.

Korinek, J., Moise, E., & Tange, J. (2021). Trade and Gender: A framework of Analysis. OECD Trade Policy Paper. OECD Publishing.

Lecoutere, E., Mishra, A., Singaraju, N., Koo, J., Azarri, C., Chinana, N., Nico, G., & Puskur, R. (2023). Where women in agric-food systems are at highest climate risk: A methodology for mapping climate – agricullture-gender inequality hotspots. *Frontiers of Sustainable Food System*, 7:1197809. https://doi:10.3389/fsufs.2023.1197809

Lo Bue, M.C., Ngoc Le, T.T., Silva, M.S., & Sen, K. (2022). Gender and vulnerable employment in the developing world: Evidence from global microdata. *World development*, 159. https://doi.org/10.1016/j.worldev.2022.106010.

Nsowaa-Adu, M., & Fornale, E. (2023). Negotiating towards a tailor-made gender protocol under the AfCFTA: Could integrating Africa's fragmented gender chapters be the key? World Trade Institute, University of Bern, Switzerland.

Maskaeva, A., & Omamuli, W. (2023). CGE modelling on empowering women in the agricultural sector. UNDP Working Paper, UNDP-Tanzania.

Obinna, O.C., & Muntaka F. (2022). Nigeria: Strengthening women's participation in trade. Southern Voice, March 7. https://southernvoice.org/nigeria-strengthening-women's-participation-in-trade/

Omorodion, F.I. (2019). Gendering of work and its implications on youth sexuality in the Niger-Delta region of Nigeria. African Journal of Gender and Women Studies, 4(1), 001-009.

Onofrei, M., Vatamanu, A., Vintila, G., & Cigu, E. (2021). Government health expenditure and public health outcomes: A comparative study among EU developing countries. International Journal of Environmental Research and Public Health, 18(20): 10725. https://doi/10.3390/ijerph182010725.

Otobe, N. (2015). Export-led development, employment and gender in the era of globalization. Employment Working Paper no 197, ILO, Geneva.

Pesaran, M., & Pesaran, B. (1997). *Microfit 4.0.* Oxford University Press, England.

Psacharopoulos, G. (1994). Return on investment in education: A global update. World Development, 22(9), 1325- 1343. https://doi.org/10.1016/0305-750X(94)90007-8

Pieters, J. (2015). Trade liberalization and gender inequality. IZA World of Labor 2014:114. https://doi:10.1585/izawol.114.

Revenga, A., & Shetty, S. (2012). Empowering women is smart economics. *Finance and Development*, March, 49(1). https://www.imf.org/revenga.pdf

Rufai, A.M., Salman, K.K., & Salawu, M.B (2018). Input utilization and agricultural labour productivity: A gender analysis. In A. Shimeles, A. Verdier-Chrichane, A. Boly (eds.) *Building a Resilient and Sustainable Agriculture in sub-Saharan Africa.* Springer e-book, Palgrave-Macmillan, UK.

Salay, A., & Geist, A. (2023). Realizing Nigeria's economic potential requires a stronger focus on women farmers. World Bank Blogs, October 25. https://worldbank.org/en/africanan/realizing-nigerias-economic-potential-requires-stronger-focus-women-farmers

Schmieg, E. (2016). Global trade and African countries. Free trade agreements, WTO and regional integration. Working Paper RD-EU/Europe, 2016/02, July, SWP Berlin.

Spieldech, A. (2007). A row to hoe: The gender impact of trade liberalization on our food system, agricultural markets and women's human rights. Friedrich-Elbert-Stiftung, Geneva.

STATISTA (2023a). Main working status of women in Nigeria as of 2022. Statista Research Department, Nigeria.

STATISTA (2023b). Common jobs of women in Nigeria. Statista Research Department, Nigeria.

UNCTAD (2014c). *Trade, Gender and the Post-2015 development Agenda, Post-2015 Policy brief.* UNCTAD, Geneva.

UNDP (2024). *What are the sustainable development goals?* https://www.undp.org/sustainable-development-goals

UNDP (2022). *Gender Equality Strategy 2022-2025.* UNDP, New York, USA

UN-IANWGE (2011). Gender Equality & Trade Policy. United Nations Inter-Agency Network on Women and Gender Equality (IANWGE), Washington D.C.

http://wwww.un.org/womenwatch/

UN-Women (2015a). *Transforming Economies, Realizing Rights*. United Nations, New York.

Urama, N.E., & Yuni, D.N. (2019). Food sector performance in Nigeria. https://www.researchgate.net/publication/331275771

USAID (2020). *Gender Equality and Women's Empowerment: 2020 Policy*. USAID, Washington D.C.

Uwakwe, M.O. (2004). Factors affecting women's participation in the labor force in Nigeria. *Journal of Agriculture and Social Research*, 4(1), 43-53.

Verick, S (2014). Female labor force participation in developing countries: Improving employment outcomes for women takes more than raising labor market participation, good jobs are important too. IZA World of Labor 2014:87. https://doi:10.15185/izawol.87

Von Hagen, M. (2014). *Trade and Gender: Exploring a reciprocal relationship. Approaches to mitigate and measure gender related trade impacts*. GIZ, GmbH, Nepal.

Wagner, C.Z. (2012). *Looking at Regional Trade Agreements through the lens of Gender*. Saint Louis University School of Law. Legal Studies Paper Series.

World Bank/ WTO (2020). *Women and Trade: The role of trade in promoting gender equality*. The World Bank & the World Trade Organization (WTO), Washington D.C, USA.

World Bank (2023). *The Adequacy of Public Expenditure on Education and the Needs Post Covid19*. World Bank, Washington, D.C

Xolani, T., Mlambo, V.H., & Mkhize, N. (2022). The African Continental Free Trade Area Agreement (AfCFTA): Possible benefits for women and youth in Africa. *Latin American Journal of Trade Policy*, 13(2022), 87-114.

Zi Hui, Y., & Chang, H.C. (2023). The effect of trade on the gender gap in labor markets: the moderating role of information and communication technologies. *Economic Research-Ekonomska Istrazivanja*, 36(1), 2443-2462. https://doi.org/10.1080/1331677X.2022.210043

UN SDG 3.1: International Partners and Ghana's Interventions on Maternal Healthcare

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Abstract:
The main aim of the study is to analyze the role of global partners and the government of Ghana's efforts toward achieving UN SDG 3.1. It specifically examines the effectiveness or otherwise of policy interventions of Ghana toward achieving SDG 3.1 by 2030. The health of mothers is crucial as states are taking appropriate measures and interventions to reduce maternal death to the barest minimum globally, in Africa, and Ghana. Maternal mortality is a global public health issue that has been at the center of global health. States' efforts toward achieving the target to reduce maternal mortality as part of the MDGs were not reached or achieved. Thus, the UN SDGs were adopted in 2015. SDGs particularly Goal 3.1 calls for interventions by governments to reduce maternal mortality globally. A qualitative design was used in this study in which data was obtained largely from in-depth interviews, a few FGDs and official document reviews. The researchers also utilized secondary data sources largely from books, journal articles, and internet sources. The data were analyzed through content analysis. The findings from Ghana revealed maternal mortality is largely due to obstetric causes, as such Ghana adopted rigorous interventions to address the problem. Some maternal health intervention gaps or some challenges were found which impeded the quality and access to maternal health services in Ghana. It recommends an improvement in mothers' access to emergency obstetric care and intensive education on maternal healthcare among others towards achieving SDG 3 by 2030.

Key words: UN SDG 3, maternal healthcare, international development partners, Ghana

Introduction

The study aims to analyze the role of global partners and the government of Ghana's efforts toward achieving UN SDG 3.1 (maternal mortality) by 2030. For this reason, it specifically examines the effectiveness or otherwise of Ghana's policy measures/strategies or interventions toward reducing maternal mortality by 2030. The study shared perspectives of healthcare workers (midwives/policy experts among others) on the efforts of international partners and Ghana toward the global agenda.

The World Health Organization (WHO) defines maternal health as "the health of women during pregnancy, at childbirth and the postnatal period" (WHO, 2021). Part of the human rights of women is the right to go through pregnancy and childbirth safely and this was first made clear in the Program Action of the United Nations International Conference on Population and Development in 1994 (Gruskin et al., 2008). Maternal health is regarded as a domestic issue however during the late 20th Century it was accepted globally as a public health issue (WHO, 1948, 2005). Maternal healthcare gained some international attention following the article "Where is the 'Maternal' in Maternal and Child Health". As it dealt with issues of the exclusion of women in maternal and child health programs. Over the years, the international community focused more on child healthcare than maternal healthcare (women). Global efforts to improve the health conditions of women and reduce maternal mortality brought about the Safe Motherhood Initiative following the International Conference on Safe Motherhood which took place in Nairobi in 1987. The conference called on the UN

member states to improve the health conditions of women and particularly reduce maternal deaths (Gruskin et al., 2008). Also, the Safe Motherhood Initiative was adopted by various international agencies, governments and international non-governmental organizations (INGOs). This initiative highlights maternal health conditions and finding solutions to maternal mortality and morbidity by half by 2000. This was not achieved however it played a notable role in the introduction of policies regarding maternal health (Kyei-Nimakoh et al., 2016). In addition, the Safe Motherhood Initiative revealed the public health gap between rich and poor countries (Gruskin et al., 2008).

In 2000 the UN Millennium Summit led to the launch of the Millennium Development Goals (MDGs). The MDGs aim to address poverty, hunger, education, gender equality and diseases. The MDGs consisted of eight development goals to be attained by 2015 (UN, 2015). The Millennium Development Goal 5 focused on reducing the rate of maternal mortality by 75% and achieving universal access to reproductive health by 2015 (Kyei-Nimakoh et al., 2016). At the end of 2015, although there was significant progress towards achieving MDG 5, the progress was uneven, especially in Africa and other least-developed countries with the target of reducing maternal mortality (Moran et al., 2016). Maternal mortality remained high with about 303,000 maternal deaths annually with sub-Saharan Africa and Asia recording the highest (Moran et al., 2016).

The sustainable development goals (SDGs) which are also known as the Global Goals were launched in September 2015 by United Nations member states to replace

the MDGs. The SDGs' are the global call for action geared towards the eradication of poverty and hunger, the protection of the planet and ensuring that all people (persons) enjoy peace and prosperity among others (United Nations, 2015). The SDGs consist of seventeen (17) goals which are to be realized by 2030. The SDGs also have 169 targets whose progress will be tracked with 232 indicators. The theme of the SDGs is ensuring that "no one is left behind." These goals and targets emerged from intergovernmental negotiations and proposals from the Sustainable Development Goals Open Working Group. This global agenda aims at building the MDGs and also completing what was not realized by the MDGs, especially, reaching the most vulnerable (United Nations, 2015). These global goals are to be implemented on national, regional and global levels taking into consideration the various capacities and levels of development of states as well as national policies (United Nations, 2015). With a vision of a world where "every pregnant woman and newborn receives quality care throughout pregnancy, childbirth and the postnatal period", WHO together with country stakeholders, United Nations (UN) agencies and other development partners came up with a global agenda to improve maternal health. This global agenda was focused on 'targets and strategies to end preventable maternal mortality' and was eventually incorporated into the SDGs (WHO, 2015b). The UN SDG 3 aims at ensuring that all persons of all ages enjoy good health. Within this goal is the target to "reduce the global MMR to less than 70 deaths per 100,000 live births by the year 2030" (WHO, 2015c).

International Development Partners support for Ghana toward achieving SDG 3.1

Maternal mortality is an issue of global concern and Ghana has made efforts to decrease maternal mortality. Ghana's health sector is supported by several international development partners like WHO, UNFPA, Japan International Cooperation Agency (JICA), USAID and the Korea International Cooperation Agency, Africa CDC and US CDS among others (MoH, 2020; Adams, Attuquayefio & Kipo-Sunyehzi, 2023). Support from these international health partners is mainly in the form of technical and financial assistance which helped Ghana efforts at maternal healthcare. The German government has provided substantial support for maternal child healthcare (MCH) in Africa and Asia through Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) toward reducing maternal and child mortalities, especially in improving quality of MCH in the two regions (Goyet, Broch-Alvarez & Becker, 2019). Also, Germany and some G8 countries as part of their support and commitment to countries where maternal and childcare mortalities are not reduced came up with the initiative termed "G8 Muskoka Initiative" with a \$5 billion fund for 2010- 2015. The international fund established by the G8 countries was used to support maternal, newborn and child healthcare services across Africa and Asia, particularly the least-developed countries. At the bilateral level the bilateral cooperation agency, the United States of America (USA)'s Agency for International Development (USAID) has also established several bilateral relations with countries in Africa and other regions in the context of supporting material and childcare programs with

several countries in the global south (Dieleman et al, 2016; Goyet, Broch-Alvarez & Becker, 2019)

The government of Ghana supports the health Sector toward achieving SDG 3.1

On the national level, countries are to "reduce their maternal mortality ratio (MMR) by at least two-thirds from their 2010 baseline" and "no country's MMR should be higher than 140 deaths per 100,000 live births" (WHO, 2015c). Ghana like all other UN member countries have put in place strategies and efforts towards decreasing maternal mortality and increasing maternal healthcare support policies or programs to realize or achieve the SDGs. Also, following the implementation of the SDGs, Ghana has incorporated these goals into their various policies to see the realization of the SDGs. Maternal mortality accounts for the second leading cause of female mortalities in Ghana. Between 540 and 650 women per 100,000 live births were estimated to have died before the year 2000 (Adua et al., 2017). The antenatal care policy and the Safe Motherhood Initiative were among the policies put in place by the Ghana Health Service (GHS) to address the issue of high mortality ratio. These policies of Ghana are put in place toward the reduction of maternal mortality and improvement in maternal healthcare. However, it appears such policy interventions or programs have had little effect on the challenge of maternal mortality. Also, Ghana introduced a free maternal healthcare policy for pregnant women. The adoption of a fee exemption policy in September 2003 by the Ministry of Health (MOH) in Ghana to address the problem of financial constraints that

inhibited access to skilled maternal services. This noble Ghana's health policy intended to increase child deliveries in health facilities (clinics/hospitals among others). Also, the health policy aims to ensure deliveries are attended by skilled attendants and ultimately to reduce maternal mortality in Ghana (Penfold et al., 2007;)Biritwum, 2006). Some studies in Ghana accessed the impact of the free maternal health policy (exemption policy). Penfold et al. (2007) in the Central and Volta Regions of Ghana showed there was a significant increase in facility-based deliveries. This was evident among less educated and poorer women. In July 2008 there was the introduction of the Free Maternal Healthcare Policy by the National Health Insurance Scheme (NHIS) of Ghana. The government of Ghana in both the design and the implementation of the (NHIS) in 2003 have some special provisions for pregnant women (Kipo-Sunyehzi, 2021; Kipo-Sunyehzi & Yakohene, 2023). Even before the introduction of the NHIS in Ghana, there was a policy introduced by the government of Ghana to exempt women in the Northern, Central, Upper East and Upper West Regions from delivery fees. These four regions were considered the poorest regions in Ghana (Singh et al., 2015). All these policies contributed to a decline in Ghana's maternal mortality and an improvement in access to maternal delivery services. Although maternal mortality remains high, Ghana has seen much progress in the area of maternal health as compared to other states in West Africa (Adua et al., 2017; Fenny et al, 2019).

The Situation of Maternal Healthcare in Ghana

Maternal deaths occurring in developing

countries within Sub-Saharan Africa and South Asia was estimated at 99% in 2008. The MMR of Ghana was 451 per 100,000 live births in 2008. Although this was lower as compared to figures from neighboring countries, it was higher than the global estimation (Der et al., 2013). Studies show that Ghana saw a decrease in maternal mortality from 719 to 319 maternal deaths per 100,000 live births between 1990 and 2015 (Apanga & Awonoor- Williams, 2018). Although this was a significant improvement, the rate of maternal mortality was high thereby resulting in Ghana's inability to achieve the MDG 5A. (Adua et al., 2017). In addition, comparing the maternal mortality estimates of Ghana as of 2015 to those of developed countries such as the United Kingdom, the United States, and Germany which had maternal mortality rates of 9/100,000, 14/100,000 and 6/100,000 respectively (WHO, 2015c). Ghana in its quest to ensure the improvement of maternal health and a decline in maternal mortality has over the years adopted various strategies and policies. One key policy implemented by the government of Ghana was the Free Maternal Healthcare Policy under the NHIS in July 2008 (Dalinjong et al., 2018). This health policy was implemented by Ghana to achieve MDG 5. From 2015 onward, Ghana's focus has been more on achieving the UN SDG 3.1 which is reducing maternal deaths. Under this policy, pregnant women are allowed to register for the NHIS for free. This policy allows women to enjoy healthcare services during pregnancy, at delivery and then three months postnatal healthcare for free - without payment of cash across Ghana (Dalinjong et al., 2018). Also, the policy covers normal deliveries, caesarean section as well as complications associated with

delivery (Singh et al, 2015;Adua et al., 2017 ;Wang, Temsah, & Mallick, 2017).

Despite these health policies and other interventions toward improving maternal healthcare services in Ghana or curbing the challenge of maternal mortality in Ghana, maternal mortality remains high. The maternal mortality estimate of Ghana was 308 maternal deaths per 100,000 live births in 2017 (WHO, 2019b). However, with 308 maternal deaths per 100,000 live births, the MMR of Ghana remains high in comparison with the country target for SDG 3.1 which indicates that the MMR of countries should be not higher than 140 maternal deaths per 100,000 live births and the global target of 70 maternal deaths per 100,000 live births by 2030 (WHO, 2015c). The information suggests Ghana's move toward achieving the global target looks quite far to achieve. Therefore, this research seeks to analyze the factors accounting for the high rate of maternal mortality in Ghana and various measures that have been put in place to achieve SDG 3.1 by 2030.

Methods and Materials
Research Design
A research design communicates a proposed type of research used, the mode of collecting data, the selection of participants and the methods or means of analyzing the data collected from the field, be it qualitatively (words/text) or quantitatively (figures/statistics) or mixed (Ranjit, 2011 ; Arghode, 2012; Kipo, 2014; Morgan, 2017). In this study, the researchers used a qualitative research design. The reasons include obtaining key information based on the shared views of participants, feelings, opinions and participants' experiences about the social phenomenon under investigation,

information obtained from participants' natural setting with an accurate 'measure' of reality (Cresswell, 1999; 2014; Arghode, 2012). Also, using qualitative research design enabled the researchers to collect, analyze, and report the findings along with the interview questions (Creswell, 1999). Moreover, the qualitative design allowed the researchers to obtain first-hand information from the life experiences of the study participants (Ranjit, 2011). Thus, it helped the researchers to understand the problems, opinions, and situations on the ground very well or better. Moreover, the qualitative research design enabled the researchers to collect data from multiple sources toward data triangulation through the use of in-depth interviews (face-to-face), documents and the use of direct observations instead of relying on a single source of data (Creswell, 2014).

Sampling Method and Sample Size

The study setting was greater in Accra with the target population of health workers especially those who provide maternal healthcare services (clinicians) at the point of service delivery hospitals, and experts (health policy designers/makers) at the MoH, GHS. A sample of the population was used.

Practically, the entire population (health workers Greater Accra Area and Tema Metropolis) cannot be studied thus there is a need for a sample which is a subgroup of the population was chosen to represent the entire population (Banerjee & Chaudhury, 2010). The researchers used a non-probability sampling method (Acharya et al., 2013). The reasons for using a non-probability sampling technique are aimed at reaching out to some specific health workers based on the kind of healthcare

services they provide in a particular healthcare facility (hospital). In this case, some medical doctors like gynecologists, as well as midwives, were purposively selected for interviews. Apart from the kind of services they provide at a healthcare facility, the researchers also considered expertise. This was based on knowledge a particular health worker possesses based on profession or as an expert in an area like health policy or based on experience (Etikan et al., 2016). For this reason, some experts were selected from the Ministry of Health and Ghana Health Service within the Greater Accra Area and Tema, all in and around the capital of Ghana (Accra). Also, some participants provided clues or directions or contacts for other participants. The snowball sampling technique was used to reach out to other relevant participants. Thus, the purposive and the snowball non-probability sampling methods were used (Lavrakas, 2008; Acharya et al., 2013).

The justification for the use of the purposive sampling method was to enable the researchers to select midwives who had been practicing for three years and above as an inclusion criterion because of their experiences in maternal health over the years. Medical doctors were purposefully selected as they also had an active role to play in maternal health interventions. Officials of the Ministry of Health (MoH) were selected because of their knowledge, experience and role in the implementation of health policies and programs. Also, the UNFPA staff were purposively selected because of their involvement in maternal healthcare in Ghana. The Korle-Bu Teaching Hospital was selected because it is a main referral hospital located in the Greater Accra Region (Greater Accra Area)

and the views of its officials are crucial. In Tema Metropolis, the Bethel Hospital was chosen. The reason that it is the main private health facility that offers maternal healthcare in Tema Metropolis.

On the rationale for the researchers' choice of snowball sampling method, the snowball sampling method was used because the information was obtained from other participants that the researcher in the field could not envisage but based on the recommendation of others such participants were eventually interviewed in the study.

The total sample size was 16 participants. The reason for this relatively small sample size was for effective management of the interviews and to be able to analyze the responses properly. The argument is that sample large qualitative sample size may be hard to manage well. As Boddy (2016) recommends that a sample size of over 30 in a qualitative is too difficult to handle and analyze. Not too small a sample and not too large the sample size (Onwuegbuzie & Collins, 2007). Thus, the reason why the researchers chose a qualitative manageable sample of 16 participants. The study sample size and the categories of participants that were interviewed are in Table 1.

Table 1, the justification for the large number of policy implementers (14) clinicians/street-level bureaucrats namely the midwives and the medical doctors at the two hospitals (Accra/Tema) against policy experts/makers (2) was based on the argument that in policy studies it is the frontline workers (bureaucrats) in the field who determines the success or the failure of a public policy including health policy.

Also, it is argued that the frontline workers are the "actual policymakers" but not those in parliament or government offices (Lipsky, 1980; Kipo-Sunyehzi, 2020).

Data Sources

Data was collected from primary sources, namely interviews, documents, and direct observations. In-depth interviews were carried out with medical practitioners/clinicians like midwives and medical doctors from the Korle-Bu Teaching Hospital in Accra and Bethel Hospital in Tema, all in Ghana. Also, information from officials of the Ministry of Health (health policy expert/maker) and the United Nations Population Fund (expert) was useful to this study. The researchers used open-ended questions for the in-depth interviews and focus group discussions with midwives. The data collection instrument used was an interview guide in the form of open questions. This instrument helped the researchers to elicit meaningful information from the participants. Also, the researchers had the opportunity to probe the responses given by the participants (Stuckey, 2013).

The secondary data sources used include journal articles, books, and internet sources among others (Hox & Boeije, 2005). The researchers largely obtained secondary data from annual reports, policy documents and official documents from organizations like Ghana Health Service (GHS), Ministry of Health (MOH), World Health Organization (WHO) and other United Nations (UN) specialized agencies such as the United Nations Population Fund (UNFPA).

Table 1 Categories of Participants and the Sample Size

Categories of the Study Participants	Number of Participants
Midwives in the two hospitals (public and private)	12
Medical Doctors in the two hospitals (public and private)	2
Ministry of Ghana, Ghana Official (health policy expert)	1
United Nations Population Fund (UNPF) Official	1
Total	**16**

These multiple sources of data enabled the researchers to get relevant and adequate information to answer the research questions/ objectives which could not have been collected using only interviews (Creswell, 2014).

Data Collection

Interviews: Semi-structured interviews were used to collect data from medical doctors and officials from GHS and others from MoH and UNFPA. The interviews were conducted using an interview guide with open-ended questions and responses of participants were recorded with the help of an electronic device with permission from the participants. Those who declined interview recordings and handwritten notes were taken as part of the data collection strategies that were used in the study field. The answers of participants determined the direction of the interviews (Stuckey, 2013). *Focus Group Discussions (FGDs);* The researcher who conducted the interviews (J. E.) organized focus group discussions in which the interviewer/researcher served as the moderator, and then asked participants specific questions about the phenomenon under investigation (maternal healthcare) The FGDs allowed for the members (group participants) who know a particular issue exchange ideas and opinions (Wong, 2008). Data was collected from midwives using FGDs, two FGDs were conducted with six

participants in each group. The two FGs were held at the two hospital premises (Korle-Bu Teaching Hospital-public (Accra)/Bethel Hospital-private (Tema).

Data Analysis

Qualitative content analysis was used in analyzing the data gathered for the study. Content analysis is a way to make meaning from verbal, visual, or written data on a phenomenon (Bengtsson, 2016). This data analysis method classifies textual material into more relevant and manageable pieces of data (Weber, 1990). Data sources including written texts, audio and videos were used for content data analysis (Stemler, 2015). As part of the data analysis, the researchers represented the data in words and themes this helped to interpret the data- results (Bengtsson, 2016). For textual data, the researchers read and scrutinize the data gathered to identify patterns and concepts that are relevant to the phenomenon under investigation-maternal healthcare (White & Marsh, 2006). Recorded focus group discussions and the in-depth interviews were transcribed verbatim to allow for easy analysis. Data collected were thoroughly analyzed and were organized into themes (major and sub-themes based on the primary and secondary data sources.

of their corresponding manifest variables and uses them as perfect substitutes for the

manifest variables (Hair et al., 2012). Comparing PLS-SEM to CB-SEM, PLS-SEM works better with smaller samples- an average of 211.29 samples (Hair et al., 2012) and it achieves higher statistical power at all sample sizes (Hair, Matthews, Matthews and Sarstedt, 2017). PLS-SEM also produces higher composite reliability and convergent validity according to Hair, et al., (2017). Hair, et al. (2017) also explained that PLS-SEM is useful where theory is less developed in exploratory research and it can produce significant results in most instances.

Ethical Issues

The researchers recognize participants' rights to be protected. As such the researchers did their best to promote the integrity of their research (Creswell, 2014). Also, participants had the choice to either partake in or decline the interviews. Participation in the study was strictly voluntary. Also, the participants gave their informed consent which were obtained verbally, before interviews. Moreover, the researchers assured the participants of adhering to confidentiality and anonymity.

Findings

Two major themes merged from the data gathered namely the support of international partners to Ghana's health sector toward reducing maternal mortality and efforts of Ghana toward achieving the United Nations Sustainable Development Goal 3.1 (reducing maternal mortality) by 2030.

International Partners Support for Ghana Toward Achieving SDG 3.1

Two major international/development partners emerged from the several partners (WHO/UNFPA).

World Health Organization

In the area of maternal health, the WHO supported the Ministry of Health (MoH) and the Ghana Health Service (GHS) in technical assistance. Also, the international partners support the two lead institutions in Ghana (MoH and GHS) to plan, implement, monitor and evaluate reproductive, maternal, newborn, child and adolescent health programs. These programs are the means of minimizing maternal mortality and enhancing maternal healthcare in Ghana. The WHO also works toward improving the accessibility to quality health services by pregnant women in Ghana (WHO, 2020b). In addition, the MoH and GHS with technical and financial assistance from WHO conducted a reproductive, maternal, newborn, child and adolescent health program review with the WHO program review. This tool helped to identify the gaps and barriers in the area of reproductive, maternal, newborn, child and adolescent health (WHO, 2020b). The WHO provided technical and financial assistance for the maternal, child health and nutrition conference which was held in Ghana in 2019. To end avoidable maternal and child deaths and achieve maternal and newborn targets under SDG 3, Ghana has subscribed to the global network to boost the quality of maternal healthcare. Ghana with support from WHO has implemented the WHO standards for the quality of maternal and child healthcare through training in Ashanti, Brong-Ahafo and Western Regions of Ghana (WHO, 2020b). Besides WHO, UNFPA is a key international health partner that helped Ghana toward reducing maternal mortality.

United Nations Population Fund (UNFPA)

UNFPA has assisted Ghana in terms of maternal health over the years through its

partnership with the MoH and GHS. The UNFPA targeted addressing adolescent pregnancy, which is a major cause of death among female adolescents in Ghana, Also, the complications that come with adolescent pregnancy work to ensure the prevention of adolescent pregnancy. UNFPA emphasize preventive maternal healthcare issues of female adolescents. The institution works with the government and civil society organizations to provide education on sexual and reproductive health and counselling to young people, especially female adolescents. The UNFPA also works with other international partners to prevent child marriages within communities as a strategy to end adolescent pregnancies in Ghana (UNFPA, 2017). UNFPA worked closely with the Ghana government on maternal issues.

In the area of midwifery, an official of UNFPA indicated that:

The UNFPA supports the MOH and midwifery training center to ensure that birth attendants at health facilities are well-trained and skilled to perform deliveries. It also performs a regulatory role by ensuring that midwifery services are of good quality and meet international standards.

The official of the UNFPA further mentioned that:

The UNFPA also provides technical support in the form of coordination to the maternal death audit system introduced by GHS which is a strategy adopted to reduce the rate of maternal mortality in Ghana. It is also supported by the emergency obstetric and newborn assessments conducted by the GHS.

Ghana's Maternal Healthcare Policy Interventions Toward Achieving SDG 3.1

These are some of the policy interventions of Ghana toward achieving SDG 3.1 by 2030

The introduction of the Free Maternal Healthcare Policy

One major intervention to address this global problem of maternal mortality in Ghana was the introduction of the Free Maternal Healthcare Policy by the government of Ghana. The policy was in line with the fee exemption policies adopted by various African countries to reduce the financial barrier of seeking medical care. This resulted in a user-fee-exempt policy which was adopted in 2008 under the National Health Insurance Scheme (NHIS) (National Health Insurance Authority, 2014). The free maternal health policy aims at increasing access to maternal healthcare services and skilled delivery by addressing financial barriers to utilization of medical facilities by pregnant women in Ghana. This policy was one of Ghana's main policy interventions to achieve SDG 3.1. The free policy allows all pregnant women to register for the NHIS for free (Dixon et al., 2014).

In addition, the free maternal healthcare policy covers antenatal services rendered to pregnant women, normal and assisted deliveries and the three-month post-partum (Dalinjong et al., 2018). Beneficiaries of the policy have to be verified by a registered nurse, doctor or midwife and enrolled on the NHIS to enjoy the free services offered under the policy (Azaare et al., 2020; Kipo-Sunyehzi, 2021). Although the free maternal health policy is one of the best maternal healthcare strategies, participants

expressed that the policy was not entirely free as it did not cover all maternal healthcare services in Ghana. Also, it was found in the field that pregnant woman made payments for scans, drugs which not covered by the health policy (NHIS) and some payments at caesarean sections.

This was what a midwife said during a focus group discussion:

The free maternal health policy is not so totally free, but pregnant women enjoy subsidized consultation fees and pharmacy charges at the referral center (Midwife 2)

Ghana's Universal Health Coverage Roadmap

As part of Ghana's commitment to achieving the SDGs and other international agreements, Ghana developed a ten-year strategic plan for the health sector termed "Ghana's Roadmap for Attaining UHC" in the year 2020 with the vision that all persons should have access to quality healthcare services by 2030 (Ministry of Health, 2020). The Universal Health Coverage roadmap is aligned with the SDGs and other international commitments like the Global Action Plan for Healthy Lives and Well Being, Universal Health Coverage (UHC) 2030 Compact and the Declaration on Primary Healthcare in Astana 2018 (Ministry of Health, 2020). It also emphasizes "health-in-all" policies as proposed by the WHO. The policy emphasizes primary healthcare of which maternal and child nutrition services form the majority of it. This policy highlights reducing maternal deaths and providing access to essential healthcare services as part of its objectives.

This was how an official of Ghana's Ministry of Health (MoH) a health policy expert explained:

Although the policy does not specifically address the challenge of maternal mortality, its universal nature and approach allow it to cover the issue of maternal mortality.

Blood Donation

There has been the introduction of blood donation exercises across Ghana as a measure to reduce the rate of maternal deaths. Studies on maternal mortality have outlined haemorrhage as the leading cause of maternal deaths in Ghana and to address this major problem, blood donations at health facilities (hospitals) have been adopted. There was also the issue of mandatory donation of blood before delivery. This medical demand seems to be in line with the recommendation proposed by Asamoah et al. (2011) that health interventions to reduce maternal mortality should be aimed at haemorrhage, which has been identified as a main cause of maternal deaths. Thus, pregnant women in Ghana are required to bring people to health facilities to donate two pints of blood at the health facility prior to delivery. This intervention is aimed at ensuring that there is constant availability of blood, and the practice helps for easy access to blood in case of emergencies (during deliveries).

On the practice blood donation, this was what a medical officer said this:

Pregnant women are made to donate blood at the health facility before delivery. (Medical doctor 2)

Midwives during the study mentioned that blood donated on behalf of a particular pregnant woman did not necessarily have to be used for that pregnant woman. However, the blood donated was to ensure that blood is readily available at the facility for use at any point in time when it is

needed. This was how a midwife commented on blood donation:

Pregnant women do not always use the blood donated by their relatives. The blood is stored and used at another time for someone who may be in need of blood. (Midwife 8)

Participants of the study mentioned that the blood donation exercises have been effective over the years because most people complied with the directive. However, midwives during the focus group discussions added that there were still some people who refused to donate blood. This was what a midwife said:

Some people refuse to comply when they are asked to donate blood in advance. (Midwife 11)

Education of Pregnant women
The education of pregnant women has also been a strategy to address the issue of maternal mortality. Pregnant women are educated on different subject areas related to pregnancy. During antenatal clinics, the midwives dedicate time to educating expectant mothers on the various issues concerning maternal health like the importance of attending antenatal clinics, skilled delivery and maternal nutrition. Pregnant women are also taken through pregnancy complications and the need to seek medical help when such complications arise. Such education within the two health facilities between the midwives and the pregnant women was directly observed at the two hospitals (Accra and Tema). This direct observation was made at health facilities by the researcher during the study. Moreover, as part of education on maternal health, pregnant women are expected to be enrolled in a pregnancy school. The

pregnant women attend the pregnancy school, held at the health facilities till delivery takes place. The pregnancy school at the health facility during the fieldwork period was observed to take place on the second and fourth Saturdays of each month.
A midwife revealed that:

Women are well educated on the need to take drugs administered to them, the importance of ultrasound scans and other matters of importance to pregnancy. They are also taken to the various maternity and labor wards as a form of orientation before admission. (Midwife 11)

The only means of publicity for this program was that women were informed of the program during their antenatal clinics. Concerning funding of the pregnancy school, another midwife mentioned that:
The facility sometimes receives funds from external institutions as sponsorship for the program. (Midwife 2)
Some midwives interviewed for the study attested to the pregnancy school being effective as it was well participated in by expectant mothers. The pregnancy school is an innovative means of educating pregnant women on maternal healthcare issues and creates awareness of complications that could arise from pregnancy.
This was how another midwife commented:

The pregnancy school has been beneficial and we have many pregnant women who participate in it. (Midwife 11)

Education of Midwives
Besides the educational programs organized for pregnant women, some

trainings are organized for midwives with the various departments at health facilities either weekly or biweekly.
 One midwife said this:

We have internal workshops on maternal healthcare organized for us at our facility. (Midwife 8)

Another participant added that:
We hold mortality meetings every fortnight and it is mandatory for all of us. (Midwife 3)

The study also revealed that individual health personnel improved their knowledge of maternal health by partaking in maternal health training programs that are held either in person or virtually.

I personally pay to participate in some maternal health training programs when I hear of them. (Midwife1)

In addition, health personnel have adopted technological means of sharing knowledge on various maternal health issues through online platforms. Midwives confirmed that the training programs and workshops are beneficial because they keep them well-informed about maternal health issues. Also, the midwives' direct involvement in maternal health makes it imperative for them to acquire the necessary skills and training to increase their skills in the areas of delivery and management of pregnancy-related complications.
This was how a midwife commented on maternal healthcare training programs:

 The training programs are very helpful because we need to increase our knowledge of maternal health and also improve our skills as health workers (Midwife 8).

Supporting Peripheral Health Facilities

An intervention adopted to reduce maternal deaths resulting from late referrals from peripherals has been addressed by assigning specialists to such peripheral health facilities. This measure was influenced by the lack of specialists at peripherals to manage pregnancy complications. Specialists from referral facilities visit peripherals on specific days to attend to pregnant women thereby making it easier to detect and treat pregnancy complications, which are contributing factors to maternal morbidity and mortality in Ghana.
A midwife commented on the relevance of specialists to peripheral health facilities:

Specialists being sent to the peripheral facilities weekly is one of the ways we are trying to reduce maternal mortality because of late referrals. (Midwife 2)

The initiative is aimed at reducing the problem of transferring women with serious complications to referral facilities and increasing access to emergency care by women with complications. It is also aimed at preventing the progress of pregnancy-related complications and abnormalities since they will be detected early.

Assigning specialists to the peripherals helps to detect and treat complications that could lead to maternal mortality. (Midwife 2)

The midwives that were interviewed confirmed that this strategy has been effective and has given support to peripherals health facilities in the management of pregnancy-related complications.

Discussion

The midwives who were interviewed for the study acknowledged that despite some of the setbacks of the NHIS and the Free Maternal Healthcare Policy, the policy interventions have been of great benefit because over the years the policies have improved access to maternal healthcare services positively. This assertion is in agreement with the findings of Bonfrer et al.(2016). Also, the increase in attendance to four or more antenatal visits between 2011 and 2012 increased from 71.3% to 72.3%. Such an increase was attributed to the fee exemption policy on maternal health services where pregnant women's fees for maternal healthcare services were waived or offered free (National Health Insurance Authority, 2014).

The target group for free maternal healthcare in Ghana is the poor and the vulnerable particularly children, adolescents, women and the aged (Kipo-Sunyehzi, 2021). The elimination of both financial and physical obstacles to access primary healthcare services and building sustainable partnerships between the government, the private sector, non-state actors as well as international development partners all form part of the guiding principles outlined for the free policy. The policy seeks to improve basic essential services, by ensuring that maternal healthcare services as well as child health services are made universally available at all the various levels of service deliveries in Ghana (Ministry of Health, 2020). Interventions under this policy include managing clinical and public health emergencies, improving efficiency in human resource performance, as well as enhancing quality of care and information management. In addition, some

institutional reforms aimed at strengthening health policy and financing systems. The measurement of the policy progress is supposed to be based on the various national and global platforms for measurement (Ministry of Health, 2020). This road map is projected to improve access and quality of maternal services in Ghana. This is a positive move as it aims at reducing Ghana's MMR by two-thirds of its 2017 figures and consequently contributing to the global target of SDG 3.1 by 2030 (WHO, 2015). Ghana's maternal health policy intervention is similar to the strategy proposed by Filippi et al. (2006) to decrease maternal complications and mortality.

Health workers particularly, midwives are educated on maternal health through various training programs. Findings from the study revealed that there were several workshops held within a year for midwives to educate them on maternal healthcare issues and keep them updated on the current maternal health protocols. This study's findings however differ from the findings of Banchani and Tenkorang (2014) in that there were inadequate in-service training programs for midwives as it usually took more than a year to be organized. It was found that midwives sent representatives from their various health facilities to participate in maternal healthcare training since not all midwives can partake in such training programs. It was also found that those midwives who received such training/workshops/in-service training on maternal healthcare go back to share with their colleagues at their facilities and or educate their colleagues after the workshops. Thus, this study's findings are inconsistent with Banchani and Tenkorang (2014).

Conclusion

The study concludes that both the government of Ghana and the international development partners in health work hand in hand in their efforts toward achieving the United National Sustainable Development Goal 3.1 on maternal healthcare with fewer conflicts of interest and less distrust.

Recommendations

The study recommends more financial resource mobilization and empowerment of the NHIS to make the free maternal healthcare policy cover most of the essential maternal healthcare services in Ghana. This will go a long way to reduce or end co-payments (petty cash) at health facilities.

Also, the study recommends more collaboration and coordination between the government of Ghana and the various international partners in the health sector to attract more support from the global partners. Such a move would possibly accelerate Ghana's move toward achieving the global agenda (UN SDG 3.1 reducing maternal mortality drastically) by 2030.

One key limitation of this study is the adequate number of health policy experts. Future studies on maternal healthcare services in Ghana should include more health policy experts (policymakers).

REFERENCES

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. *Indian Journal of Medical Specialties, 4*(2), 330-333.

Adams, F, Attuquayefio, P. K. & Kipo-Sunyehzi, D. D. (2023). Africa centers for disease control and prevention and other global partners' role in the fight against COVID-19 in Africa: an analysis of frontline health workers' perspectives. *Journal of Global Health Science*, *4*(2), 1-14. https://doi.org/10.35500/jghs.2022.4.e15

Adua, E., Frimpong, K., Li, X., & Wang, W. (2017). Emerging issues in public health: a perspective on Ghana's healthcare expenditure, policies and outcomes. *EPMA Journal, 8*(3), 197-206.

Arghode, V. (2012). Qualitative and Quantitative Research: Paradigmatic Differences. *Global Education Journal, 2012*(4).

Asamoah, B. O., Moussa, K. M., Stafström, M., & Musinguzi, G. (2011). Distribution of causes of maternal mortality among different socio-demographic groups in Ghana; a descriptive study. *BMC Public Health, 11*(1), 1-10. .

Azaare, J., Akweongo, P., Aryeetey, G. C., & Dwomoh, D. (2020). Impact of free maternal health care policy on maternal health care utilization and perinatal mortality in Ghana: protocol design for historical cohort study. *Reproductive Health, 17*(1), 1-17.

Bajpai, K. P. (2000). *Human security: concept and measurement*: Joan B. Kroc Institute for International Peace Studies, University of Notre Dame

Banchani, E., & Tenkorang, E. Y. (2014). Implementation challenges of maternal health care in Ghana: the case of health care providers in the Tamale Metropolis. *BMC health services research, 14*(1), 1-10.

Banerjee, A., & Chaudhury, S. (2010). Statistics without tears: Populations and samples. *Industrial psychiatry journal, 19*(1), 60.

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open, 2*, 8-14.

Biritwum, R. (2006). Promoting and monitoring safe motherhood in Ghana. *Ghana medical journal, 40*(3), 78.

Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal.*

Creswell. (2014). *Research Design:Qualitative,Quantitative, and Mixed Methods Approaches*: SAGE Publications.

Creswell, J. W. (1999). Mixed-method research: Introduction and application *Handbook of educational policy* (pp. 455-472): Elsevier.

Dalinjong, P. A., Wang, A. Y., & Homer, C. S. (2018). The implementation of the free maternal health policy in rural Northern Ghana: Synthesised results and lessons learnt. *BMC research notes, 11*(1), 1-6.

Dieleman, J. L., Schneider, M. T., Haakenstad, A., Singh, L., Sadat, N., Birger, M., ... & Murray, C. J. (2016). Development assistance for health: past trends, associations, and the future of international financial flows for health. *The Lancet*, *387*(10037), 2536-2544.

Dixon, J., Tenkorang, E. Y., Luginaah, I. N., Kuuire, V. Z., & Boateng, G. O. (2014). National health insurance scheme enrolment and antenatal care among women in G hana: is there any relationship? *Tropical Medicine & International Health, 19*(1), 98-106.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics, 5*(1), 1-4.

Fenny, A. P., Asuman, D., Crentsil, A. O., & Odame, D. N. A. (2019). Trends and causes of socioeconomic inequalities in maternal healthcare in Ghana, 2003–2014. *International Journal of Social Economics.*

Filippi, V., Ronsmans, C., Campbell, O. M., Graham, W. J., Mills, A., Borghi, J., . . . Osrin, D. (2006). Maternal health in poor countries: the broader context and a call for action. *The Lancet, 368*(9546), 1535-1541.

Goyet, S., Broch-Alvarez, V., & Becker, C. (2019). Quality improvement in maternal and newborn healthcare: lessons from programmes supported by the German development organisation in Africa and Asia. *BMJ global health*, *4*(5), e001562.

Gruskin, S., Cottingham, J., Hilber, A. M., Kismodi, E., Lincetto, O., & Roseman, M. J. (2008). Using human rights to improve maternal and neonatal health: history, connections and a proposed practical approach. *Bulletin of the World Health Organization, 86*, 589-593.

Hox, J. J., & Boeije, H. R. (2005). Data collection, primary versus secondary. *Encyclopedia of social measurement*, *1*(1), 593-599.

Kipo, D. D. (2013). Mixed Research Methods: Reflections on Social Public Policy. *Asian Social Science*, *9*(17), 259-268

Kipo-Sunyehzi, D. D. (2020). Making public policy implementable: the experience of the National Health Insurance Scheme of Ghana. *International Journal of Public Policy*, *15*(5-6), 451-469.

Kipo-Sunyehzi, D. D. (2021). Global social welfare and social policy debates: Ghana's Health Insurance Scheme promotion of the well-being of vulnerable groups. *Journal of Social Service Research*, *47*(1), 73-87.

Kipo-Sunyehzi, D. D. (2023). Policy Design and Implementation Nexus in Africa: The Experience of National Health Insurance Scheme in Sawla-Tuna-Kalba District of Ghana. *African Journal of Management Research*, *29*(1), 41-57.

Kyei-Nimakoh, M., Carolan-Olah, M., & McCann, T. V. (2016). Millennium development Goal 5: progress and challenges in reducing maternal deaths in Ghana. *BMC pregnancy and childbirth, 16*(1), 1-9.

Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*: Sage publications.

Lipsky, M. (2010). *Street-level bureaucracy: Dilemmas of the individual in public service*. Russell Sage Foundation.

Ministry of Health. (2018). Holistic Assessment of 2017 Health Sector Programme of Work. Accra, Ghana: Ministry of Health.

Ministry of Health. (2020). *Ghana's Roadmap for Attaining Universal Health Coverage*. Accra, Ghana.

National Health Insurance Authority. (2014). National Health Insurance Authority 2013 Annual Report. Accra,Ghana: National Health Insurance Authority.

Moran, A. C., Jolivet, R. R., Chou, D., Dalglish, S. L., Hill, K., Ramsey, K., . . . Say, L. (2016). A common monitoring framework for ending preventable maternal mortality, 2015–2030: phase I of a multi-step process. *BMC pregnancy and childbirth, 16*(1), 1-13.

Morgan, D. L. (2017). Research design and research methods. *Integrating qualitative and quantitative methods: A pragmatic approach. London, England: SAGE*.

Onwuegbuzie, A. J., & Collins, K. M. (2007). A typology of mixed methods sampling designs in social science research. *Qualitative Report, 12*(2), 281-316.

Penfold, S., Harrison, E., Bell, J., & Fitzmaurice, A. (2007). Evaluation of the delivery fee exemption policy in Ghana: population estimates of changes in delivery service utilization in two regions. *Ghana medical journal, 41*(3), 100.

Ranjit, K. (2011). Research Methodology a step-by-step guide for beginners: Sage.

Singh, K., Osei-Akoto, I., Otchere, F., Sodzi-Tettey, S., Barrington, C., Huang, C., . . . Speizer, I. (2015). Ghana's National Health insurance scheme and maternal and child health: a mixed methods study. *BMC health services research, 15*(1), 1-13.

Stemler, S. E. (2015). Content analysis. *Emerging trends in the social and behavioral sciences: An Interdisciplinary, Searchable, and Linkable Resource*, 1-14.

Stuckey, H. L. (2013). Three types of interviews: Qualitative research methods in social health. *Journal of Social Health and Diabetes, 1*(02), 056-059.

UN. (2015b). Millennium Development Goals Report 2015. New York.

United Nations. (2015c). *Transforming our world: the 2030 Agenda for Sustainable Development* Paper presented at the Resolution adopted by the General Assembly on 25 September 2015

UNFPA. (2017). Adolescent pregnancy. Retrieved 7th December, 2021, from https://www.unfpa.org/adolescent-pregnancy#summery105869

Wang, W., Temsah, G., & Mallick, L. (2017). The impact of health insurance on maternal health care utilization: evidence from Ghana, Indonesia and

Rwanda. *Health policy and planning, 32*(3), 366-375.

Weber, R. P. (1990). *Basic content analysis*: Sage.

White, M. D., & Marsh, E. E. (2006). Content analysis: A flexible methodology. *Library trends, 55*(1), 22-45.

WHO. (1948). Constitution of the World Health Organization. Geneva: World Health Organization.

WHO. (2005). *The World health report: 2005: make every mother and child count*: World Health Organization.

WHO. (2015a). Strategies towards ending preventable maternal mortality (EPMM).

WHO. (2015b). *Trends in maternal mortality: 1990-2015: estimates from WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*: World Health Organization.

WHO. (2019). *Trends in Maternal Mortality 2000-2017: estimates by the WHO, UNICEF, UNFPA, World Bank Group and the United Nation Populations Division*. Geneva: World Health Organization.

WHO. (2020). Ghana Annual Report: World Health Organization Regional Office for Africa.

WHO. (2021). Maternal Health. Retrieved 14 May, 2021, from https://www.who.int/health-topics/maternal-health#tab=tab_1

Wong, L. P. (2008). Focus group discussion: a tool for health and medical research. *Singapore Med J, 49*(3), 256-260.

Examining the Role of Non-traditional Actors in the Healthcare Supply Chain Network

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Abstract

The traditional actors have been the focus of healthcare supply chain network studies over the years. Authors have used linear perspectives to examine the challenges and proposed solutions to them. The non-traditional actors in the HSC network including the regulators, and information technology (IT) service providers have been left unexplored. We argue that the non-traditional HSC actors contribute to the successes and failures in the HSC network, and that there is the need to examine how the non-traditional actors influence the HSC network. We leverage the actor network theory and the snowball sampling technique to identify and select sixteen (16) actors and interviewed forty-three (43) individuals to examine how the non-traditional actors contribute to the successes and failures of the HSC network. We found that, both the regulators, insurance firms and IT service providers influence the HSC network. We discussed the findings, contributions of the study to knowledge and practice, and provided avenues for extending this study.

Key words: Healthcare supply chain network, Non-traditional actors, Supply chain disruptions, Actor-network theory.

Introduction

The healthcare supply chain (HSC) is a network of both traditional and non-traditional actors (Carmagnac, 2021; Marques et al., 2020). The traditional HSC actors are the parties involved in the vertical buyer-seller relationships (Asamoah et al., 2011). Studies have identified these parties to include the manufacturers, distributors, wholesalers, retailers and patients (Marques et al., 2020; Manso et al., 2013; Asamoah et al., 2011). The non-traditional supply

chain actors are the actors who do not form part of the traditional HSC however, their operations affect the HSC network (Hopp et al., 2019). They include the health insurance service providers, regulators and IT services providers (Marques et al., 2020).

Studies over the years have examined the traditional actors, how they influence themselves and the challenges they face in the HSC network. For instance, empirical evidences show that the HSC is challenged by the occurrence of frequent stockouts and delays in restocking, poor distribution networks, inadequate and questionable data, inadequate trained human resources, poor quantification and forecasting, constant pace of technological innovations, and poor supply chain financing (Iwu *et al.*, 2020; Kweku, Amu, *et al.*, 2020; Dassah, Adu-Sarkodie and Mayaud, 2018; Manso, Annan and Anane, 2013; Chandani *et al.*, 2012). We argue that the non-traditional HSC actors contribute to the successes and failures in the HSC network, and that there is the need to examine how the non-traditional actors influence the HSC network.

Although the HSC network literature acknowledges the existence of the non-traditional actors, knowledge is lacking on how the non-traditional actors influence the HSC network (Carmagnac, 2021; Marques et al., 2020; Sakyi et al., 2012). Specifically, knowledge is limited on the role of the non-traditional actors in strengthening the HSC network, and the contributions of the non-traditional actors in HSC network disruptions. It is important to address this gap because there is the need to identify and understand the dynamic roles of the non-traditional actors on the HSC network to provide information to managers and

policy making bodies towards sustainable HSC network. For instance, (Sakyi et al., 2012) indicated that delays in cashflows from insurance firms result in stockouts, which goes a long way to help managers and policy making bodies to manage insurance firms to reduce HSC disruptions.

Interestingly, few studies have examined the non-traditional HSC actors and were conducted in developed countries (Carmagnac, 2021; Marques et al., 2020). This provides a justification to conduct this study from an emerging country like Ghana to capture evidences and insights from developing countries. This study advances HSC network research by extending the findings of (Carmagnac, 2021; Marques et al., 2020; Sakyi et al., 2012) to account for the contributions of the non-traditional HSC actors from a developing country's perspective.

Brief Literature Review
Actors in the Healthcare Supply Chain Network

The interactions between the traditional and non-traditional actors transforms the HSC to a network. Several studies have made attempt to identify the actors in the network. The study of (Marques et al., 2020) adopted a systematic literature review approach to examine the extent to which the HSC has been examined from network perspectives. The study included seventy-four (74) scholarly articles. Review of the articles identified suppliers, cooperatives, hospitals, clinics, pharmacy, patients, distributors, purchasing companies, medical laboratories, and homecare as traditional actors in the HSC network (Manso et al., 2013; Asamoah et al., 2011). Further, the study identified

regulators, insurance firms (Sakyi et al., 2012), and technology providers as non-traditional HSC network actors. The study of (Manso et al., 2013) adopted a linear approach to assess logistics management in Ghana Health Service (GHS). The study identified central medical stores, regional medical stores, and service delivery points (e.g., clinics, health post) as actors in the traditional HSC network.

The Role of Non-Traditional Supply Chain Actors on the Healthcare Supply Chain Network

The non-traditional actors contribute to the successes and failures in the HSC network. Knowledge is lacking on the role of the non-traditional actors on the HSC network (Marques et al., 2020). Evidences from contemporary studies have shown that the non-traditional actors provide training, develop standards, increase co-creation and connect actors in the supply chain (Carmagnac, 2021; Hyatt & Johnson, 2016). For instance, (Hyatt & Johnson, 2016) adopted social movement perspectives to propose a supply chain framework that included non-profit making organizations (NGOs). The study revealed that, the NGOs work alongside with certain supply chain firms, and go beyond technical roles to serve as coordinators, conveners, organizers, brokers, and negotiators who facilitate multiparty agreement on sustainability issues within and across supply chains. In addition, the study of (Carmagnac, 2021) adopted a systematic literature review approach to examine the role of non-traditional actors in sustainable supply chain management. The study included 58 journal articles between 2008 to 2021. Findings of the study revealed that, the non-traditional actors plays four (4) main roles in supply chain management: (a)

instigation – campaigning and exercising pressure on firms using unsustainable ingredients in their products; (b) supporting – provide trainings and develop standards for sustainable supply chain management; (c) facilitating – promote joint initiatives and connect supply chain actors; and (d) leading – manage supply chain and implement changes (Hyatt & Johnson, 2016).

Despite the contributions of the non-traditional actors to the successes in the HSC network, they affect the HSC network through supply chain financing (Kweku, et al., 2020; Sakyi et al., 2012). The healthcare supply chain drives on financial health. The unavailability and delay of HSC funds from health insurance service providers, financial authorities and other financial institutions negatively affects the smooth operations of the HSC resulting in poor healthcare services (Kweku, et al., 2020; Sakyi et al., 2012). The unavailability of funds has resulted in the non-availability of health logistics and delays in restocking (Kweku, Amu, et al., 2020). The effects of information technology (IT) in HSC network is immeasurable. IT is useful at operational automations, data management and processing, tracking and visibility, information sharing through electronic health records (Konduri et al., 2018; Ibegbunam & McGill, 2012). IT is a supply chain enabler and its absence result in various delays and disruptions in the healthcare supply chain (Asamoah et al., 2011). Studies have identified that, technological systems improve healthcare supply chain indicators and harness decision making in the management of healthcare supply chain thereby dealing with the prevalent problem of stock-outs and wastes (Alemu et al., 2020; Konduri et al., 2018; Windisch et al., 2011).

Actor Network Theory

The actor network theory (ANT) was developed in the early 1980s and it highlights the relevance of social forces and actors on the development of technological artefacts, systems and networks (Vicsek et al., 2016). The theory explains that engineering and scientific works are basic building blocks of larger networks or systems (Vicsek et al., 2016; Sismondo, 2011). This means that engineering and scientific works are products of heterogeneous elements involving both human and non-human elements. These elements can only be part of the network (engineering and scientific works) as long as the motive or reasons for their existence in the network is met. ANT posits that, these elements that together forms a network and subsequently a larger and resilient network, are distinct and are governed by their own internal logic (Vicsek et al., 2016; Volti, 2005). Users do not question how these separate entities operate after they are assembled. And that, entities within the network are traced when they fail to cooperate with the other elements of the network. So, when a vehicle transporting pharmaceutics fails to cooperate with the driver, they start to examine to identify which part of the complex network failed. At that point, the vehicle becomes a complex network of electronics and mechanical pieces. ANT is used in different context to trace and understand the integration of both human and non-human elements within a network. This study draws on the actor-network theory to identify and select all the actors that forms part of the HSC network.

Method

The Study Population, Sampling and Firm Selection

Research population is a collection of all objects that are the main focus of a scientific enquiry (Saunders et al., 2007). The population of the study constituted all the actors in the HSC network. We believe that, the ideal path to examine the role of the non-traditional actors in the HSC network is by collecting data from the traditional actors and finally verifying their inputs through the identified non-traditional actors. This provides a justification to why the population constituted both the traditional and non-traditional actors. We adopted the snowball sampling technique (chain-referral-sampling) as a non-probabilistic approach to identify and select hidden actors in the HSC network (Etikan, 2016; Cohen et al., 2002). Since the snowball sampling technique begins with a convenient sample of initial subject through which other "hidden" subjects or units are discovered or recruited, there was the need to select initial actors to begin with. We leveraged the findings of (Marques et al., 2020; Manso et al., 2013) to select the initial actors through which all other actors were identified for data collection. The firms included in the study are firms that have been legally registered with the registrar general department in Ghana, operate under a recognized license within the healthcare space and has been in continuous operation for at least two (2) years. These firms have a considerable amount of experience and capable of referring the researchers to hidden actors.

Development of Research Instrument and Data Collection

We used interview approach for the data collection. The data collection instrument was developed from expert opinions and journal articles (Marques et al., 2020; Manso et al., 2013; Asamoah et al., 2011; Neuberger, C., & Nuernbergk, 2010). We went through three (3) steps or processes in developing and validating the research instrument for the data collection. Drawing on contemporary research studies in the area of HSC and networks, we developed the initial interview guide. The research instrument was then emailed to two (2) HSC researchers with over seven (7) years' experience. Their comments helped us to refine the interview questions. We then emailed the refined interview questions to one (1) HSC traditional actor (a pharmacist and a researcher), one (1) health insurance service provider, one (1) IT service provider, and one (1) regulator for validations. Following the comments received, we developed the final research instrument for the data collection exercise. Table 1a, 1b and 2 are summaries of the research instrument for the traditional actors and non-traditional actors respectively.

In the data collection process, we started with the known traditional actors. The identified firms were asked about where they buy their health supplies from, their competitors, regulators and service providers, their customers, and how each one of them complemented and contradicted their operations in the HSC network. The identified firms were categorized based on the sector they belonged (e.g., manufacturing, distribution, private hospital, etc.). We then followed up on the newly identified firms to ask them same questions until no new inputs were received (saturation).

Permissions were sought from the interviewees to tape record the interviews. We then transcribed the recorded interview data in accordance with acceptable qualitative data analysis practices (Ozcan & Eisenhardt, 2009) and emailed them to the interviewees to ensure that no important information was left out. To ensure the validity and reliability of the data, we hired a professional research firm with extensive qualitative research experience in Ghana to check and recode the taped interview data using a structured coding template. A strong inter-coder agreement of 82% was obtained between the two coders.

We identified sixteen (16) actors made up of 4(25%) non-traditional and 12(75%) traditional actors. A total of 43 participants were interviewed constituting four (4) manufacturers, four (4) distributors, four (4) wholesalers, three (3) retailers, three (3) IT service providers, two (2) regulators, four (4) private health insurance service providers, one (1) public health insurance service provider, three (3) private hospitals, three (3) private clinics, three (3) Private Diagnostics and Medical Laboratories, three (3) public hospitals, two (2) public health centers/clinics, and four (4) National Community Health Planning and Services (CHPS)/community posts.

Table 1a: Research instrument development for the traditional actors

Constructs	Number of questions	Focus	Rationale	Source
Traditional actors	5	- Supplier - Complementarities - Contradictions - Solutions to problems - Buyers	- Identify actors - Identify complementarities. - Identify contradictions or challenges emanating from the suppliers	(Manso et al., 2013; Neuberger, C., & Nuernbergk, 2010)
Co-opetition	6	- Competitors - Complementarities - Contradictions - Solutions to problems	- Identify actors. - Identify complementarities. - Identify contradictions or challenges emanating from the competitors.	(Marques et al., 2020)
Regulators	5	- Regulators - Complementarities - Contradictions - Solutions to problems	- Identify regulators. - Identify how they regulate the actors. - Identify complementarities. - Identify contradictions or challenges emanating from the regulators.	(Marques et al., 2020)
Information technology service providers	4	- Technology - Complementarities - Contradictions - Solutions to problems	- Identify technology usage - Identify complementarities - Identify contradictions or challenges emanating from the IT service providers	(Marques et al., 2020; Asamoah et al., 2011)

Source: Authors construct, (2023).

Table 1b: Research instrument development for the traditional actors

Constructs	Number of questions	• Focus	• Rationale	Source
Private health insurance service providers	4	• Insurance and finance • Complementarities • Contradictions • Solutions to problems	• Insurance services • Identify complementarities • Identify contradictions or challenges emanating from private health insurance providers	(Marques et al., 2020; Asamoah et al., 2011)
Public health insurance service providers / national health insurance scheme (NHIS)	4	• Insurance and finance • Complementarities • Contradictions • Solutions to problems	• Insurance services • Identify complementarities • Identify contradictions or challenges emanating from public health insurance providers	(Marques et al., 2020; Asamoah et al., 2011)
Other unknown non-traditional actors	4	• Regulators and service providers • Complementarities • Contradictions • Solutions to problems	• Identify regulators and service providers • Identify complementarities • Identify contradictions or challenges emanating from the identified non-traditional actors	Author's constructs

Source: Authors construct, (2023).

Table 2: Research instrument for the non-traditional actors

Construct	Number of questions	Focus	Rationale	Source
Traditional actors	24	• Regulate • Provide services	• Confirm identified actors • Confirm and identify how they are regulated • Confirm and identify complementarities • Confirm and identify contradictions • Confirm and identify challenges	(Marques et al., 2020; Manso et al., 2013; Asamoah et al., 2011; Neuberger, C., & Nuernbergk, 2010)

Source: Authors construct, (2023).

Findings

Table 3a-3d presents a summary of the findings on the non-traditional actors from the interview data. Table 4 presents a summary of the actors, roles and area of contribution in the healthcare supply chain. Finally, table 5 presents a summary of the actors, their activities that causes supply chain disruptions and the area of supply chain they affect.

Table 3a: Summary of findings on the non-traditional supply chain actors

Non-Traditional Actor	Regulates / Render Services	Regulations / Services	Complementarity	Challenges / Contradictions
Food and Drugs Authority (FDA)	**<u>Regulates</u>** 1. Manufacturers 2. Distributors (**including:** *central, regional and district medical stores*) 3. Wholesalers 4. Retailers 5. Private Hospitals 6. Private Clinics (**includes:** *dental and eye clinics*) 7. Private Diagnostics and Medical Laboratories 8. Public Hospitals 9. Public Health Centers / Clinics 10. CHPS / Community Post	• Enforce purchases of registered products. • Enforce sales of registered products. • Ensure adherence to SOPs. • Ensure products are well arranged at the warehouses. • Monitor drugs, medicines, product expiry, drug imports and adverse drug reaction (ADR). • Warehouse inspection • Register and renew product license	• Education and training (workshops also mentioned)	• High cost of introducing new products • Delays in getting feedbacks after reporting adverse drug reactions. • Delays in product registration processes.

Table 3b: Summary of findings on the non-traditional supply chain actors

Non-Traditional Actor	Regulates / Render Services	Regulations / Services	Complementarity	Challenges / Contradictions
Pharmacy Council	**Regulates** 1. Manufacturers 2. Distributors (**including:** *central, regional and district medical stores*) 3. Wholesalers 4. Retailers 5. Private Hospitals 6. Private Clinics (**includes:** *dental and eye clinics*) 7. Private Diagnostics and Medical Laboratories 8. Public Hospitals 9. Public Health Centers / Clinics 10. CHPS / Community Post	• Licensing • Set pharmaceutical standards • Register practitioners • Monitor pharmaceutical practices • Ensure accreditation for pharmacy programmes	• Education and training (workshops also mentioned)	-
Information Technology Service Providers (3)	**Render Services** 1. Manufacturers 2. Distributors (**including:** *central, regional and district medical stores*) 3. Wholesalers 4. Retailers 5. Private Hospitals 6. Private Clinics (**includes:** *dental and eye clinics*)	• Software applications • Communication • Networking and internet • Data analytics and visualizations • Decision supports	• Education and training • Technical assistance	• Server downtimes • Power outages • Cost of technology • Internet connectivity • Availability of IT professionals

Table 3c: Summary of findings on the non-traditional supply chain actors

Non-Traditional Actor	Regulates / Render Services	Regulations / Services	Complementarity	Challenges/ Contradictions
	7. Private Diagnostics and Medical Laboratories 8. Public Hospitals 9. Public Health Centers / Clinics 10. CHPS / Community post 11. FDA 12. Pharmacy Council 13. Private Insurance Firms 14. Public Insurance Firms (NHIS)			
Private Health Insurance Service Providers (4)	**<u>Render Services</u>** 1. Retailers 2. Private Hospitals 3. Private Clinics (**includes:** *dental and eye clinics*) 4. Private Diagnostics and Medical Laboratories 5. Public Hospitals 6. Public Health Centers / Clinics 7. CHPS / Community posts	• Insurance services or policies • Assessment and Monitoring	• Access to funds • Educations on insurance coverage and policies • Training • Increased customer base	• Delay in cashflows • Patients are not educated on insurance coverage

Table 3d: Summary of findings on the non-traditional supply chain actors

Non-Traditional Actor	Regulates / Render Services	Regulations / Services	Complementarity	Challenges/ Contradictions
Public Insurance Service Providers / National Health Insurance Scheme	**Render Services** 1. Retailers 2. Private Hospitals 3. Private Clinics (**includes:** *dental and eye clinics*) 4. Private Diagnostics and Medical Laboratories 5. Public Hospitals 6. Public Health Centers / Clinics 7. CHPS / Community posts	• Insurance services or policies • Assessment and Monitoring	• Access to funds • Educations on insurance coverage and policies • Training • Increase customer base	• Delay in payments or cashflows • Patients are not educated on insurance coverage • Reform policies are not communicated on time

Source: Authors construct, (2023)

Table 4: Summary of the actors, roles and area of contribution in the healthcare supply chain

Actor	Role	Area of contribution
FDA	• Enforce the purchases and sales of registered products. • Register and renew product license	Quality
	• Warehouse inspection (e.g., temperature) • Monitor drugs, medicines, and product expiry	Cold chain and Warehousing
	• Organizes workshops • Education and training	Staff training
Pharmacy Council	• Register practitioners • Set pharmaceutical standards • Monitor pharmaceutical practices	Quality
	• Organizes workshops • Education and training	Staff training
Information Technology Service Providers	• Software applications development • Networking and internet • Data analytics and visualizations • Decision supports	Forecasting and planning, Supply chain visibility
	• Education and training • Technical assistance	Staff training
Private and Public Insurance Service Providers	• Access to funds	Supply chain financing
	• Organizes workshops • Education and training	Staff training

Source: Authors construct, (2023)

Table 5: Summary of the actors and their activities that causes healthcare supply chain disruptions

Actor	Activities that cause disruptions	Supply chain area affected
FDA	• High cost of introducing new products • Delays in product registration processes.	• Procurement
Information Technology Service Providers	• Server downtimes • High cost of technology • Poor internet connectivity • Unavailability of IT professionals	• Forecasting and planning • Supply chain visibility • Technology adoption
Private and Public Insurance Service Providers	• Patients are not educated on insurance coverage • Delay in payments or cashflows	• Queueing • Supply chain financing

Source: Authors construct, (2023)

Regulators
Food and Drugs Authority (FDA)
The FDA is "the national regulatory body responsible for the regulation of food, drugs, food supplements, herbal and homeopathic medicines, veterinary medicines, cosmetics, medical devices, household chemical substances, tobacco and tobacco products, blood and blood products as well as the conduct of clinical trials protocols" in Ghana (FDA, 2022). The FDA regulates the operations of ten (10) traditional actors within the healthcare supply chain – manufacturers, distributors, wholesalers, retailers, private hospitals, private clinics, private diagnostic and medical laboratories, public hospitals, public health centers / clinics, and CHPS / Community posts. They register and renew product license, enforce the purchase and sales of registered products, monitor adverse drug reaction (ADR) and inspect warehouses. As a way of complementing and providing operational assistance to the traditional actors, the FDA organizes training workshops and educate them on reporting adverse drug reactions (ADR) and disposables. For instance, the following statements were made to affirm these complementarities by the traditional actors:
"*they [FDA] organize workshops for us based on observations on recent surveillance in the region*" – Wholesale manager;

"*…yes, it's not frequent but they do. I remember they [FDA] organized a workshop on reporting ADR [adverse drug reaction] some time ago.*" – Pharmacist; "*well, they have a lot of information on their website, so I think it is a form of education*" – Pharmacist.

Despite, some operational activities of the FDA present challenges to the traditional actors. The study revealed that, there is a high cost of introducing new products onto the market. In addition, it takes a longer time to get new products registered. One pharmaceutical manufacturer stated:

"*…it takes too long to register a new product. On their [FDA] website, it takes at least three (3) months to receive acknowledgement letter after applying to register a new product. Then at least six (6) months to get feedback from them [FDA] whether your product was accepted or deferred*" – Pharmaceutical manufacturer.

An interview with the Ashanti Regional head, FDA, revealed that the delays are as a result of quality and safety checks.
Moreover, there is a huge gap between the time of reporting ADR and getting feedback. It was opined that; the FDA develop strategies on reducing the time to response on reporting ADR as well as reducing the cost of registering products. Some of the traditional actors stated:

"*in my opinion, they should develop an app that will help us get immediate feedback*" – Pharmacy manager; "*I think we will be glad if they could reduce the charges for registering new drugs*"- Wholesale manager.

Pharmacy Council
The Pharmacy Council "is established by Parts IV & VI of the Health Professions Regulatory Bodies Act, 2013, (ACT 857)

as a body corporate with perpetual succession in Ghana. It's core mandate is to secure in the public interest the highest standards in pharmaceutical practices in the country" (PC, 2022). The pharmacy council regulates the operations of ten (10) traditional actors within the healthcare supply chain – manufacturers, distributors, wholesalers, retailers, private hospitals, private clinics, private diagnostic and medical laboratories, public hospitals, public health centers / clinics, and CHPS / community posts. They set pharmaceutical standards and monitor practices, licensing and renewals, registering practitioners and ensuring accreditation for pharmacy programmes. It was opined that; the basic existence of pharmaceutical retailers is as a result of approval issued by the pharmacy council. For instance, the pharmacy council can shut down or revoke the operational license of a retailer for not having the "right" staff. One retailer said:

"*…they [pharmacy council] help us in establishment. They need to certify you before you can operate. You need their certification before you can even proceed to the FDA (Food and Drugs Authority); you know, they can shut your shop*

down for not having the right staff" - Retailer.

Similar to the FDA, the pharmacy council complement the operations of the traditional actors through education and training programs, and organizing workshops. One pharmaceutical manufacturer stated:

"*they [Pharmacy council] collaborate with other agencies to organize trainings and workshops for us*" – Pharmaceutical manufacturer.

Information Technology Services Providers (ITSP)

The information technology service providers are indispensable non-traditional actors within the healthcare supply chain. The study showed that they offer services to all the actors within the healthcare supply chain – manufacturers, distributors, wholesalers, retailers, private hospitals, private clinics, private diagnostic and medical laboratories, public hospitals, public health centers / clinics, and CHPS / community posts, regulators (e.g., FDA, Pharmacy council), private and public health insurance firms. It was revealed that, ITSP offer the services of software applications development, communications, network and internet, decision supports, data analytics and visualization to the actors within the HSC. According to the respondents, information technology allows for easy information access, communication and taking feedback, serving customers, placing requisitions, checking stock levels, inventory management, records keeping and retrieval, tracking expiry dates and providing insight for decision making through analytics. However, server downtimes, power outages, cost of technology, internet connectivity, availability of IT professionals and data security issues require critical attention. One pharmacist stated:

"*…we even use a software at our sales point and warehouse. That explains how indispensable IT is in our business. …yes, my concerns are security issues and cost. Like, it's really expensive and even that, the IT guys are not easy to find. I don't know but those guys want to work part-time and it's a problem because sometimes we need immediate fix and they won't be around*" - Pharmacist.

One registered community nurse (RCM) also stated:

"*…yes, we use phones for calls, NHIS [national health insurance scheme] renewals and sometimes for browsing but this place, our network is bad. So, the internet is always on edge*" - RCM.

Private Health Insurance Services Providers

Private health insurance firms are regulated by the national health insurance authority (NHIA) mandated by the National Health Insurance Act, 2012 (Act 852) in Ghana. The private health insurance service providers assess, monitor and provide insurance services to seven (7) traditional actors (both public and private) – retailers, private hospitals, private clinics, private diagnostic and medical laboratories, public hospitals, public health centers / clinics, and CHPS / community posts. The study revealed that the private health insurance service providers complement the operations of the traditional actors through the provision of trainings and education on health insurance policies and coverages. In addition, private health insurance gives the actors a large customer-base. Despite, most private health insurance firms fail to educate their clients on coverage. One pharmacist indicated that:

"*some private insurance firms do not tell their clients about what the insurance policy cover. So, when the patient comes to our shops requesting for drugs that are not covered, we land in their trouble for asking them to pay*" - Pharmacist.

Additionally, delays in cashflows from the private health insurance firms are key challenges that requires attention. It was

suggested that, private insurance firms educate their clients on insurance policies and as well implement strategies for prompt payment of services as a means of curbing the challenges faced by the actors within the healthcare supply chain.

Public Insurance Service Providers/ National Health Insurance Services (NHIS)

The public health insurance service providers also known as the national health insurance scheme (NHIS) is a social intervention program introduced by government to provide financial access to quality health care for residents in Ghana (NHIS, 2022). NHIS assess, monitor and provide insurance services to seven (7) traditional actors (both public and private) – retailers, private hospitals, private clinics, private diagnostic and medical laboratories, public hospitals, public health centers / clinics, and CHPS / community posts. In complementing the operations of these traditional actors, the NHIS provide trainings and education on health insurance coverage, access to funds and increase health facilities customer base. One pharmacist from a private hospital stated:

"*I would say they [NHIS] assist our operations in many ways like, we get more customers because we accept NHIS. And that is because, the mindset of the people is that private firms deliver better quality of services than the public, so when they get to know that we accept NHIS, they visit our facility. And you know, NHIS is less expensive than the private ones so they have a large customer base. So, I think this is how they [NHIS] assist us in our operations*" - Pharmacist.

In addition, one nurse from a public hospital stated:

"*yes, they [NHIS] offer trainings and education, …like education on changes in price and policies. Just that, they don't inform us on time*" - Nurse.

Despite, the study revealed that NHIS fail to educate their clients on their policies and coverage. Additionally, there are delays in cashflows and communications on reform policies. For instance, one pharmacist said:

"*I don't accept NHIS [public health insurance], it is worst. In those days, we were going for loans to restock*". One nurse from CHPS stated "*they [NHIS] don't educate the patients on what is covered and because of that we often have problems with the patients when they come here. The last time, one patient came here with two complaints that required different diagnosis. In fact, only one of her complains was under NHIS coverage at our level. But when we asked her to pay, she didn't want to even after we explained things to her because she doesn't understand why she has NHIS and still have to pay. So, they [NHIS] must educate them*" – Pharmacist.

It was suggested that, NHIS educate their clients on insurance policies and as well implement strategies for prompt payment of services as a means of curbing the challenges faced by the actors within the healthcare supply chain.

Discussions
The Role of the Non-Traditional Actors in Strengthening the Healthcare Supply Chain Network

The study identified three (3) category of actors that contribute immensely to the successes of the healthcare supply chain - regulators, information technology service providers and insurance firms (Marques et

al., 2020). The regulators consisted of the Food and Drugs Authority (FDA) and the Pharmacy Council. The insurance firms consisted of the private health insurance service providers and the public or national health insurance scheme (NHIS).

The study revealed that, the non-traditional actors contribute to the successes of the healthcare supply chain in the area of quality, cold chain and warehousing, forecasting and planning, staff training, and supply chain financing. In the area of quality, the FDA and the pharmacy council (both regulators) register healthcare practitioners, set and monitor pharmaceutical standards (Hyatt & Johnson, 2016), and enforce the purchase and sales of only registered health products. It was also revealed that, the FDA inspect warehouses to ensure that drugs and medicines are kept under the recommended temperature (cold chain). These enforcements contribute to the preservations of drugs and medicines and the removal of unqualified personnel and counterfeit health products from the healthcare supply chain.

In addition, the information technology service providers (ITSP) contribute to the successes of the healthcare supply chain through the implementation and deployment of software applications, network and internet facilities, data analytics and visualizations and decision support systems to assist the operations of both the traditional and non-traditional actors (Asamoah et al., 2011). Specifically, the services of the ITSP allows for easy information access, communication and taking feedback, serving customers, placing requisitions, checking stock levels, inventory management, records keeping and retrieval, tracking expiry dates and

providing insight for decision making through analytics. It was revealed that, these systems have the capabilities of tracking health products from the manufacturer to the final consumer (supply chain visibility) and as well create opportunities for planning through its forecasting capabilities.

Further, the private and public health insurance service providers contribute to the successes of the healthcare supply chain through the provision of funds to finance healthcare supply chain activities (supply chain financing) (Sakyi et al., 2012). It was revealed that, the actors (e.g., private hospitals) request (claims) for funds from the insurance firms for restocking.

Finally, the study showed that the non-traditional actors collaborate with local and international agencies to provide trainings and education to the traditional actors (staff training) which presents an opportunity for strengthening the healthcare supply chain (Hyatt & Johnson, 2016).

The Contributions of the Non-Traditional Actors in Healthcare Supply Chain Network Disruptions

It was revealed that the food and drugs authority, information technology service providers and insurance firms contribute to the disruptions within the healthcare supply chain (Marques et al., 2020).

The study showed that the cost of introducing new product on the market is high and there are delays in the product registration processes which causes disruptions in the healthcare supply chain especially in the area of procurement. For example, the high cost of registering new products and the delay in its registration

during emergency situations may result in patients dying from curable diseases (Sakyi et al., 2012). This is because the regulations of the food and drugs authority permits for the procurement and sales of only registered products.

It was also revealed that, the actors within the healthcare supply chain depends on information technology (e.g., software applications and decision support systems) for inventory management, forecasting and planning, and supply chain visibility (Asamoah et al., 2011). The operational challenges emanating from the information technology service providers including server downtimes, poor internet connectivity, and the unavailability of IT professionals result in supply chain visibility, forecasting and planning challenges. According to Asamoah et al., (2011), IT is a supply chain enabler and its absence result in various delays and disruptions in the healthcare supply chain. The study revealed that, the high cost of technology affects it adoption rate which eventually result in supply chain disruptions.

Further, it was revealed that the delay in cashflows from both the private and public insurance service providers contribute to the disruptions within the healthcare supply chain especially in the area of supply chain financing (Sakyi et al., 2012). The relationship between the insurance policy providers, patients and the traditional actors (e.g., private hospitals, public health centers) is that, the patients or customers buy insurance policies from the health insurance service providers. Then the health facilities provide medical care to the patients and put in claims for payment from the insurance service providers. The study revealed that, it takes longer periods for

the insurance firms to pay claims to the health facilities. The delay in these cashflows results in drug and medicines shortage. In addition, the insurance service providers fail to educate their clients on the policy coverage which results in queueing. The problem of queueing arises as a result of health facilities educating patients on why they need to pay for services they enjoyed but their insurance policies do not cover.

Summary

We argued that the non-traditional actors contribute to the successes and failures in the HSC network. Leveraging the snowball sampling technique, we identified and selected five (5) non-traditional and eleven (11) traditional HSC network actors. The study revealed that the non-traditional actors contribute to the successes within the healthcare supply chain in the areas of supply chain quality (regulators), cold chain and warehousing (regulators and IT service providers), staff training, forecasting and planning (IT service providers), supply chain financing (insurance service providers) and supply chain visibility (IT service providers). For instance, it was revealed that the non-traditional actors inspect warehouses, monitor drugs, enforce the purchase and sales of registered products, organize workshops, register practitioners, provide predictive and prescriptive analytical tools for the purposes of predictions and planning and making funds easily accessible to the traditional actors.

Despite the contributions of the non-traditional actors in the successes of the healthcare supply chain, they contribute to the disruptions and failures in the healthcare supply chain. The areas of the healthcare supply chain activities that are

affected include procurement, planning and forecasting, supply chain visibility, technology adoption, queueing and supply chain financing. It was shown that, a greater amount of the disruptions in these areas of healthcare supply chain emanates from the non-traditional actors (regulators, IT service providers and insurance service providers). For instance, it was revealed that there is high cost and delays in registering new products, high cost of technology, poor internet facilities, and delay in payments or cashflows from health insurance firms.

Contributions and Recommendations

Our study contributes to the HSC network literature and practice in couple of ways. We extend the findings of (Carmagnac, 2021; Hyatt & Johnson, 2016; Sakyi et al., 2012) to identify how the non-traditional HSC network actors contribute to the successes and failures on the HSC network. Further, we investigate a wide range of non-traditional actors (e.g., regulators, IT service providers, and insurance firms) through the traditional actors (e.g., hospitals, manufacturers, distributors, etc.) to understand how the non-traditional actors influence the HSC network. In addition, this study responds to a call to examine the HSC network from the non-traditional actors perspectives (Marques et al., 2020).

Over the years, studies have examined the challenges in the HSC and suggested solutions to them from linear perspectives which include the manufacturer, distributor, retailer and patient (Asamoah et al., 2011; Brako et al., 2016; Ibegbunam & McGill, 2012; Manso et al., 2013). However, the HSC is also influenced by

the non-traditional actors (Marques et al., 2020). Our findings present a new direction for managers and policy makers to face towards minimizing supply chain disruptions. Specifically, this study will help policies makers to design policies and implement structures to reduce the pressure from regulatory bodies (Marques et al., 2020) and financial institutions like the insurance firm (Sakyi et al., 2012) to minimize the disruptions. In addition, managers will leverage our findings to manage IT service providers and insurance firms to reduce the delays in cashflows.

Direction for Future Research

We propose that future studies empirically test the findings on the contributions of the non-traditional actors to the successes and failures in the HSC network. In addition, future studies should examine the extent to which the non-traditional actors influence the HSC network. Just like any other research activity, we acknowledge potential drawbacks associated with the study. The study was conducted in Ghana and that, key actors in the HSC network may have been left out because they are not available in Ghana.

Disclosure statement

No potential conflict of interest was reported by the authors.

REFERENCES

Asamoah, D., Abor, P., & Opare, M. (2011). An examination of pharmaceutical supply chain for artemisinin-based combination therapies in Ghana. *Management Research Review*, *34*(7), 790–809. https://doi.org/10.1108/01409171111146689

Brako, S., Asante, D., & Akosah, N. B. (2016). Investigating the Risks in the Pharmaceutical Supply Chain in Ghana. *International Journal of Academic Research in Business and Social Sciences*, *6*(6), 7–21. https://doi.org/10.6007/ijarbss/v6-i6/2176

Carmagnac, L. (2021). EXPAND~1.PDF. *Supply Chain Forum: An International Journal*, 192–204. https://doi.org/10.1080/16258312.2021.1948308

Chandani, Y., Noel, M., Pomeroy, A., Andersson, S., Pahl, M. K., & Williams, T. (2012). Factors Affecting availability of essential medicines among community health workers in Ethiopia Malawi, and Rwanda: Solving the last mile puzzle. *American Journal of Tropical Medicine and Hygiene*, *87*(SUPPL.5), 120–126. https://doi.org/10.4269/ajtmh.2012.11-0781

Dassah, E. T., Adu-Sarkodie, Y., & Mayaud, P. (2018). Rollout of rapid point of care tests for antenatal syphilis screening in Ghana: Healthcare provider perspectives and experiences. *BMC Health Services Research*, *18*(1), 1–12. https://doi.org/10.1186/s12913-018-2935-y

Dixit, A., & Routroy, S. (2019). *A systematic literature review of healthcare supply chain and implications of future research*. *13*(4), 405–435. https://doi.org/10.1108/IJPHM-05-2018-0028

FDA. (2022). *Food and Drugs Authority, Ghana*. http://www.fdaghana.gov.gh/about-us.php

Hopp, M. D. S., Zhang, Z. S., Hinch, L., O'reilly, C., & Ziegler, A. (2019). Creative, thus connected: The power of sociometric creativity on friendship formation in gifted adolescents—a longitudinal network analysis of gifted students. In *New Directions for Child and Adolescent Development* (Vol. 2019, Issue 168). https://doi.org/10.1002/cad.20324

Hyatt, D. G., & Johnson, J. L. (2016). Expanding boundaries: Nongovernmental organizations as supply chain members. *Science of the Anthropocene*. https://doi.org/https://doi.org/10.12952/journal.elementa.000093

Ibegbunam, I., & McGill, D. (2012). Health commodities management system: priorities and challenges. *Journal of Humanitarian Logistics and Supply Chain Management*, *2*(2), 161–182. https://doi.org/10.1108/20426741211260741

Iwu, C. J., Ngcobo, N., McCaul, M., Mangqalaza, H., Magwaca, A., Chikte, U., & Wiysonge, C. S. (2020). Vaccine stock management in primary health care facilities in OR Tambo District, Eastern Cape, South Africa. *Vaccine*, *38*(25), 4111–4118. https://doi.org/10.1016/j.vaccine.2020.04.019

Kweku, M., Amu, H., Awolu, A., Adjuik, M., Ayanore, M. A., Manu, E., Tarkang, E. E., Komesuor, J., Asalu, G. A., Aku, F. Y., Kugbey, N., Anumu, F., Boateng, L. A., Alornyo, J. S.,

Glover, R., Letsa, T., Bawah, A. A., Kanlisi, N. S., Awoonor-Williams, J. K., … Gyapong, J. O. (2020). Community-based health planning and services plus programme in Ghana: A qualitative study with stakeholders in two Systems Learning Districts on improving the implementation of primary health care. *PLoS ONE*, *15*(1),1–24. https://doi.org/10.1371/journal.pone.0226808

Manso, J., Annan, J., Business, S. A.-I. J. of, & 2013, U. (2013). Assessment of logistics management in Ghana health service. *Academia.Edu*.

Manso, J. F., Annan, J., & Anane, S. S. (2013). Assessment of Logistics Management in Ghana Health Service. *International Journal of Business and Social Research*, *3*(8), 75–87. https://doi.org/10.18533/ijbsr.v3i8.267

Marques, L., Martins, M., & Araújo, C. (2020). The healthcare supply network: current state of the literature and research opportunities. *Production Planning and Control*, *31*(7), 590–609. https://doi.org/10.1080/09537287.2019.1663451

Marques, L., Martins, M., & Araújo, C. (2020b). The healthcare supply network: current state of the literature and research opportunities. *Production Planning and Control*, *31*(7), 590–609. https://doi.org/10.1080/09537287.2019.1663451

NHIS. (2022). *National Health Insurance Scheme*. https://www.nhis.gov.gh/about

Ozcan, P., & Eisenhardt, K. (2009). Origin of alliance portfolios: Entrepreneurs, network strategies, and firm performance. *Journals.Aom.Org*. https://journals.aom.org/doi/abs/10.5465/amj.2009.37308021

PC. (2022). *Council Pharmacy*. https://pcghana.org/about/

Sakyi, E. K., Atinga, R. A., & Adzei, F. A. (2012). Managerial problems of hospitals under Ghana's National Health Insurance Scheme. *Clinical Governance: An International Journal*, *17*(3),178–190. https://doi.org/10.1108/14777271211251291

Sismondo, S. (2011). *An introduction to science and technology studies*. https://books.google.com/books?hl=en&lr=&id=TsEfNbMtSmoC&oi=fnd&pg=PT9&dq=%22Sismondo,+Sergio+(2004),+An+introduction+to+science+and+technology+studies,++Oxford,+Blackwell+Publishing+Star&ots=52YnhPCowR&sig=XsCFs5Blg1QnvLCIV3sihJAyCOA

Vicsek, L., Király, G., & Kónya, H. (2016). Networks in the social sciences: Comparing actor-network theory and social network analysis. *Corvinus Journal of Sociology and Social Policy*, *7*(2), 77–102. https://doi.org/10.14267/CJSSP.2016.02.04

Volti, R. (2005). *Society and technological change. Macmillan*.

Religiosity, Gender, Personality Type A and Trait Professional Skepticism: Perspective of Accounting Students in Ghana

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Abstract:
Professional skepticism of auditors has been described as an essential skill required to detect material misstatements and to evaluate the evidence obtained. This study investigates the professional skepticism traits of undergraduate accounting students described as potential auditors and analyses the relationship between religiosity, personality type A, gender and trait professional skepticism from the perspective of these students. A self-administered questionnaire was used to collect data from 225 undergraduate accounting students enrolled at the University of Ghana Business School, who have taken one auditing course. The study's hypothesized associations were tested using Partial Least Squares-Structural Equation Modelling (PLS-SEM). The study shows that accounting students are exhibiting the *search for knowledge and self-confidence* dimensions of trait professional skepticism rather than *action-oriented dimensions*. On the factors that influence the professional skepticism of these potential auditors, the study finds a positive and significant relationship between *achievement striving*, a personality type and *trait professional skepticism,* while *impatience irritability* personality type showed a negative but significant relationship. The study failed to find support for a direct relationship between *religiosity* and *professional skepticism*, although the relationship is positive, but reports a positive and significant indirect relationship between *religiosity* and *professional skepticism*.

Key words: Trait Professional skepticism, Religiosity, Personality Type A, Gender, Accounting students.

Introduction

The concept of professional skepticism in auditing and accounting seems to generate increased interest in recent years, as professional skepticism is required during the auditing process for enhancing audit quality. As suggested by the International Federation of Accountants (IFAC), an independent and skeptical mindset of auditors throughout the auditing process is vital to the practice of auditing and essential for delivering a suitable audit report. Aside from this, a report by the Institute of Chartered Accountants, England and Wales (ICAEW, 2018 p.1) posits that "*professional skepticism is at the heart of what auditors do; without it, the audit has no value*". Therefore, maintaining a proper level of professional skepticism throughout the audit may improve audit quality (Liu, 2018). The recent rise in accounting fraud cases which seems to attract the attention of the public and audit regulatory boards has been bemoaned by Farag and Elias (2016). The cases of Wirecard, Union Carbide, Lehman Brothers' demise, BP oil spills, Glaxo Smith Kline's mis-selling issues, Volkswagen's Dieselgate, Barclay's rate-fixing, Facebook's data leaks, and Apple's Batterygate (Abbasi and Amran, 2023) seem to have necessitated the need perhaps to increase attention towards imbibing adequate ethical and auditing education amongst students to inculcate virtues of professional skepticism in these potential auditors. Subsequently, incorporating education on professional skepticism for students cannot be overemphasized, as Liu (2018) suggests it shapes the ethical and professional behaviours of students, who are seen as potential accountants and auditors alike. Additionally, Agrawal et al. (2021) suggest

that professional skepticism is very much needed and encourages academics to emphasise skepticism in academic curricula as it is applicable in other professional accounting areas.

Again, the seemingly increased worry expressed in literature by the International Auditing and Assurance Standards Board (IAASB-IFAC) and other stakeholders over audit inefficiencies also suggests the need for enhanced professional skepticism. However, the literature seems to have an inconclusive description of professional skepticism (Ciolek, 2017), indicating the need for further interrogation of the concept. Perhaps, Hurtt's (2010) suggestion that individuals largely reveal dimensions of trait professional skepticism makes it imperative to know which of these qualities students as potential accountants and auditors seem to exhibit. The auditing standards board describes professional scepticism as auditors having and maintaining an attitude of a questioning mind (IAASB, 2019), suggesting a mannerism adopted that may aid and enhance the effectiveness of the audit. This study perceives professional skepticism in the same light.

This study argues that this mannerism may stem from one's religious perspective, as Keller et al., (2007) suggest a person's religiosity may determine his/her ethical behaviour and assist in setting standards of good and bad. Considering that religiosity may influence an individual's values, beliefs, and practices once there is a commitment to it (Worthington et al., 2003), then it is likely that developing the trait of a questioning mindset may be influenced by a person's religiosity. In Ghana, the 2021

census suggests only 1.1% of the population had no religion (Sasu, 2022), implying that possibly, the 98.9% having religion may be impacted positively by religious beliefs and values. Therefore, if accounting students are to portray innate professional skeptical behaviour, then, perhaps this may be influenced partly by their religiosity. It is thus worth analysing if the religiosity of these students influences their professional skepticism behaviour.

Again, exhibiting the professional skepticism characteristic may emanate from your kind of personality. This is because people may react in diverse ways to ethical issues. In supporting this viewpoint, Janssen et al. (2020) concluded that personality traits of individuals contribute to their skeptical behaviour. Indeed, various personality types have been alluded to in literature with varying characteristics ascribed, see Gundry and Liyanarachchi (2007), and inconclusive studies on which personality type influences ethical decisions. While this enriches literature, the perspective of accounting students considered *potential accountants, auditors, and business executives* from a developing country may further enhance the academic discourse on personality and skeptical behaviour. Moreover, accounting and auditing practice involves people who need to exercise professional skepticism throughout their professional practice. Therefore, the personality of such potential individuals must be analysed to understand better how their personality may influence their skeptical behaviour.

Accounting students have been referred to as "potential auditors who have not yet received training" (Farag and Ellias, 2016; p. 124) and future professionals in the corporate accounting world (Agrawal et al., 2021). Therefore, to recruit the appropriate students with the right personality,

judgment and behaviours required to enhance professional skepticism and ultimately work performance, this study seeks to know the personal attributes and traits students possess that may enhance their professional skepticism. This view is supported by Nelson (2009), who suggests that firms could test the professional skepticism traits of job seekers during their recruitment process aside from testing knowledge. This study aims to determine which professional skepticism mannerism undergraduate accounting students seem to be exhibiting and whether personality and religiosity influence this mannerism.

The study focuses on students majoring in accounting as they are potential accounting and auditing professionals. Moreover, one of their undergraduate course – auditing- exposes them to the concept of professional skepticism; therefore, they may have nurtured some of these characteristics. Consequently, identifying which characteristics they exhibit most is crucial for harnessing their career opportunities and potential in the accounting and auditing profession.

The study contributes to the literature on professional skepticism. It exposes how the potential accounting or auditing professional's personality, demographic and belief factors affect professional skepticism and provides support to the mindset and attitude theory. The study also provides insight into the trait skepticism of final-year accounting students at the University of Ghana Business School. It could assist the management of practice firms in determining the appropriate and suitable skeptical traits expected of 'potential accounting professionals' as these final-year accounting students apply for accounting-related jobs. Additionally, it could assist practice firms to map out appropriate training for these "future

accountants and auditors" thereby supporting their career growth and development. The study also provides evidence on whether *personality type A*, *religiosity*, and *gender* influence trait skepticism of undergraduate accounting students in Ghana, thus extending the body of knowledge on professional skepticism.

Theoretical and Empirical Review
Professional Skepticism
Given the increasing importance of professional skepticism in identifying fraud risk factors, current and potential accountants and auditors must recognise the necessity of being professionally skeptical throughout their careers. Professional skepticism is considered essential in undertaking financial statement auditing, as recommended by IAASB (2019). It has been described variously in literature (Ciolek, 2017; Janssen, et al., 2020; Nelson, 2009) and largely by the auditing standards board as auditors having and maintaining an attitude of a questioning mind; "being alert to conditions that may indicate possible misstatements due to fraud or error, and a critical assessment of audit evidence" (AICPA, 2002; Bellovary and Johnstone, 2007; Liu and Bi, 2007). Despite this largely accepted description, Agrawal et al. (2021) find that this trait is not only beneficial to the auditing profession but to every other accounting profession and even non-accounting ones that require high ethical assessment. Consequently, it is necessary to determine which of these traits have been nurtured in these undergraduate students (potential accountants and auditors) during their studies, as they may be facing ethical dilemmas as they step into the world of work. Other authors have described the

construct in various ways (see Janssen et al., 2020). Despite the varied descriptions in the literature, this study adopts that of the IAASB, questioning which of the professional skepticism characteristics accounting students seem to be exhibiting. Nelson (2009) in his seminal work identified components of skeptical behaviour. While he suggested that professional skepticism could be a trait or state (depending on characteristics in the environment), Nolder and Kadous, (2018) theorize professional skepticism as both a mindset and an attitude. Ciolek (2017) characterized it into trait-dependent and action-dependent behaviours. He cited questioning mind, suspension of judgement and search for knowledge as personal attributes of accountants and auditors that may allure to the benefit of the accounting profession to be considered skeptical while interpersonal understanding, autonomy and self-esteem are attributes to be portrayed by an individual to be seen as skeptical. Could accounting students, as potential accountants and auditors also have similar attributes? This study highlights the trait skepticism arguing that attitude directs intention and behaviour derived from beliefs and feelings.

Studies on professional skepticism exist in literature with a wide focus on how auditors can use it to detect or reduce fraud (Janssen et al., 2020), negotiate more hours (Ciolek, 2017) and enhance audit quality (Gundry and Liyanarachchi, 2007). Ciolek (2017) also calls for studies on how auditors can sustain skeptical traits throughout the audit process to maintain the high level of professional skepticism expected. For student-related studies, Ciolek and Emerling (2019) and Liu (2018) find that students' professional skepticism can successfully be developed when they

undertake accounting programmes at the University. Therefore, from a developing country perspective, this study, also, directs attention to students who are perceived as potential accountants and auditors, to determine which of the professional skeptical features accounting students exhibit most and to analyse how religiosity, personality traits and gender drive this professional skeptical behaviour.

Personality type and professional skepticism

Different personality types and characteristics have been suggested in the literature (see Gundy and Liyanarachchi, 2007; Elias and Farag, 2011; Farag and Elias, 2016; Bratton and Strittmatter, 2013) in sociology, psychology, amongst others. Business-related studies have also been conducted on personality types since Friedman and Rosenman (1959), who conducted medical research discovered a behavioural pattern and labelled it Type A and others Type B (Eysenck and Fulker, 1983; Fisher, 2001; Rayburn and Rayburn, 1996; Elias and Farag, 2011). Distinct attributes from prior studies have characterised these personality types. For instance, Gundry and Liyanarachchi (2007, p. 131) suggest that type A personalities seem to be "aggressive, ambitious, competitive and impatient, experiencing higher levels of stress, having a greater sense of time urgency and speed and commitment to occupational goals". Indeed, accounting students as potential accounting and auditing professionals may seek to make an impact in their early career years. Based on the literature, in this case, they may exhibit personality type A to gain acceptance and drive higher career prospects in accounting and auditing practice. Spence et al. (1987) identified two variants of personality type A individuals

i.e., those striving for achievement and those easily irritated and impatient. He acknowledged that personalities striving for achievement are more focused, work hard and are serious about work, while others are easily irritated and hostile.

Other studies have collaborated on these attributes, for instance, Rayburn and Rayburn (1996) have posited that individuals exhibiting Type A personality desired competition at work and strived to achieve challenging goals, suggesting achievement striving personality. Gundry and Liyanarachchi (2007) also postulated that type A individuals were more likely to engage in practices that reduced audit quality when under stress. Fisher (2001) assessed auditors categorized as Type A personality and their impact on job output. They speculated that auditors exhibiting personality type A persevered during stress-related jobs more than Type B. However, Choo (1986) found that such individuals encounter more tension as they pursue higher ambitions.

The attributes of personality type A may imply professional skepticism, as Janssen et al. (2020) suggest that professional skepticism is developed from a myriad of individual characteristics of which personality trait is one. Studies indicate that individuals exhibiting personality type A strive to achieve stated objectives and may exhibit more skeptical behaviour to enhance work performance. Additionally, Gundry and Liyanarachchi, (2007) suggest limited studies on some personality type A attributes - impatience and irritability and achievement striving and call for additional research into these constructs.

Therefore, this study proposes that:

Hypothesis (H₁): *Impatience irritability of accounting students as potential accountants and auditors negatively influences their professional*

skepticism behaviour.

Hypothesis (H₂): *The achievement striving of accounting students as potential accountants and auditors positively influences their professional skepticism behaviour.*

Religiosity of accounting students and professional skepticism

The religiosity of individuals has been studied in literature and is seen as a multifaceted construct (Worthington et al., 2003; Cornwall et al., 1986). In business research, studies have been mainly directed at the relationship between religiosity and ethical decision-making, and personality among others (see Miller and Hoffmann,1995; Albaum and Peterson, 2006; Francis and Bourke, 2003; Keller et al., 2007). Religiosity considers an individual's responsibility to act appropriately based on their values, principles and beliefs and has been suggested to impact the lives of individuals (Sauerwein, 2017); and is associated with ethical behaviour (Barnett e*t al.*, 1996; Clark and Dawson, 1996; Kennedy and Lawton, 1996).

This study posits in line with Uysal and Okumuş (2019, p. 1333) that "the level of commitment by a person to religious values, beliefs and practices determines how he uses them in everyday life". Therefore, it may be implied that if accounting students are religious, the values and beliefs they adopt may influence their trait skeptical behaviour. In related studies by Omer, Sharp and Wang (2018) to determine if highly religious U.S Metropolitan Statistical Areas (MSAs) exhibit going concern decisions that reflect professional skepticism, it was concluded that highly religious MSAs were more likely to issue risk-averse going concern audit opinions. In contrast, Arfiana (2019)

studied the effect of religiosity on internal auditors' ability to detect fraud and concluded that religiosity does not have a positive and significant effect on the ability of internal auditors to act skeptically. Based on the inconclusive evidence, this study's 3rd hypothesis is:

Hypothesis (H₃): *Religiosity positively relates to the professional skepticism of accounting students.*

Religiosity and personality type A

Studies on religiosity and personality exist in literature with varied models of personality being explored (Eysenck, 1998; Francis and Bourke, 2003). Eysenck (1998) studied the relationship between Eysenck's theory of personality and religiosity and concluded that low psychoticism indicated high religiosity and that there was no significant evidence relating extraversion and neuroticism personality type to religiosity. Francis and Bourke (2003) compared the relationship between Cattell's model of personality and religion and concluded that religious youth are more persistent, unadventurous, rule-bound, moralistic, obsessive, socially precise, exert willpower, serious, restrained and disciplined while irreligious youth are more expedient, cheerful and undisciplined. If the attributes in the literature describing religious individuals are valid, then it may reflect in personality type A as they may be achievement-oriented and remain focused on their religious values which impact their personality type. Therefore, hypotheses 4 and 5 are:

Hypothesis (H₄): *Religiosity positively influences Achievement striving personality type A.*

Hypothesis (H₅): *Religiosity positively influences Impatience irritability personality type A.*

Gender and religiosity

The evidence on the relationship between

gender and religiosity seems to be inconclusive in literature, although it is a universally suggested view that females are more religious. Miller and Hoffmann (1995) and several other studies (Cornwall, 1989; Thompson,1991; Collett and Lizardo, 2009) agreed that females are more religious than males largely because of the risk preferences of men. However, Sullins (2006) disagreed that this is always the case and cited religions in the world where men are more religious. Following the widely accepted view and supporting the prior studies that uphold the view that females are more religious, this study suggests that: Hypothesis (H6): *Female accounting students are more religious.*

Gender and professional skepticism

Although females have been widely suggested to be more religious in literature, this may not necessarily influence their trait skeptical behaviour. Liu (2018) tested Hurtt's professional skepticism scale (HPSS) on accounting and business administration students in China, comparing the average scores of males and females and found no significant relationship between gender and professional skepticism. Therefore, gender may not influence an individual in evaluating evidence to enhance audit quality. Christina and Tjaraka, (2018) also found no relationship between professional skepticism and gender in their research. Therefore, based on the review of the literature, this study's 7th hypothesis is that; Hypothesis (H7): *The gender of accounting students does not affect professional skepticism.*

Conceptual framework

Ullman & Bentler (2012) argue that Structural Equation Modelling (SEM) uses multiple regression to define the relationship between independent variables *(in this study; religiosity, gender, personality, gender)* and dependent variables *(in this study; professional skepticism)* illustrated with diagrams.
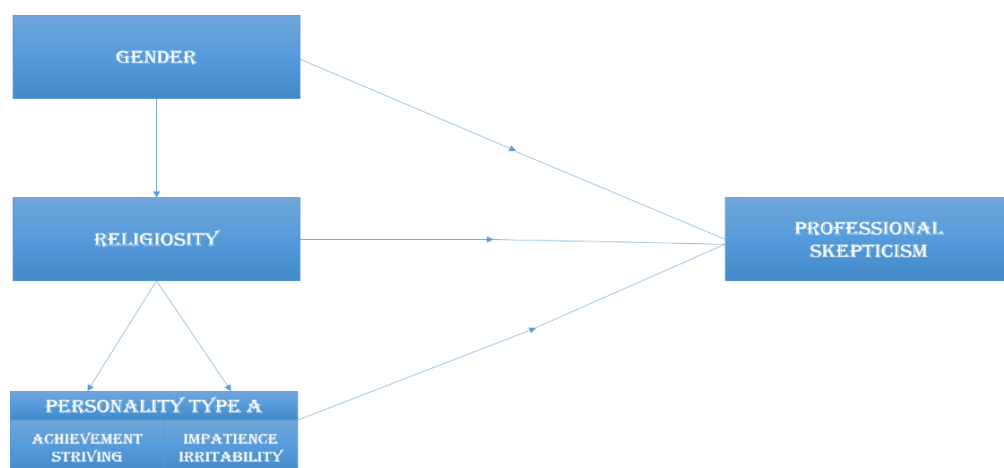
Conceptual framework

Figure 1 presents the study's conceptual framework based on the above-hypothesised relationships.

SEM tests hypotheses by evaluating causal relations between variables and uses arrows in path diagrams to show the direction of the relationship (Mueller & Hancock, 2019; Lefcheck, 2016) SEM also assists researchers in hypothesizing the relationship of a model which be translated into equations (Ullman & Bentler, 2012). Hair et al. (2012) explained that SEM can test latent variable relationships on a theoretical level. They added that SEM has two main methods: Covariance-Based SEM techniques (CB-SEM) and Partial Least Squares SEM (PLS-SEM). This study employs the Partial Least Squares - SEM (PLS-SEM) as it is commonly used in several research disciplines, including accounting (Hair, Ringle, & Sarstedt, 2013) and it has unique methodological features making it a possible alternative compared to CB-SEM approaches (Hair, et al., 2012). Hair et al. (2013) explained that PLS-SEM has gained wider popularity as a multivariance analysis tool, distinguished by the fact that it calculates latent variable scores as accurate linear combinations of their corresponding manifest variables and uses them as perfect substitutes for the manifest variables (Hair et al., 2012). Comparing PLS-SEM to CB-SEM, PLS-SEM works better with smaller samples- an average of 211.29 samples (Hair et al., 2012) and it achieves higher statistical power at all sample sizes (Hair, Matthews, Matthews and Sarstedt, 2017). PLS-SEM also produces higher composite reliability and convergent validity according to Hair, et al., (2017). Hair, et al. (2017) also explained that PLS-SEM is useful where theory is less developed in exploratory research and it can produce significant results in most instances.

Methodology
Research design, sample and data collection

This study employed a quantitative approach to collect and analyse data from undergraduate accounting students at the University of Ghana. Final-year accounting students were the focus since they were required to take auditing as a core course in their third year of study. Their auditing course exposes them to ethical issues, education, and knowledge of professional skepticism. Additionally, some of these students have undertaken internships in practice firms and other professional institutions. Although professional skepticism may require on-the-job experience, a good discussion of the issue is undertaken in the Auditing class. The study used students majoring in accounting because their focus on accounting and its related subjects predisposes them more to accounting and auditing careers. Studies like Ciołek and Emerling (2019); Farag and Elias, 2016; Liu (2018) have used students to understand professional skepticism behaviours.

The study's questionnaire was administered to all the students, after engaging them and assuring them of their anonymity. The questionnaires were administered using Google Forms with the link circulated through students' WhatsApp pages. Wright (2005) argues that online surveys help access unique populations, save time, and reduce costs. The total population of final-year students pursuing accounting majors was 638. Out of this number, valid responses of 225 were received, indicating a response rate of 35.2%.

Variable measurement and survey instrument

Variables used in this study include professional skepticism religiosity, and personality type. For professional skepticism, Hurtt's (2010) professional skepticism scale (HPSS) was used, consisting of the six characteristics of professional skepticism behaviours/attitude (questioning mind, suspension of judgement, search for knowledge, self-determination, self-confidence and interpersonal relationship). The religious commitment inventory scale developed by Worthington et al. (2003) and Keller et al. (2007) was adopted to determine religiosity. Finally, personality type A was measured using the shorter version of the Jenkins et al. (1971) scale by Spence, Helmreich and Pred (1987). As opposed to type B personality, the study opts to test type A personality because of the general notion that the accounting and auditing profession requires more focused personalities who are goal-oriented. Consequently, the need for transparent and accurate financial information makes type A personality qualities more disposed to the profession (Yigitbasioglu and Velcu, 2012). The self-administered questionnaire was in two parts: section one captured the respondents' demographic data, while section two covered questions on the study variables. Each respondent answered the questions on a seven-point Likert scale ranging from one (strongly disagree) to seven (strongly agree), giving respondents a relatively wide range of options. The professional skepticism scale by Hurtt (2010) had thirty (30) questions measuring the six characteristics of trait skepticism and was randomly arranged. Prior studies conducted by Farag and Elias (2016) and Liu (2018) have used this scale in their studies relating to professional skepticism. Also, to reduce Common Method Bias, students had the option to participate in the

study voluntarily, and the questionnaire had detailed instructions for students explaining the research objective. A pre-test with 50 responses was carried out to evaluate the research instrument and initial responses.

Modelling

The collected data was analysed using Statistical Package for Social Sciences (SPSS) for descriptive statistics and SmartPLS application following the Partial Least Square – Structural Equation Modelling (PLS-SEM) technique (IBM Corp, 2017; Ringle et al., 2015; Hair et al., 2011; Sarstedt et al., 2022). PLS-SEM was chosen for inferential analysis due to its ability to model reflective constructs, explore complex models, and its robustness to deal with normality checks (Sarstedt et al., 2022).

Inferential analysis helps to use sampling methods to make generalizations about the population of interest while descriptive statistics summarize data collected to describe the sample (Allua and Thompson, 2009). SPSS was used to generate descriptive analysis of the sample data, which have been presented in a tabular form (discussed under *Table 1: Profile of respondents*).

In analysing the 225 valid responses received, the data collected were assigned numbers, for example, a "strongly agree " response was 7 while a "strongly disagree" response was 1. The coded data was run on SPSS to get the descriptive results *(see Table 1)*. The data was then assessed in Smart PLS. The path weighing scheme was used as it provides the highest R^2 value for dependent latent variables and can be applied to all PLS path model specifications and estimations (Ringle, et al. 2015). Additionally, maximum iterations were set at 10000 (Matthews Sarstedt, Hair, & Ringle, 2016) and 7, the default stop

criterion was used. The conceptual framework discussed in the literature review was analysed. The relationships examined by the hypotheses were mapped onto each other, and the three main steps in running PLS-SEM (PLS Algorithm, Bootstrapping and Blindfolding) were run to get the study's results.

Results and Discussion
Profile of respondents
Out of the total responses of 227, two questionnaires were largely incomplete, and therefore not usable, leaving 225 valid questionnaires analysed. 51.1% were females and 48.9% were males. Most respondents were between the ages of 16 to 25 years (93.3%). Most of the respondents (73.8%) were undergraduate accounting students only, while the remaining 26.2% of respondents additionally were pursuing the accountancy professional examination. Of the 59 (26.2%) students taking the professional accounting course, most (30)

were at the second level of the examination. The descriptive details show that the demographic of interest (accounting students) is fairly represented *(see Table 1)*.

PLS-SEM analysis
Partial Least Square – Structural Equation Modelling (PLS-SEM) analyses were carried out after the descriptive analyses to evaluate the relationship among the study variables. PLS-SEM has two broad assessment criteria: the measurement and structural models (Hair et al., 2011; Sarstedt et al., 2022).

Measurement model assessment was tested using internal consistency, convergent validity, indicator loadings, and discriminant validity. An indicator loading of above 0.7 is recommended. Nevertheless, indicator loadings below 0.7 are accepted when the other model assessment criteria are met (Hair et al., 2011). Following this rule, some indicators were removed to achieve the measurement model thresholds.

Table 1: Profile of respondents

Variables	Groupings	Frequency (225)	Percentage (%)
Gender	Male	110	48.9
	Female	115	51.1
Age	Below -25	210	93.3
	26-35	15	6.7
Educational Level	Undergraduate	166	73.8
	Undergraduate and Professional Course	59	26.2
Professional Level	Not Applicable	166	73.8
	Level 1	9	4.0
	Level 2	30	13.3
	Level 3	14	6.2
	Affiliate	6	2.7
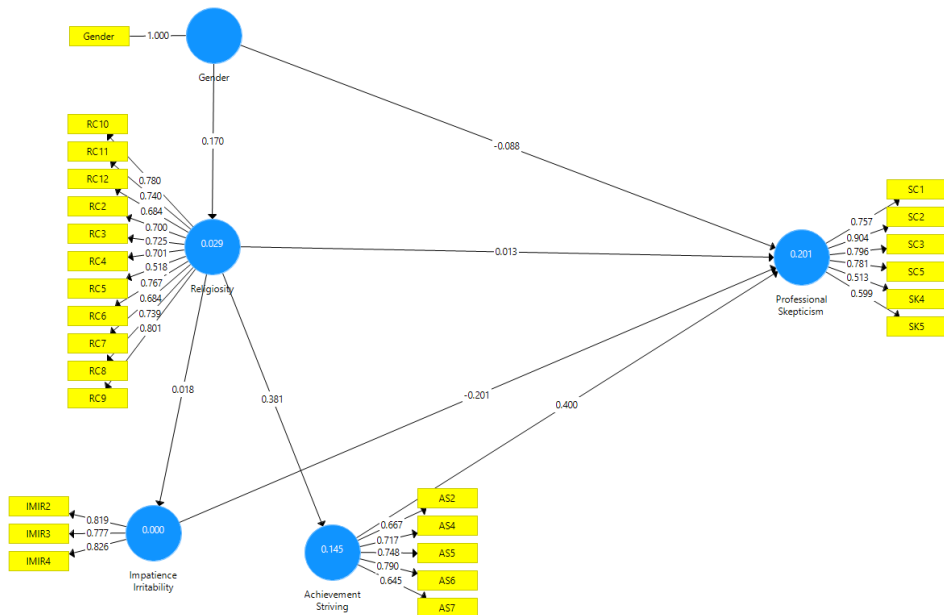
Figure 2: PLS-SEM model for analysis

The initial conceptual model is maintained for the structural modelling analysis. Figure II represents the model used to analyse data collected in the SmartPLS3 application (Ringle et al., 2015).

Measurement model assessment

The assessment of the PLS-SEM model begins with an evaluation of the indicator loading, internal consistency reliability, convergent validity, and discriminant validity. This study's variables were reflective of these four criteria used in assessing the measurement model as presented in *Table 2*. After deleting some variable indicators to improve the other criteria estimates, as Hair et al. (2014) recommended, the model achieved indicator reliability with most variables being greater than 0.70 (Sarstedt et al., 2022).

Next, convergent validity, which measures the correlation between the indicators of constructs, is assessed with the Average Variance Extracted (AVE) (Hair *et al.,* 2014). The study model achieved convergent validity with all Average Variances Extracted (AVE) variables being higher than the recommended threshold of 0.50 (Sarstedt et al., 2022). In addition, internal consistency reliability was tested following Cronbach's alpha, reliability (ϱ_A) and composite reliability (ϱ_c) (Sarstedt et al., 2021). Cronbach's alpha values were within an acceptable range of 0.585 to 0.905. Largely, Reliability (ϱ_A) and composite reliability (ϱ_c) values met the threshold of being higher than 0.70 (Hair et al., 2014; Sarstedt et al., 2021). This indicates that variables in the study model meet the internal consistency reliability measurement threshold since all-composite reliability values are higher than 0.70.

Table 2: Reliability and validity

Latent Variables	Indicator	Loading	Average Variance Extracted (AVE) > 0.500	Cronbach's Alpha 0.735 - 0.905	Reliability ρA > 0.700	Composite Reliability ρc > 0.700
		Convergent Validity		**Internal Consistency Reliability**		
Achievement Striving	Achievement Striving 2	0.667	0.512	0.761	0.768	0.839
	Achievement Striving 4	0.717				
	Achievement Striving 5	0.748				
	Achievement Striving 6	0.790				
	Achievement Striving 7	0.645				
Impatience Irritability	Impatience Irritability 2	0.819	0.652	0.735	0.745	0.849
	Impatience Irritability 3	0.777				
	Impatience Irritability 4	0.826				
Religiosity	Religiosity 10	0.780	0.513	0.905	0.916	0.920
	Religiosity 11	0.740				
	Religiosity 12	0.684				
	Religiosity 2	0.700				
	Religiosity 3	0.725				
	Religiosity 4	0.701				
	Religiosity 5	0.518				
	Religiosity 6	0.767				
	Religiosity 7	0.684				
	Religiosity 8	0.739				
	Religiosity 9	0.801				
Professional Skepticism	Self-confidence 1	0.757	0.543	0.825	0.856	0.874
	Self-confidence 2	0.904				
	Self-confidence 3	0.796				
	Self-confidence 5	0.781				
	Search for Knowledge 4	0.513				
	Search for Knowledge 5	0.599				

Furthermore, the discriminant validity under the measurement model was assessed using the Heterotrait Monotrait (HTMT) criterion, with a conservative threshold of 0.85 expected (Sarstedt et al., 2021; Sarstedt et al., 2022). Additionally, bootstrapping results assured the HTMT values with all confidence intervals upper boundary (UB:95%) higher than the HTMT values. Thereby, achieving discriminant validity as seen in *Table 3* (Sarstedt et al., 2021).

Table 3: Discriminant validity (HTMT)

	Variables	1	2	3	4	5
1	Achievement Striving					
2	Gender	0.064 (UB$_{95}$: 0.180)				
3	Impatience Irritability	0.159 (UB$_{95}$: 0.299)	0.097 (UB$_{95}$: 0.193)			
4	Professional Skepticism	0.485 (UB$_{95}$: 0.548)	0.112 (UB$_{95}$: 0.390)	0.243 (UB$_{95}$: 0.390)		
5	Religiosity	0.426 (UB$_{95}$: 0.548)	0.165 (UB$_{95}$: 0.233)	0.133 (UB$_{95}$: 0.233)	0.182 (UB$_{95}$: 0.307)	

Note: UB - Upper Boundary of the 95% Confidence Interval

Structural Model Assessment

After confirming the reliability and validity of the measurement model, the structural model assessment is next evaluated. This assessment model covers the collinearity, R^2, PLS prediction and path coefficient (Sarstedt et al., 2021; Sarstedt et al., 2022). Multicollinearity among study variables was assessed using the indicators' Variance Inflation Factor (VIF). The VIF values for all the indicators were below the conservative threshold of 3 (Hair et al., 2019).

The R^2 values are subsequently presented as the percentage variance explained in the dependent variable. The bootstrapping results indicated that the R^2 value of the main dependent variable, professional skepticism was significant. For example, professional skepticism had an R^2 value of 0.201 (*P-value = 0.002*) indicating that all other variables explain 20.1% of the variance in the professional skepticism variable in the study model.

Additionally, the model's predictive power was assessed by running the PLS $_{predict}$ procedure with 10 folds and 10 repetitions. The predictive power analysis focused on the main dependent variable of the study and its indicators. The results indicate that the RMSE static values of the LM are consistently greater than the PLS RMSE values (Sarstedt et al., 2021). Also, the PLS Q^2 $_{predict}$ values were greater than zero (Hair et al., 2014). These criteria indicate substantial predictive power in the study's model *(see Table 4).*

The last step in the structural model assessment model was to consider the path coefficient estimates and their significance. The model had seven direct path coefficients, among which three had negative coefficients. Three of the path coefficients were not significant at the consistent threshold of 1% and 5%. The highest path coefficient estimate was the relationship between Achievement Striving and Professional Skepticism (*0.400, P-value = 0.000*). *Table 5* shows the path coefficient estimate results, their P values and hypothesis outcome as Sarstedt et al. (2022) recommended.

Table 4: Predictive value

Professional Skepticism		Q ^{2} predict	Root Mean Square Error (RMSE)	
Indicators			Partial Least Squares (PLS)	Linear Regression Model (LM)
SK5	Search for Knowledge 5	0.398	1.105	1.107
SC3	Self-confidence 3	0.666	1.099	1.102
SC5	Self-confidence 5	0.439	1.114	1.116
SC2	Self-confidence 2	0.431	1.073	1.076
SC1	Self-confidence 1	0.111	1.071	1.073
SK4	Search for Knowledge 4	0.214	0.981	0.983

Table 5: Path coefficients and significance testing results.

	Path	Coefficient	95% Confidence Interval	t statistics	p values	Outcome
	Direct Effect					
H1	Impatience Irritability -> Professional Skepticism	-0.201	[-0.327,0.058]	2.384	0.017**	Accepted
H2	Achievement Striving -> Professional Skepticism	0.400	[0.279,0.540]	5.032	0.000***	Accepted
H3	Religiosity -> Professional Skepticism	0.013	[-0.110,0.131]	0.175	0.861	Rejected
H4	Religiosity -> Achievement Striving	0.381	[0.300,0.483]	6.841	0.000***	Accepted
H5	Religiosity -> Impatience Irritability	0.018	[-0.198,0.220]	0.140	0.889	Rejected
H6	Gender -> Religiosity	0.170	[0.065,0.272]	2.720	0.007***	Accepted
H7	Gender -> Professional Skepticism	-0.088	[-0.197,0.015]	1.367	0.172	Rejected
	Indirect Effect					
	Religiosity -> Professional Skepticism	0.149	[0.068,0.216]	3.289	0.001***	

Notes: p = Significant Probability.
"***" represents significant probability with p < 0.01
"**" represents significant probability with p < 0.05

Discussion of results

The results from Table 5 represent the regression outcome generated from the conceptual framework model in SmartPLS 3.

Achievement striving, a personality type A feature had a positive and highly significant relationship with professional skepticism ($\beta = 0.400$, p-value = 0.000). The study finds support for H_2. This indicates that these potential accounting and auditing professionals with achievement-striving personality traits are more inclined to be skeptical, suggesting their eagerness to succeed and become competitive. Thus, they are likely to question events, seek further knowledge, and have the confidence to perform their duties diligently to achieve the required results. Farag and Elias (2016) studied personality type A and professional skepticism and found a positive relationship.

For impatience irritability personality type and professional skepticism, the study outcome showed a negative and significant relationship ($\beta = -0.201$, p-value = 0.017), supporting H_1. This infers that undergraduate accounting students seem to exhibit a low tolerance for delay and may rush in carrying out a task. They are, therefore, more likely to miss out on some key issues. With the need to finish work faster and the eagerness to critically assess all material issues, these potential accounting and auditing professionals may not pay attention to details or question everything. This finding is supported by Gundry and Liyanarachchi (2007) who found a significant relationship between personality type A (impatience irritability) and reduced audit quality practices caused by reduced professional skepticism.

Gender (coded 1 for females and zero for males), another key construct of this study was found to exhibit a negative but insignificant relationship with professional skepticism as hypothesized ($\beta = -0.088$, p-value = 0.172). H_7 is not supported. Despite the result not being significant, it highlights the possibility of males being more professionally skeptical compared to females. Furthermore, the result indicates that males may be willing to know more about any situation and go by their professional duty without compromise or compassion. A similar study by Ciołek and Emerling (2019) found partial support for their study on the relationship between gender and the level of professional skepticism among university students.

However, the results found a positive and significant relationship between gender (coded 1 for females and zero for males) and religiosity ($\beta = 0.170$, p-value = 0.007), finding support for H_6. The results suggest that accounting major students who are females are more religious as compared to male students. This finding implies that females are more likely to be committed to their religious activities, values, beliefs, and teachings as Thompson (1991) and Collett and Lizardo (2009) also indicated in their study.

Furthermore, the study evaluated the impact of religiosity on achievement striving personality and impatience irritability. The results indicate positive relationships between religiosity and both variables. However, the relationship between religiosity and impatience irritability was not significant ($\beta = 0.018$, p-value = 0.889) at the standard levels The study did not find support for H_5. Religiosity had a positive and significant relationship with achievement striving ($\beta = 0.381$, p-value = 0.000) at 1%, supporting H_4. These results indicate that an individual's religiosity may impact their ambitions and personality. Francis and Bourke (2003) observed in their study that

students who are committed to their religious activities may strive to attain success with great willpower.

Finally, the relationship between religiosity and professional skepticism was positive (β = 0.013, p-value = 0.861) but was not statistically significant. H₃ is not supported. Despite the relationship not being significant, the findings suggest the possibility of an individual improving professional skepticism with enhanced religious behaviour. Religiosity has been identified in the literature as a construct that can influence the behaviour of individuals in the accounting profession (Al-Ebel et al., 2020).

Finally, the study tested the indirect relationship of religiosity to professional skepticism and found that religiosity indirectly impacts the professional skepticism of accounting major students' (β = 0.149, p-value = 0.001). The assessment of the total indirect effect of religiosity on professional skepticism reveals that the commitment of undergraduate accounting major students to their religious activities and doctrines can significantly impact their level of professional skepticism once they have the personality attribute of type A. This, possibly, is because most religions preach and encourage members to be morally upright, carry out their activities with diligence as a reverence to their deity, and produce excellent work output. This indirect relationship with the influence of religiosity is supported by Mostafa et al. (2020).

Conclusion and Implication

The study concludes that final-year undergraduate accounting students exhibit predominantly self-confidence and search for knowledge characteristics of professional skepticism. The analysis from the study posits that students revealing personality type A feature of achievement striving are more likely to exhibit professional skepticism mannerisms. The study finds that students with personality trait of impatience irritability characteristics are unlikely to exhibit professional skepticism traits. In general, students perceive that their religious commitment may influence their personality. Finally, the study concludes that students who commit to their religion are more likely to demonstrate skeptical traits, when the personality factor comes to play.

The study's findings have implications for academia, professional practice firms and industry. For academia, the study adds to the limited empirical study on students' professional skepticism mannerisms from the perspective of final-year accounting major students in an African context. For professional practice firms, the outcome of the study could guide management of practice firms to know and understand skeptical and personality traits of these final-year students to enable the design of appropriate training and professional development programmes for these potential accounting and auditing professionals. It could help determine the speciality areas of these potential employees, allowing employees to know if they are the best fit for the job or not. Managers of institutions and educators can leverage ethical and religious values and beliefs at work and in school to train employees and students to improve their ethical judgement and professional skepticism.

Limitations and Recommendations for Future Research

These limitations should be considered when interpreting the findings of this study.

First, the study measured the professional skepticism of accounting students, who are considered potential accounting and auditing professionals. The study acknowledges the possibility of some not pursuing any of these professions. Therefore, results could differ if professionals were used as the sample. Second, respondents to the questions were not permitted to provide their thoughts and comments. Finally, data were collected in Ghana only and limited to the University of Ghana Business School final-year accounting undergraduate students. Future researchers can include other variables external to accounting students to evaluate their effects on professional skepticism features. Again, the study could have combined both personality types A and B to determine their effects on professional skepticism behaviour combined and individually. Finally, researchers can conduct this study with audit professionals, or accounting students at different levels of study.

REFERENCES

Agrawal, P., Birt, J., Holub, M. and van Zyl, W. (2021). Professional scepticism and the accounting classroom, Accounting Education, Vol. 30, No. 3, 213-233. https://doi.org/10.1080/09639284.2021.1913616

AICPA (2002). Consideration of fraud in a financial statement Audit: AU Section 316. Retrieved on August 14, 2022 from https://www.aicpa.org/research/standards/auditattest/downloadabledocuments/au-00316.pdf

Albaum, G. and Peterson, R. A. (2006). Ethical attitudes of future business leaders: do they vary by gender and religiosity?, Business & Society, Vol. 45, No. 3, 300-321.

Al-Ebel, A., Baatwah, S. and Al-Musali, M. (2020). Religiosity, accounting expertise, and audit report lag: empirical evidence from the individul level, Cogent Business & Management, Vol. 7, No. 1.

Allua, S., & Thompson, C. B. (2009). Inferential statistics. Air Medical Journal, Vol. 28, No, 4, 168-171.

Arfiana, A. (2019). The Effect of Work Experience, Religiosity and Professional Skepticism on The Ability of Internal Auditors in Detecting Fraud, Academic Journal of Economic Education, Vol. 6, No. 1, 99–106

Barnett, T., Bass, K. and Brown, G. (1996). Religiosity, ethical ideology, and intentions to report a peer's wrongdoing, Journal of Business Ethics, Vol. 15, No. 11, 1161-1174.

Bellovary, J. L. and Johnstone, K. M. (2007). Descriptive evidence from audit practice on SAS No. 99 brainstorming activities, Current Issues in Auditing, Vol. 1 No. 1, A1-A11.

Bratton, V. K. and Strittmatter, C. (2013). To cheat or not to cheat? The role of personality in academic and business ethics, Ethics & Behaviour, Vol. 23 No. 6, 427-444. https://doi.org/10.1080/10508422.2013.811077

Christina, L. S. and Tjaraka, H. (2018). Factors that Influence Auditor's

Professional Skepticism Evidence from Audit Firms in Surabaya, ICIEBP 2017, 326–330.

Choo, F. (1986). Job Stress, Job Performance, and Auditor Personality Characteristics, Auditing, A Journal of Practice & Theory, Vol. 5 No. 2, 17-34.

Chyung, S. Y., Roberts, K., Swanson, I. and Hankinson, A. (2017). Evidence-based survey design: the use of a midpoint on the Likert scale, Performance Improvement, Vol. 56 No. 10, 15-23.

Ciołek, M. (2017). Professional skepticism in auditing and its characteristics, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, Vol. 474, 33-40. https://doi.org/10.15611/pn.2017.474 .03

Ciołek, M. and Emerling, I. (2019). Can we shape trait professional skepticism through university accounting programs? Evidence from Polish University, Sustainability (Switzerland), Vol. 11, No. 2. https://doi.org/10.3390/su11010291

Clark, J. W. and Dawson, L. E. (1996). Personal religiousness and ethical judgements: an empirical analysis, Journal of Business Ethics, Vol. 15, No.3, 359-372.

Collett, J. L. and Lizardo, O. (2009). A power-control theory of gender and religiosity, Journal for the Scientific Study of Religion, Vol. 48, No. 2, 213-231.

Conroy, S. J. and Emerson, T. L. (2004). Business ethics and religion: Religiosity as a predictor of ethical awareness among students, Journal of Business Ethics, Vol. 50, No. 4, 383-396. https://doi.org/10.1023/B:BUSI.0000 025040.41263.09

Cornwall, M. (1989). The determinants of religious behaviour: a theoretical model and empirical test, Social forces, Vol. 68, No. 2, 572-592.

Cornwall, M., Albrecht, S. L., Cunningham, P. H. and Pitcher, B. L. (1986). The dimensions of religiosity: a conceptual model with an empirical test, Review of Religious Research, 226-244.

Elias, R. Z. and Farag, M. S. (2011). The Impact of Accounting Students' Type A Personality and Cheating Opportunity on Their Ethical Perception, Journal of the Academy of Business Education, Vol. 12.

Eysenck, H. J. and Fulker, D. W. (1983). The components of Type A behaviour and its genetic determinants, Personality and Individual Differences.

Eysenck, M. W. (1998). Personality and the psychology of religion, Mental Health, Religion & Culture, Vol. 1 No. 1, 11-19. https://doi.org/10.1080/13674679808 406493

Farag, M. S. and Elias, R. Z. (2016). The relationship between accounting students' personality, professional skepticism and anticipatory socialization, Accounting Education, Vol. 25, No. 2, 124-138. https://doi.org/10.1080/09639284.201 5.1118639

Fisher, R. T. (2001). Role stress, the type A behaviour pattern, and external auditor job satisfaction and performance, Behavioural research in accounting, Vol. 13, No. 1, 143-170.

Francis, L. J. and Bourke, R. (2003). Personality and Religion: applying Cattell's Model among Secondary School Pupils, Current Psychology, Vol. 22, No. 2, 125–137.

Friedman, M. and Rosenman, R. H. (1959). Association of specific overt behaviour pattern with blood and cardiovascular

findings: blood cholesterol level, blood clotting time, incidence of arcus senilis, and clinical coronary artery disease, Journal of the American medical association, Vol. 169 No. 12, 1286-1296.

Gundry, L. C. and Liyanarachchi, G. A. (2007). Time budget pressure, auditors' personality type, and the incidence of reduced audit quality practices, Pacific Accounting Review, Vol. 19, No. 2, 125–152. https://doi.org/10.1108/01140580710 819898

Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. International Journal of Multivariate Data Analysis, Vol. 1, No. 2, 107-123.

Hair, J. F., Sarstedt, M., Hopkins, L. and Kuppelwieser, G. V. (2014). Partial least squares structural equation modelling (PLS-SEM), European Business Review, Vol. 26, No. 2, 106-121.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. Journal of the academy of marketing science, Vol. 40, No. 3, 414-433.

Hair, J. F., Ringle, C. M. and Sarstedt, M. (2011). PLS-SEM: indeed a silver bullet, Journal of Marketing Theory and Practice, Vol. 19, No. 2, 139–152. https://doi.org/10.2753/MTP1069-6679190202

Hair, J. F., Risher, J. J., Sarstedt, M. and Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM, European Business Review, Vol. 31, No. 1, 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hurtt, R. K. (2010). Development of a scale to measure professional skepticism, Auditing: A Journal of Practice & Theory, Vol. 29, No. 1, 149-171. https://doi.org/10.2308/aud.2010.29.1 .149

Hurtt, R. K. Brown-Liburd, H., Earley, C. E. and Krishnamoorthy, G. (2013). Research on auditor professional skepticism: literature synthesis and opportunities for future research, Auditing: A Journal of Practice & Theory, Vol. 32(Supplement 1), 45-97.

Hussin, S. A. H. S. and Iskandar, T. M. (2015). Re-validation of professional skepticism traits, Procedia Economics and Finance, Vol. 28, 68-75. https://doi.org/10.1016/s2212-5671(15)01083-7

IAASB (October 2019). Professional Skepticism lies at the heart of a quality audit. Retrieved on February 24, 2022 from https://www.ifac.org/system/files/pu blications/files/PS-Communique-201910-FINAL-Edited.pdf.

IBM Corp (2017). IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.

ICAEW (2018). Skepticism: the Practioners' take. Retrieved on April 21, 2022 from https://www.icaew.com/technical/aud it-and-assurance/scepticism-the-practitioners-take.

IFAC (September 2018). Professional Skepticism the Heart of Audit. International Federation of Accountants. Retrieved on August 2, 2022 from https://www.ifac.org/knowledge-gateway/supporting-international-standards/discussion/professional-skepticism-heart-audit.

Janssen, S., Hardies, K., Vanstraelen, A. and

Zehms, K. M. (2020). Professional Skepticism Traits and Fraud Brainstorming Quality. Retrieved from SSRN 3719155.

Jenkins, C. D., Zyzanski, S. J. and Rosenman, R. H. (1971). Progress towards validation of a computer scored test for Type A coronary prone behaviour pattern, *Psychosomatic Medicine*, Vol. 33, 193-202.

Keller, A. C., Smith, K. T. and Smith, L. M. (2007). Do gender, educational level, religiosity, and work experience affect the ethical decision-making of US accountants?, Critical perspectives on accounting, Vol. 18, No. 3, 299-314. https://doi.org/10.1016/j.cpa.2006.01.006

Kennedy, E. J. and Lawton, L. (1996). The effects of social and moral integration on ethical standards: a comparison of American and Ukrainian business students, Journal of Business Ethics, Vol. 15, No. 8, 901-911.

Kum-Lung, C. and Teck-Chai, L. (2010). Attitude towards Business Ethics: Examining the influence of Religiosity, Gender and Education Levels, International journal of Marketing Studies, Vol. 2, No, 1, 225-232. www.ccsenet.org/ijms

Lefcheck, J. S. (2016). piecewiseSEM: Piecewise structural equation modelling in r for ecology, evolution, and systematics. Methods in Ecology and Evolution, Vol. 7, No. 5, 573-579.

Liu, M. and Bi, H. (2007). Reasonable boundaries of professional skepticism in auditing, Accounting Research, Vol. 8, 76–80.

Liu, X. (2018). Can professional skepticism be learned? Evidence from China, Journal of Education for Business, Vol. 93, No. 6, 267-275. https://doi.org/10.1080/08832323.2018.1466773

Miller, A. S. and Hoffmann, J. P. (1995). Risk and religion: an explanation of gender differences in religiosity, Journal for the scientific study of religion, 63-75.

Mohamed Saat, M., Porter, S. and Woodbine, G. (2012). A longitudinal study of Accounting Students' Ethical Judgement Making Ability, Accounting Education, Vol. 21, No. 3, 215-229. https://doi.org/10.1080/09639284.2011.562012

Morrison, K. A. (1997). Personality correlates of the Five-Factor Model for a sample of business owners/managers: associations with scores on self-monitoring, Type A behaviour, locus of control, and subjective well-being, Psychological reports, Vol. 80, No. 1, 255-272.

Mostafa, D., Hussain, M. and Mohamed, E. K. (2020). The effect of religiosity–morality interaction on auditor independence in Egypt, Managerial Auditing Journal.

Nelson, M. W. (2009). A model and literature review of professional skepticism in auditing, Auditing, Vol. 28, No. 2, 1. https://doi.org/10.2308/aud.2009.28.2.1

Nolder, C.J. and Kadous, K. (2018). Grounding the professional skepticism construct in mindset and attitude theory: a way forward, Accounting, Organizations and Society, Vol. 67, 1-14.

Omer, T. C., Sharp, N. Y. and Wang, D. (2018). The impact of religion on the going concern reporting decisions of local audit offices, Journal of Business Ethics, Vol. 149, No. 4, 811-831.

Quadackers, L., Groot, T. and Wright, A. (2014). Auditors' professional skepticism: neutrality versus presumptive doubt, Contemporary accounting research, Vol. 31, No. 3, 639-657. https://doi.org/10.1111/1911-3846.12052

Rayburn, J. M. and Rayburn, L. G. (1996). Relationship between Machiavellianism and type A personality and ethical-orientation, Journal of Business Ethics, Vol. 15, No. 11, 1209-1219.

Ringle, C.M., Wende, S. and Becker, J.M. (2015). SmartPLS3. Retrieved on July 19, 2022 from www.SmartPLS.com.

Sankaran, S. and Bui, T. (2003). Relationship between student characteristics and ethics: implications for educators, Journal of Instructional Psychology, Vol. 30, No. 3.

Sarstedt, M., Hair Jr, J. F. and Ringle, C. M. (2022). PLS-SEM: indeed a silver bullet–retrospective observations and recent advances, Journal of Marketing Theory and Practice, 1-15. https://doi.org/10.1080/10696679.2022.2056488

Sarstedt, M., Ringle C.M. and Hair J.F. (2021). Partial Least Squares Structural Equation Modeling, in: Homburg C., Klarmann M. & Vomberg A.E. (eds), Handbook of Market Research: Springer, Cham.

Sasu, D. D. (2022). Religious affiliation in Ghana as of 2010-2021. Retrieved on September 24, 2022 from https://www.statista.com/statistics/1172414/religious-affiliation-in-ghana/

Sauerwein, J. (2017). The intersection of religiosity, workplace spirituality and ethical sensitivity in practising accountants, Journal of Religion and Business Ethics, Vol. 3, No. 2, 4.

Shannon, J. R. and Berl, R. L. (1997). Are we teaching ethics in marketing?: a survey of students' attitudes and perceptions, Journal of Business Ethics, Vol. 16, No. 10, 1059-1075.

Spence, J. T., Helmreich, R. L. and Pred, R. S. (1987). Impatience versus achievement strivings in the type A pattern: differential effects on students' health and academic achievement, Journal of Applied psychology, Vol. 72, No. 4, 522. https://doi.org/10.1037/0021-9010.72.4.522

Sullins, D. P. (2006). Gender and religion: Deconstructing universality, constructing complexity, American Journal of Sociology, Vol. 112, No. 3, 838-880.

Sullivan, G. M. and Artino Jr, A. R. (2013). Analyzing and interpreting data from Likert-type scales, Journal of graduate medical education, Vol. 5, No. 4, 541-542. https://doi.org/10.4300/jgme-5-4-18

Thompson Jr, E. H. (1991). Beneath the status characteristic: gender variations in religiousness, Journal for the scientific study of religion, 381-394.

Ullman, J. B. and Bentler, P. M. (2012). Structural equation modelling, Handbook of Psychology, Second Edition, 2.

Uysal, A. and Okumuş, A. (2019). Impact of religiosity on ethical judgement: a study on preference of retail stores among consumers, Journal of Islamic Marketing, Vol. 10, No. 4, 1332–1350. https://doi.org/10.1108/JIMA-07-2018-0131

Worthington, E. L., Wade, N. G., Hight, T. L., Ripley, J. S., McCullough, M. E., Berry, J. W., Schmitt, M. M., Berry, J. T., Bursley, K. H. and O'Connor, L. (2003). The Religious Commitment Inventory--10: development, refinement, and

validation of a brief scale for research and counselling, Journal of Counseling psychology, Vol. 50, No. 1, 84.

Wright, K. B. (2005). Researching Internet-based populations: advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services, Journal of computer-mediated communication, Vol. 10, No. 3.

Yigitbasioglu, O. M. and Velcu, O. (2012). A review of dashboards in performance management: Implications for design and research, International Journal of Accounting Information Systems, Vol. 13, No. 1, 41-59.

The Impact of Financial Management Decisions on Firm Value: The Moderating Role of Profitability

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Abstract

The study was conducted to determine the moderating role of profitability on the influence of financial management decisions on firm value at the Dar es Salaam Stock Exchange (DSE). The study was guided by four specific objectives derived from two independent variables named financing decision and dividend decision, while considering profitability as the moderating variable. The study was guided by the positivism philosophy, employed a causal inference research design, and adopted a deductive approach. The study utilized quantitative secondary data spanning a ten (10) year period from 2013 to 2022, sourced from the DSE database and annual reports of specifically chosen companies. The study population comprised twenty-eight (28) listed companies, and by a sample of ten (10) non-financial firms listed at DSE was selected through the purposive sampling technique. Data analysis was carried out using E-View software version 12, and a fixed effect panel regression model was employed for the study. The study found financing decision do not influence firm's value while dividend decision has a positive influence on firm's value. Furthermore, Profitability has a positive moderating role on both the influence of financing decisions and dividend decisions on firm value. Based on the findings, it is recommended that listed companies to enhance their dividend policies and prioritize profitability strategies to strengthen shareholder value, while capital market authorities should encourage prudent dividend policies and promote transparency.

Key words: Financing Decision, Dividend Decision, Firm Value, Profitability

Introduction

The influence of financial management decisions on firm value has deep roots in classical economic discussions. Early economists like Adam Smith and David Ricardo emphasized the importance of efficient resource allocation and prudent financial

management as essential to a firm's success and growth (O'Connell & Ward, 2020). Their work laid the foundation for understanding that a firm's value is inherently tied to its financial decisions, setting the stage for future theories and models that would explore this relationship in greater detail (Sneirson, 2019). The shareholder wealth maximization theory emerged as a dominant framework in financial economics, positing that the primary objective of a firm is to maximize the wealth of its shareholders (Battilana *et al.,* 2022). This theory incepted by Adolf Berle and Gardiner Means in the 1930s to provide a clear and compelling rationale for financial decision-making, suggesting that all financial actions should be evaluated based on their potential to enhance shareholder value (Yan, 2019). In the pursuit of wealth creation, achieving a delicate equilibrium among various facets of financial management becomes imperative (Park, 2021). Key among these components are the decisions pertaining to financing, investment, and dividend distribution, each playing a pivotal role in shaping the overall financial health and value proposition of a firm (Gitagia, 2020).

Financing decisions dictate how a company secures capital to fund its operations and growth initiatives, while investment decisions revolve around the allocation of these resources to maximize returns and foster sustainable growth (Agung *et al.,* 2021). Financing decisions play a crucial role in shaping a firm's capital structure where by the choice between debt and equity financing involves a delicate balance of risks and returns (Chaleeda *et al.,* 2019). The trade-off theory suggests that firms must balance the tax advantages of debt against the potential costs of financial distress (Madubuike & Ebere, 2023). The pecking order theory posits that firms

prefer internal financing first, and then debt, before opting for equity due to asymmetric information concerns (Ahmad et al. 2023). Signalling theory also indicates that financing decisions can convey critical information to investors about a firm's future prospects, thereby affecting its valuation (Wardani & Subowo, 2020). Dividend decisions reflect a company's strategy regarding profit distribution to shareholders, serving as a crucial aspect of investor relations (Triani & Tarmidi, 2019) Dividend irrelevance theory proposed by Modigliani and Miller suggests that in a perfect market, dividend policy does not affect a firm's value (Banerjee, 2018). However, in reality, market imperfections such as taxes, agency costs, and information asymmetry make dividend policy significant where by the bird-in-hand theory and signalling theory argue that dividend payments can positively influence firm value by signalling financial health and reducing agency costs (Murtaza et al., 2018). Investors often perceive consistent and high dividends as indicators of a firm's profitability and stability, which can enhance its market valuation while investment decisions are fundamental to a firm's growth and its effectiveness ensure that a firm allocates its resources to the most profitable opportunities (Triani & Tarmidi, 2019).

As a response to the global trend, the DSE has witnessed a positive trend in performance, particularly in value creation. According to Tanzania Invest (2024), during the 39th trading week ending 20th September 2024, the total market capitalization of listed shares at the DSE amounted to TZS 17,769 billion (approximately USD 6,347.04 million), which reflects an increase of 0.66% in total market capitalization compared to the previous week's close figures of TZS

17,500.65 billion (approximately USD 6,250.23 million). Also, at the close of the 40th trading week ending October 2024, the total market capitalization of listed shares at the DSE amounted to TZS 17,848.37 billion (approximately USD 6,370.13 million), which reflects an increase of 0.44% in total market capitalization compared to the previous week's close figures of TZS 17,769 billion (approximately USD 6,347.04 million) (Tanzania Invest, 2024).Despite the fact that the market value of listed companies at DSE is increasing over time, which is a positive trend for firm values, there is a scarcity of empirical studies confirming the influence of financial management decisions on value creation in the context of Tanzania. Notably Ayo and Muba (2021) investigated the impact of capital structure on the performance of firms listed on the DSE. Similarly, Assey *et al.* (2020) examined the relationship between working capital management and financial performance (return on equity and return on assets) among non-financial companies listed on the DSE. Kundy and Shah (2024) explored the effect of financing decisions on the performance (return on assets and return on equity) of non-financial firms listed on the DSE. Kasoga (2020) conducted a study to analyse the impact of investing in intellectual capital on firm performance (return on assets, asset turnover, and Tobin's) for service and manufacturing sectors firms listed at DSE.

Given the positive trend in the market value of listed companies on the DSE and the limited empirical research available, there is still a gap in understanding how financial management decisions, specifically dividends and financing decisions, influence firm value in Tanzania, especially when moderated by profitability. This study aims to fill that gap by exploring the

complex relationship between these financial decisions and their impact on firm value in the Tanzanian context. By examining this issue, the research provides important insights for both theory and practice in financial management, focusing on concepts such as maximizing shareholder wealth and signalling theory.

This paper is organized according to sections. The introduction is covered in Section 1. Section 2 contains the literature review and the development of hypotheses. Section 3 describes the methodology used to collect and analyze data. Section 4 presents the findings and results discussion. Section 5 presents the study's conclusion and recommendations.

Relevant Literature Review and Hypotheses Development

Financial management decisions involve strategic choices by a company's management aimed at achieving financial objectives and maximizing shareholder value (Sihwahjoeni et al., 2020). These decisions include efficient allocation of financial resources, balancing risks and returns to optimize performance and sustainability (Ginanjar et al., 2021). Key areas include investment, financing, and dividend decisions. This study focused on financing and dividend decisions with profitability as a moderator. Many empirical studies have been conducted to examine the influence of financial management decisions on firm values, resulting in inconclusive findings. Empirical studies investigating value creation for listed companies reveal diverse findings on dividend decisions. Margono and Gantino (2021) found a positive influence of dividend policy on company value in the food and beverage sub-sector, supported by Hasanuddin (2021) and Diana and Munandar (2023), who also identified

positive effects in various contexts. Ginanjar et al. (2021) and Agung et al. (2021) confirmed these positive associations among food and beverage firms. However, Murniati et al. (2019) and Putri (2023) reported negative impacts of dividend policy on firm value. Sondakh (2019) noted a significant negative relationship in financial services, while Triani and Tarmidi (2019) and Sihwahjoeni et al. (2020) found no significant effects of dividend policy on firm value in the property and real estate and food and beverage sectors, respectively. Ahmad et al. (2020) identified positive impacts of leverage on firm value in the food and beverage sectors in Nigeria, indicating that debt financing can enhance firm value. Similarly, Chaleeda et al. (2019) found a significant positive relationship between both short-term and long-term debt and firm value in Malaysia, while Aboagye-Otchere and Boateng (2023) reported a positive association with total debt financing in Nigeria.

Studies examining the relationship between financing decisions and firm value present varied findings across different contexts. Nazir et al. (2021) further indicated that both short- and long-term debts adversely affect firm performance in Pakistan, with Fujianti et al. (2020) highlighting a negative impact of debt policy on firm value. Additionally, several studies, including those by Murniati et al. (2019), Triani and Tarmidi (2019), Hasanuddin (2021), Yulianti et al. (2024), and Ginanjar et al. (2021), found no significant impact of financing decisions on firm value, emphasizing the context-dependent nature of these effects as revealed by Akhmadi and Robiyanto (2020). Studies on the relationship between profitability and firm value present mixed findings. Wijayaningsih and Yulianto (2021),

Markonah et al. (2020), and Jihadi et al. (2021) all found a positive correlation, suggesting that higher profitability enhances firm value. Conversely, Bon and Hartoko (2022) found no significant influence of profitability on firm value, while Yulianti et al. (2024) reported a negative effect specifically within the technology sector. Similarly, Hechmi and Saanoun (2024) indicated that profitability adversely impacted value creation in Saudi real estate companies. In the food and beverage sector, Panjaitan and Supriyati (2023) noted a negative effect of profitability on firm value. In contrast, Ariyanti et al. (2024) found that profitability positively influences the effect of dividend policy on firm value, and Yulianti et al. (2024) suggested that higher profitability could moderate the relationship between financing decisions and firm value, potentially amplifying negative impacts from financing choices. In light of position of previous empirical studies, the following hypotheses were developed and tested by the study:

H1: There is a positive influence of financing decision on the value of listed firms
H2: There is a positive influence of dividend decision on the value of listed firms
H3: There is a positive moderating role of profitability on the influence of financing decision on the value of listed firms
H4: There is a positive moderating role of profitability on the influence of dividend decision on the value of listed firms.

It is important to consider the moderating role of profitability in the relationship between financing and dividend decisions on firm value due to its significant impact on financial outcomes and stakeholder perceptions. Profitability serves as a critical indicator of a firm's financial health and operational efficiency, influencing how

effectively a company can manage its capital structure and allocate resources. High profitability may enhance a firm's ability to undertake debt financing, as it indicates strong cash flows and reduced risk, leading to improved firm value. Furthermore, profitable firms are often better positioned to meet shareholder expectations regarding dividends, balancing the need for reinvestment with the desire for income generation. Given these dynamics, profitability may amplify the positive effects of financing and dividend decisions, as it reflects a company's capacity to optimize financial management practices while mitigating risks associated with capital structure choices.

Research Methodology

The study focused on a population of twenty-eight (28) publicly listed companies on the DSE. From this population, a sample of ten (10) listed firms were selected, specifically from the non-financial sectors. The study used a purposive sampling technique to select ten (10) listed non-financial companies from a total of twenty-eight (28) at the DSE, following criteria outlined by Mwambuli (2016). Financial institutions, including banks and insurance companies, were excluded due to their highly regulated nature, allowing for a focus on less regulated industries. This approach aimed to yield results that are more applicable to a broader range of non-financial businesses. The final sample consisted of ten (10) companies from various sectors, ensuring that the findings are representative of the population and generalizable to other non-financial firms.

The study utilized secondary data collected from the annual reports of selected listed companies, covering a period of ten (10) years' timeframe from 2013 to 2022. The study was guided by independent variable, dependent variables and moderating variable as indicated by Table 1.

The study employed EViews software version 12 for data analysis, utilizing a panel regression model based on the framework developed by Franc-Dbrowska and Mądra-Sawicka (2020). To determine whether a fixed or random effects model was more appropriate, a Hausman specification test was conducted. This test operates under the null hypothesis that a random effects model is suitable, meaning there is no correlation between the unique effects and the independent variables. If the p-value from the Hausman test is less than 0.05, the null hypothesis is rejected, indicating that a fixed effects model is more appropriate due to the presence of correlation between the unique effects and the regressors. In this study, as shown in Table 2, the p-value is below 0.05, leading to the rejection of the null hypothesis and confirming that the fixed effects model was the most suitable choice for the analysis. Using a fixed effects panel regression model offers several advantages over a random effects model. First, fixed effects models effectively control for unobserved heterogeneity by accounting for individual-specific characteristics that do not change over time, which helps mitigate omitted variable bias. This is particularly beneficial when these unobserved factors are correlated with the independent variables, leading to more reliable estimates. Additionally, fixed effects models focus solely on within-unit variation, providing clearer insights into the impact of time-varying predictors on the dependent variable. This approach is especially useful in contexts where the relationship between variables may be influenced by stable characteristics unique to each unit

Table 1: Study Variables Measurements

Variable	Measurements	References
Firms Value	Tobin's Q = $\dfrac{\textbf{Market Value of Firm}}{\textbf{Replacement Cost of Firm's Assets}}$	Malahim et al. (2022); Sadiq *et al.* (2020)
Financing Decision	Debt to Equity (DER) = $\dfrac{\textbf{Total Debt}}{\textbf{Total Equity}}$	Setiawanta *et al.* (2021); Alghifari *et al.* (2022c)
Dividend Decision	Binary variable DIV_{it} = (1 if Dividend>0) (0 If Dividend=0) DIV_{it} is the binary variable indicating whether a dividend was paid (1) or not (0) for firm *i* at time *t*.	Franc-Dbrowska and Mądra-Sawicka (2020)
Profitability	Return on Equity (ROE) = $\dfrac{\textbf{Net Income}}{\textbf{Shareholder's Equity}}$	Chabachib *et al.* (2019); Setiawanta *et al.* (2021); Alghifari *et al.* (2022b)

Source: Researcher (2024)

Table 2: Hausman Test

Test Summary	Chi-Sq. Statistic			Chi-Sq. d.f.	Prob.
Cross-section random	14.787			4	0.005
Cross-section random effects test comparisons:					
Variable	Fixed	Random	Var (Diff.)	Prob.	
Financing Decision	0.099	0.082	0.000	0.206	
Divided Decision	0.901	0.881	0.000	0.023	
Financing Decision Moderated by Profitability	0.049	0.014	0.000	0.013	
Dividend Decision Moderated by Profitability	0.122	0.112	0.000	0.002	

Source: E-View Calculations (2024).

The study fixed effect panel regression model specified as follows for non-robust and robust test after model specification tests;

$$FV_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 DD_{it} + \beta_3(PRO_{it} * FD_{it}) + \beta_4(PRO_{it} * DD_{it}) + \beta_5 FS_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots Model\ 1$$

where:
FV_{it} *represents the Firms Value as Tobin Q*

FD_{it} *represents the Financing Decision*
DD_{it} *represents the Dividend Decision*

PRO_{it} *represents the Profitability*
FS_{it} *represent firm size as a control variable*

β1, β2, β3, β4 β5; Beta coefficients indicating sensitivity of the variables

$ε_{it}$ *represents the error term for firm.*

$$FV_{it} = β_0 + β_1 FD_{it} + β_2 DD_{it} + β_3(PRO_{it} * FD_{it}) + β_4(PRO_{it} * DD_{it}) + β_5 FS_{it} + ε_{it} ……….Model\ 2$$

where:

FV_{it} *represents the Firms Value as PE ratio*
FD_{it} *represents the Financing Decision*
DD_{it} *represents the Dividend Decision*
PRO_{it} *represents the Profitability*
FS_{it} *represent firm size as a control variable*
β1, β2, β3, β4, β5; Beta coefficients indicating sensitivity of the variables
$ε_{it}$ *represents the error term for firm.*

Findings and Discussion of Results

Table 3 presents descriptive analysis results for non-financial companies listed on the DSE, focusing on firm value, dividend decisions, financing decisions, and profitability. The average firm value, measured by Tobin's Q, is 1.251, indicating a slight premium over replacement costs, reflecting positive market sentiment. The maximum value of 5.673 suggests some firms are significantly overvalued, while a minimum of 0.019 indicates instances of substantial undervaluation. Approximately 47% of the firms paid dividends, as indicated by a mean of 0.470 in the binary measure. This shows a moderate level of dividend distribution, with a maximum value of 1 for firms that paid dividends and a minimum of 0 for those that did not. The average below 0.5 suggests many companies prefer retaining earnings for reinvestment. The average debt-to-equity ratio stands at 66%, reflecting a moderate reliance on debt among the firms. The maximum gearing level of 188% points to heavily leveraged firms, while a minimum of 0% indicates some companies adopt a conservative financing strategy with no debt. Profitability, measured by return on equity (ROE), averages 13%, suggesting respectable returns for shareholders. The maximum ROE of 61% highlights strong performance in some firms, while a minimum of -50% raises concerns about significant losses in certain companies.

Table 3: Descriptive Analysis Results

	Firm Value	Dividend Decision	Financing Decision	Profitability
Mean	1.251	0.470	66%	13%
Median	0.851	0.000	46%	22%
Maximum	5.673	1.000	188%	61%
Minimum	0.019	0.000	0%	-50%
Std. Dev.	1.245	0.502	0.454	0.314
Skewness	1.769	0.120	0.998	-0.393
Kurtosis	5.795	1.014	2.944	1.975
Jarque-Bera	4.697	1.668	6.602	2.954
Probability	0.445	0.092	0.248	0.309
Sum	125.090	47.000	66.040	12.794
Sum Sq. Dev.	153.394	24.910	20.417	9.790
Observations	100	100	100	100

Source: E-View Calculations (2024).

The study evaluates the predictive power of the fixed-effect model through key statistics, as presented in Table 4. The model exhibits a high R-squared value of 0.996, indicating that approximately 99.6% of the variance in firm value is explained by the independent variables, including financing decision, Dividend decision, and their interactions with profitability. The adjusted R-squared of 0.995 reinforces the model's effectiveness while considering the number of predictors. A small standard error of 0.121 suggests that the observed values align closely with the regression line, indicating enhanced predictive accuracy. The F-statistic of 1755.288, with a p-value of 0.000, confirms the model's overall statistical significance, demonstrating that the independent variables have a substantial impact on firm value. Collectively, these results highlight the robust ability of the fixed-effect model to explain variations in firm value, particularly concerning financial and dividend decisions and their interplay with profitability.

Table 4: Fixed Effect Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Financing Decision	0.080	0.098	0.816	0.741
Divided Decision	0.911	0.012	75.917	0.001
Financing Decision Moderated by Profitability	0.052	0.008	6.500	0.000
Dividend Decision Moderated by Profitability	0.126	0.001	64.642	0.000
Firm Size	0.025	0.008	3.125	0.000
C	1.094	0.126	8.674	0.000
R-squared	0.996	Mean dependent var		18.131
Adjusted R-squared	0.995	S.D. dependent var		10.936
S.E. of regression	0.121	Sum squared resid		1.277
F-statistic	1755.288	Durbin-Watson stat		1.935
Prob(F-statistic)	0.000			

Source: E-View Calculations (2024)

To determine the influence of financing decisions on firm's value at DSE, the study findings in table 4 indicating the financing decision has a positive statistically insignificant influence on firm's value at DSE, (B=0.08, P-value>0.05). This implies that 1 percent increase of financing does not have any influence on firm's value at DSE. This lack of impact may stem from several factors, including firms potentially operating at optimal financing levels where additional funds yield diminishing returns. Moreover, market inefficiencies or a lack of investor confidence in the effective use of new financing might prevent changes in financing from being reflected in firm valuations. The current study aligns with Ginanjar et al. (2021), Agung et al. (2021), and Chaleeda et al. (2019), which confirm a positive relationship between financing decisions and firm value. However, it contradicts findings by Yulianti et al. (2024), which suggest financing decisions do not directly affect firm value. Additionally, the study diverges from Chaleeda et al. (2019), Sihwahjoeni et al. (2020), Ahmad et al. (2020), and Nurlela et al. (2019), who found no direct impact of

financing decisions on firm value. The current study findings contradict shareholder wealth maximization and signaling theories, which suggest that optimal capital structure should enhance firm value. The insignificant results imply that firms may already operate at optimal financing levels or encounter market inefficiencies. Additionally, the lack of significant impact suggests that financing actions do not effectively communicate vital information to investors, potentially due to skepticism or transparency issues regarding how additional funds are utilized. Therefore, we fail to reject the null hypothesis stating that;

There is a positive influence of financing decision on the value of listed firms

To determine the influence of dividend decision on firm's value at DSE, the results of the study presented in Table 4 indicating dividend decision has a positive statistically significant influence on firm's value at DSE (B =0.91, P-value<0.05). This suggests that, 1 percent increase in dividend decision is associated with 91% increasing of firm's value at DSE. This significant relationship can be attributed to several factors. Firstly, dividend payments are often perceived by investors as a signal of a firm's strong financial health and confidence in future earnings, thus boosting investor sentiment and firm valuation. Moreover, in markets like Dar Es Salaam, where information asymmetry may be higher, consistent and increased dividend payments provide tangible returns to investors, reducing uncertainty and enhancing firm credibility. Additionally, higher dividends can attract more investors, increasing demand for the firm's stock and thereby raising its market value. This reflects the broader investor preference for immediate returns in the form of dividends, especially in developing markets where capital gains might be less predictable. The current study findings are in line with those of Margono and Gantino (2021), Utami (2021), Triani and Tarmidi (2019), and Hasanuddin (2021), all of which confirmed that dividend policy has a positive impact on company value. The currents study's findings support both shareholder wealth maximization and signaling theories, showing that increased dividends significantly enhance shareholder value. Additionally, dividend increases signal a firm's financial health and future earnings potential, which is vital in contexts with high information asymmetry, such as Dar Es Salaam, thereby reinforcing the positive relationship between dividend decisions and firm value. Therefore, we accept the null hypothesis stating that;

There is a positive influence of dividend decision on the value of Listed Firms

To determine the moderating role of profitability on the influence of financing decision on firm value at DSE findings of the study in Table 4 indicate profitability has a positive statistically significant moderating role on the influence of financing decision on firm value at DSE (B = 0.052, P-value<0.05). This implies that 1 percent increase in profitability strengthen the influence of financial decision on firm value at DSE by 5%. This result can be attributed to several factors. Firstly, higher profitability signals strong operational performance and financial health, which can boost investor confidence and magnify the positive effects of prudent financing decisions. Profitable firms are better positioned to leverage additional financing effectively, using it for value-creating investments rather than merely covering operational deficits. This synergy between profitability and financing decisions reassures investors that the firm is capable

of generating returns on borrowed or raised capital, thus enhancing firm value. Additionally, profitable companies may have better access to favorable financing terms, further optimizing their capital structure and positively influencing their market valuation. The current study findings are contrary with the study of Yulianti et al. (2024) found that profitability negatively moderated the relationship between financing decisions and firm value. The study's findings align with both shareholder wealth maximization and signaling theories, demonstrating that higher profitability enables firms to enhance shareholder value through effective financing. Profitable firms can utilize additional financing for value-creating investments, reassuring investors about growth potential. Moreover, increased profitability signals strong operational performance and financial health, boosting investor confidence. This combination of profitability and prudent financing decisions underscores the positive impact on firm value, highlighting the relevance of both theories in this context. Therefore, we accept the null hypothesis stating that;

There is a positive moderating role of profitability on the influence of financing decision on the value of Listed Firms

To determine the moderating role of profitability on the influence of dividend decision on firm value at DSE, the study findings presented in Table 3 indicating profitability has a positive moderating role on the influence of dividend decision on firm value at DSE (B =0.126, P-value<0.05). This implies that 1 percent increase in profitability strengthen the influence of dividend decision on firm value at DSE by 13%. This result can be

attributed to higher profitability enabling firms to distribute substantial dividends, which boosts investor confidence and attracts investment. Profitable firms are seen as stable and reliable, increasing stock demand and market value. The current study finding is in line with the study of Ariyanti et al. (2024) revealed that profitability played a significant positive moderating role in enhancing the influence of dividend policy on company value. The study's findings support both shareholder wealth maximization and signaling theories, illustrating that higher profitability enables firms to provide substantial dividends, thereby enhancing shareholder returns and firm value. In markets like Dar Es Salaam, where information asymmetry is prevalent, strong profitability serves as a credible indicator of financial health, boosting investor confidence. Consequently, this leads to increased stock demand and further elevates firm value, demonstrating the crucial role of profitability and strategic dividend decisions in maximizing shareholder wealth. Therefore, we accept the null hypothesis stating that;

There is a positive moderating role of profitability on the influence of dividend decision on the value of Listed Firms.

To validate the robustness of the fixed effect model results, the study conducted tests by altering input parameters and assumptions. Specifically, it substituted Tobin's Q with the price earnings ratio. The findings, shown in Table 5, demonstrate consistent outcomes across all variables, albeit with slightly lower values than in the original model. This indicates that the fixed effect model effectively provides reliable insights into the direct impact of financial management decisions on firm value, moderated by profitability.

Table 5: Robust Test of Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Financing Decision	0.042	0.031	1.373	0.409
Divided Decision	0.464	0.030	15.318	0.000
Financing Decision Moderated by Profitability	0.011	0.001	11.183	0.000
Dividend Decision Moderated by Profitability	0.057	0.004	14.946	0.000
Firm Size	0.030	0.006	4.735	0.000
C	7.825	0.106	73.799	0.000
R-squared	0.999	Mean dependent var		13.503
Adjusted R-squared	0.992	S.D. dependent var		5.912
S.E. of regression	0.050	Sum squared resid		0.217
F-statistic	7296.252	Durbin-Watson stat		1.038
Prob(F-statistic)	0.0000			

Source: E-View Calculations (2024)

Conclusions, Implications and Recommendations

The study was conducted to determine the moderating role of profitability on the influence of financial management decisions on firm value at DSE. Utilizing quantitative secondary data from 2013 to 2022, the study concluded that financing decisions do not significantly affect firm value, while dividend decisions have a positive impact. Additionally, profitability positively moderates both financing and dividend decisions, enhancing their effects on firm value. The findings of the study present crucial practical implications for both investors and regulators in Tanzania and developing economies at large. While the influence of financing decisions on firm value may not be statistically significant, investors are encouraged to consider the broader financial health and strategic implications of these choices. This means that investors should focus on the long-term effects of financing decisions on company stability and growth potential rather than solely on short-term stock value fluctuations. Regulators, in turn, should

promote transparent and responsible financing practices among companies to maintain market stability and boost investor confidence. The study underscores important policy implications for listed companies and regulatory bodies, particularly the Capital Market and Securities Authority (CMSA) in Tanzania. For listed firms on the DSE, strategic decision-making in financial management is essential. Although the study found that financing decisions have an insignificant influence on firm value, companies must still assess their financing strategies carefully to understand their long-term implications on stability and growth. Additionally, the significant impact of dividend policies on firm value suggests that companies should adopt prudent dividend strategies to enhance shareholder value and foster market attractiveness. The study's findings offer partial theoretical implications related to signaling theory and shareholder wealth maximization principles within the Tanzanian context. The

significant positive relationship between dividend decisions and firm value aligns with signaling theory, suggesting that dividends serve as a positive signal of firm performance to investors. However, the lack of significant influence from financing decisions highlights a more nuanced relationship, indicating that other contextual factors may overshadow their signaling effect. Furthermore, while profitability acts as a key determinant in enhancing shareholder value, its moderating role differs between financing and dividend decisions.

Listed companies should enhance their dividend policies to leverage the positive influence of dividend decisions on firm value. This includes implementing sustainable payout strategies that align with long-term growth objectives and provide attractive returns to shareholders. Additionally, companies should prioritize initiatives that improve profitability, such as enhancing operational efficiency and fostering innovation. Maintaining transparent financial management practices is also crucial to uphold investor confidence and ensure market stability. Capital Market and Security Authorities in developing and emerging markets should provide guidance and regulations to encourage listed companies to adopt prudent dividend policies that support sustainable growth and shareholder value. Promoting regulatory frameworks that enhance transparency and accountability is essential, including improving disclosure

requirements and offering capacity-building initiatives for financial literacy. Authorities should also monitor market dynamics to identify emerging risks and safeguard investor interests. Investors should evaluate the dividend policies of listed companies, focusing on those with sustainable payout strategies to maximize returns and shareholder value. They should assess the profitability and financial health of companies, conducting thorough due diligence to identify firms with strong profitability metrics. Additionally, staying informed about regulatory developments and market trends will help investors make informed decisions and mitigate risks associated with market volatility. Based on the study's limitations, future research efforts should prioritize addressing the gaps identified to advance the understanding of financial management practices comprehensively. Firstly, it is essential to expand the scope of research beyond financing and dividend decisions to include investment decisions, as these significantly influence a firm's long-term trajectory and financial performance. This broader analysis will provide more comprehensive insights for strategic decision-making, especially in emerging markets like Tanzania. Additionally, future studies should consider alternative profitability metrics alongside return on equity (ROE), such as return on assets (ROA) to capture a more nuanced view of financial performance. This diversified approach will enhance understanding of how financial decisions impact firm value.

REFERENCES

Aboagye-Otchere, F., & Boateng, P. Y. (2023). Financing decision, ownership type and financial performance of listed non-financial companies in Ghana. *Cogent Business & Management*, *10*(1), 2170070.

Agung, G., Hasnawati, S., & Huzaimah, R. F. (2021). The effect of investment decision, financing decision, dividend policy on firm value. Jurnal Bisnis dan Manajemen (JBM), 1-12.

Ahmad, M. M., Hunjra, A. I., Islam, F., & Zureigat, Q. (2023). Does asymmetric information affect firm's financing decisions? International Journal of Emerging Markets, 18(9), 2718-2734.

Ahmad, S. M., Bakar, R., & Islam, M. A. (2020). The effect of debt financing on firm value: A panel data approach. *Albukhary Social Business Journal*, *1*(2), 33-45.

Akhmadi, A., & Robiyanto, R. (2020). The interaction between debt policy, dividend policy, firm growth, and firm value. *The Journal of Asian Finance, Economics and Business*, *7*(11), 699-705.

Alghifari, Erik Syawal, Atang Hermawan, Ardi Gunardi, Agus Rahayu, and Lili Adi Wibowo. 2022b. Corporate Financial Strategy in an Emerging Market: Evidence from Indonesia. Journal of Risk and FInancial Management 15: 362.

Alghifari, Erik Syawal, Ikin Solikin, Nugraha Nugraha, Ika Waspada, Maya Sari, and Lilis Puspitawati. 2022c. Capital Structure, Profitability, Hedging Policy, Firm Size, And Firm Value: Mediation and Moderation Analysis. Journal of Eastern European and Central Asian Research 9: 789–801.

Alzubi, Khaled, and Amer Bani-Hani. 2021. Determinants of Debt-To-Equity and Its Impact on the Performance of Industrial Companies Listed on Amman Stock Exchange. Journal of Governance and Regulation 10: 353–64

Anthony, R. N. (1960). The trouble with profit maximization. Harvard Business Review, 38(6), 127-134.

Ariyanti, E., Nasution, F. N., & Erwin, K. (2024) The Influence of Dividend Policy and Company Size on Company Value with Profitability as a Moderating Variable in Listed Energy Sector Companies on the Indonesian Stock Exchange 2018-2022 Period.

Armstrong, C. S., & Kepler, J. D. (2018). Theory, research design assumptions, and causal inferences. Journal of Accounting and Economics, 66(2-3), 366-373.

Assey, L. H., Su, X., & Parveen, S. (2020). Effect of working capital management on financial performance: evidence from listed firms at Dare S Salaam Stock of Exchange. *IOSR Journal of Business and Management (IOSR-JBM)*, *22*(4), 01-08.

Ayo, M., & Muba, S. (2021). An Assessment on the Influence of Capital Structure on Performance of the Listed Firms in Tanzania. *East African Journal of Business and Economics*, *4*(1), 1-13.

Ayo, M., & Muba, S. (2021). An Assessment on the Influence of Capital Structure on Performance of the Listed Firms in Tanzania. *East African Journal of Business and Economics*, *4*(1), 1-13.

Banerjee, A. (2018). Dividend policy as a corporate communication and its impact on firm value evidences from listed companies in Qatar Stock Exchange. Financial Markets, Institutions and Risks, 2(4), 29-38.

Battilana, J., Obloj, T., Pache, A. C., & Sengul, M. (2022). Beyond shareholder value maximization: Accounting for financial/social trade-offs in dual-purpose companies. Academy of Management Review, 47(2), 237-258.

Bhat, S. (2008). *Financial management: Principles and practice*. Excel Books India.

Bhatnagar, V. K., Kumari, M., & Sharma, N.

(2015). Impact of capital structure & cost of capital on shareholders' wealth maximization-A study of BSE listed companies in India. *Chanakya International Journal of Business Research*, *1*(1), 28-36.

Bon, S. F., & Hartoko, S. (2022). The effect of dividend policy, investment decision, leverage, profitability, and firm size on firm value. *European Journal of Business and Management Research*, *7*(3), 7-13.

Chabachib, Mochammad, Tyana Ulfa Fitriana, Hersugondo Hersugondo, Imang Dapit Pamungkas, and Udin Udin. 2019. Firm Value Improvement Strategy, Corporate Social Responsibility, and Institutional Ownership. International Journal of Financial Research 10: 152–63.

Chaleeda, M., Islam, A., Ahmad, T. S. T., & Ghazalat, A. N. M. (2019). The effects of corporate financing decisions on firm value in Bursa Malaysia. *International Journal of Economics and Finance*, *11*(3), 127-135.

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of management*, *37*(1), 39-67.

Denis, D. (2019). The case for maximizing long-run shareholder value. *Journal of Applied Corporate Finance*, *31*(3), 81-89.

Diana, W., & Munandar, A. (2023). The Effect of Company Size, Capital Structure, and Profitability on Company Value Moderated by Dividend Policy. *International Journal of Economics Development Research (IJEDR)*, *4*(3), 1438-1455.

Franc-Dbrowska, J., & Mądra-Sawicka, M. (2020). Determinants of dividend payout decisions–the case of publicly quoted food industry enterprises operating in emerging markets. *Economic research-Ekonomska istraživanja*, *33*(1), 1108-1129.

Fujianti, L., Hubbansyah, A. K., Siswono, S., & Sinaga, L. (2020). The effect of managerial ownership, dividend policy

and debt on firm value: the Indonesia Stock Exchange cases. *INQUISITIVE: International Journal of Economic*, *1*(1), 40-54.

Ginanjar, A., Hasnawati, S., & Fiska, H. (2021). The Effect of Investment Decision, Financing Decision, Dividend Policy on Firm Value (Study on Food and Beverage Industry Listed on The Indonesia Stock Exchange, 2016-2018). *Jurnal Bisnis dan Manajemen*, *17*(1), 1-12.

Gitagia, F. K. (2020). Financial management decisions and firm value of selected firms listed at Nairobi Securities Exchange, Kenya (Doctoral dissertation, PhD Thesis), Kenyatta University, Nairobi, Kenya).

Goel, S. (2011). Shareholders' wealth maximization in realty sector in india. *The Journal of Indian Management & Strategy 8M*, *16*(1), 12-17.

Hasanuddin, R. (2021). The influence of investment decisions, dividend policy and capital structure on firm value. *Jurnal Economic Resource*, *4*(2).

Hayes, B. K., Stephens, R. G., Ngo, J., & Dunn, J. C. (2018). The dimensionality of reasoning: Inductive and deductive inference can be explained by a single process. Journal of Experimental Psychology: Learning, Memory, and Cognition, 44(9), 1333.

Hechmi, S. and Saanoun, I. (2024) Impact of Profitability, Leverage and Corporate Governance on Value Creation: Empirical Study of Saudi Real Estate Companies. *Open Journal of Business and Management*, **12**, 1403-1410

Hoang, H. T. T., Vu, T. T. M., & Nguyen, D. T. (2023). Debt and Firm Value, The New Approach of Hierarchical Method. *Journal of Organizational Behavior Research*, *8*(1-2023), 158-172.

Husain, T., & Sunardi, N. (2020). Firm's Value Prediction Based on Profitability Ratios and Dividend Policy. *Finance &*

Economics Review, *2*(2), 13-26.

Jihadi, M., Vilantika, E., Hashemi, S. M., Arifin, Z., Bachtiar, Y., & Sholichah, F. (2021). The effect of liquidity, leverage, and profitability on firm value: Empirical evidence from Indonesia. *The Journal of Asian Finance, Economics and Business*, *8*(3), 423-431.

Karaçayır, E., & Afşar, A. (2020). Effect of investment and financing decisions on firm value; example of bist industrial index. *Uşak Üniversitesi Sosyal Bilimler Dergisi*, *13*(2), 13-24.

Karasek III, R., & Bryant, P. (2012). Signaling theory: Past, present, and future. *Academy of Strategic Management Journal*, *11*(1), 91.

Kasoga, P. S. (2020). Does investing in intellectual capital improve financial performance? Panel evidence from firms listed in Tanzania DSE. *Cogent Economics & Finance*, *8*(1), 1802815.

Kasoga, P. S. (2020). Does investing in intellectual capital improve financial performance? Panel evidence from firms listed in Tanzania DSE. *Cogent Economics & Finance*, *8*(1), 1802815.

Keter, C. K. S., Cheboi, J. Y., Kosgei, D., & Chepsergon, A. K. (2023). Financial Performance and Firm Value of Listed Companies: Financial Performance Measure ROA versus ROE. *Journal of Business, Economics and Management Research Studies*, *1*(4), 1-11.

Khan, Z. A. (2017). Profit Maximization as an objective of a firm: A Robust Perspective.

Khan, Z. A., & Hussanie, I. (2018). Shareholders wealth maximization: Objective of financial management revisited. *International Journal of Enhanced Research in Management & Computer Applications*, *7*(3), 739-741.

Komara, A., Ghozali, I., & Januarti, I. (2020, March). Examining the firm value based on signaling theory. In *1st International Conference on Accounting, Management and Entrepreneurship (ICAMER 2019)* (pp. 1-

4). Atlantis Press.

Kouki, M., & Said, H. B. (2011). Does management ownership explain the effect of leverage on firm value? An analysis of French listed firms. *Journal of Business Studies Quarterly*, *3*(1), 169.

Kundy, V. P., & Shah, K. (2024). The Influence of Financing Decisions on the Performance of Listed Non-Financial Firms in Tanzania. *International Journal of Management, Accounting & Economics*, *11*(5).

Madubuike, E. F., & Ebere, C. C. (2023). Corporate taxation and the trade-off theory: A dynamic fixed effects approach. Central Asian Journal of Innovations on Tourism Management and Finance, 4(1), 50-58.

Malahim, Sari Sulaiman, Aiman Mahmoud Abu Hamour, Waleed Kalf Al-Zoubi, Eyad Abdel Halym Hyasat, Mashhour Hathloul Maharmah, and Shireen Mahmoud Alali. 2022. The Impact of Earnings Management Practices on the Market Value of Industrial Companies Listed on the Amman Stock Exchange: Evidence from Jordan. WSEAS Transactions on Business and Economics 19: 1613–20

Margono, F. P., & Gantino, R. (2021). The influence of firm size, leverage, profitability, and dividend policy on firm value of companies in indonesia stock exchange. *Copernican Journal of Finance & Accounting*, *10*(2), 45-61.

Markonah, M., Salim, A., & Franciska, J. (2020). Effect of profitability, leverage, and liquidity to the firm value. *Dinasti International Journal of Economics, Finance & Accounting*, *1*(1), 83-94.

Munawaroh, F., & Munandar, A. (2024). Investment Decisions' Impact on Corporate Value: Analyzing Profitability, Leverage, Company Size, and Age Moderation Effects. *International Journal of Social Science and Business*, *8*(1), 105-116.

Murniati, S., Mus, H. A. R., Semmaila, H. B.,

& Nur, A. N. (2019). Effect of investment decisions, financing decisions and dividend policy on profitability and value of the firm. *International Journal of Accounting & Finance in Asia Pasific (IJAFAP)*, *2*(1).

Murtaza, M., Iqbal, M. M., Ullah, Z., Rasheed, H., & Basit, A. (2018). An analytical review of dividend policy theories. Journal of Advanced Research in Business and Management Studies, 11(1), 62-76.

Nazir, A., Azam, M., & Khalid, M. U. (2021). Debt financing and firm performance: empirical evidence from the Pakistan Stock Exchange. *Asian Journal of Accounting Research*, *6*(3), 324-334.

Nurlela, N., Sulastri, S., AJ, U. H., & Hanafi, A. (2019). The influence of investment decisions and financing decisions on firm value with profitability as intervening variables (empirical study on companies listed in Indonesian Sharia Stock Index). *International Journal of Multicultural and Multireligious Understanding*, *6*(2), 447-456.

O'Connell, M., & Ward, A. M. (2020). Shareholder theory/shareholder value. Encyclopedia of sustainable management, 1-7.

Omodero, C. O., & Amah, K. O. (2017). Analysis of dividend policy and its impact on shareholder's wealth maximization in Nigerian firms (A study of brewery industry). *Applied Economics and Finance*, *4*(5), 1.

Ozuomba, C. N., Anichebe, A. S., & Okoye, P. V. C. (2016). The effect of dividend policies on wealth maximization–a study of some selected plcs. *Cogent Business & Management*, *3*(1), 1226457.

Pandey, I. M. (1995). Essentials of Financial Management (4th ed.). Vikas publishing

Panjaitan, I. V., & Supriyati, D. (2023). The Effect of Profitability and Leverage on Firm Value with Firm Size as a

Moderating Variable. *Research of Finance and Banking*, *1*(1), 34-46.

Park, J. J. (2021). From Managers to Markets: Valuation and Shareholder Wealth Maximization. J. Corp. L., 47, 435.

Park, Y. S., Konge, L., & Artino Jr, A. R. (2020). The positivism paradigm of research. *Academic medicine*, *95*(5), 690-694.

Prameswari, I. A. N. (2024). The Effect of Profitability on Company Value with Dividend Policy as a Moderating Variable. *Jurnal Inovasi Akuntansi (JIA)*, *2*(1), 21-28.

Putri, R. J. (2023). The Effect of Dividend Policy and Profitability on Firm Value. *Accounting and Finance Studies*, *3*(2), 142-156.

Rehman, O. U. (2016). Impact of capital structure and dividend policy on firm value. Journal of Poverty, Investment and Development, 21(1), 40-57.

Sadiq, Misbah, Sheikh Usman Yousaf, Muhammad Khalid Anser, Haroon ur Rashid Khan, Sriyanto Sriyanto, Khalid Zaman, Duong Van Tu, and Siti Nisrin Mohd Anis. 2020. The Role of Debt Financing in the Relationship between Capital Structure, Firm's Value, and Macroeconomic Factors: To Throw Caution to the Wind. Quarterly Review of Economics and Finance, in press

Seth, R., & Mahenthiran, S. (2022). Impact of dividend payouts and corporate social responsibility on firm value–Evidence from India. *Journal of Business Research*, *146*, 571-581.

Setiawanta, Yulita, Dwiarso Utomo, Imam Ghozali, and Jumanto Jumanto. 2021. Financial Performance, Exchange Rate, and Firm Value: The Indonesian Public Companies Case. Organizations and Markets in Emerging Economies 11: 348–66

Sihwahjoeni, S., Subiyantoro, E., & Bili, M. R. (2020). Analysis Effect of Investment

Decision, Financing and Dividend Policy on Value Company with Variable Business Risk as Mediation. *International Journal of Research and Scientific Innovation (IJRSI)*, *7*(7), 261-269.

Sneirson, J. F. (2019). The history of shareholder primacy, from Adam Smith through the rise of financialism. Cambridge Handbook of Corporate Law, Corporate Governance and Sustainability (Cambridge University Press, 2019).

Soleha, L., & As' ari, H. (2024). The Influence of Profitability, Liquidity, and Leverage on Company Value in Companies Listed on the Indonesian Stock Exchange. *JESI (Jurnal Ekonomi Syariah Indonesia)*, *14*(1), 260-274.

Sondakh, R. (2019). The effect of dividend policy, liquidity, profitability and firm size on firm value in financial service sector industries listed in Indonesia stock exchange 2015-2018 period. *Accountability*, *8*(2), 91-101.

Stephens, R. G., Dunn, J. C., & Hayes, B. K. (2018). Are there two processes in reasoning? The dimensionality of inductive and deductive inferences. Psychological Review, 125(2), 218.

Sulistiono, S., & Yusna, Y. (2020, April). Analysis of the effect of funding decision and dividend policy on the firm value and investment decision as mediation (study on manufacturing companies in Indonesia stock exchange). In *1st Annual Management, Business and Economic Conference (AMBEC 2019)* (pp. 173-177). Atlantis Press.

Suteja, J., Gunardi, A., Alghifari, E. S., Susiadi, A. A., Yulianti, A. S., & Lestari, A. (2023). Investment decision and firm value: moderating effects of corporate social responsibility and profitability of non-financial sector companies on the Indonesia stock exchange. *Journal of Risk and Financial Management*, *16*(1), 40.

Tanzania Invest. (2024). DSE report: Week

39,2024. https://www.tanzaniainvest.com/finance/capitalmarkets/dse-report-week-39-2024

Tanzania Invest. (2024). *DSE report: Week 40.* https://www.tanzaniainvest.com/finance/capitalmarkets/dse-report-week-40-2024

Taj, S. A. (2016). Application of signaling theory in management research: Addressing major gaps in theory. *European Management Journal*, *34*(4), 338-348.

Tamminen, K. A., & Poucher, Z. A. (2020). Research philosophies. In The Routledge international encyclopedia of sport and exercise psychology (pp. 535-549). Routledge.

Toby, A. J., & Sarakiri, J. A. (2021). Corporate Debt Policy and Firm Value: New Evidence from Nigeria. *International Journal of Financial Management (IJFM)*, *10*(2), 1-14.

Triani, N., & Tarmidi, D. (2019). Firm value: impact of investment decisions, funding decisions and dividend policies. International Journal of Academic Research in Accounting, Finance and Management Sciences, 9(2), 158-163.

Tumiwa, R. A. F., Apituley, J. R. M., & Lasut, S. A. (2020, October). Is the Value of the Company Affected by Company Investment Decisions and Financing Decisions? In *Journal of International Conference Proceedings* (Vol. 3, No. 2, pp. 100-110).

Tung, V. N., Kamboj, V., & Bhardwaj, A. (2012). Unit commitment dynamics-an introduction. International Journal of Computer Science & Information Technology Research Excellence, 2(1), 70-74.

Utami, W. B. (2021). Influence of Investment Decisions (PER), Policy of Dividend (DPR) and Interest Rate against Firm Value (PBV) at a Registered Manufacturing Company on Indonesia

Stock Exchange in 2015-2018. *Annals of the Romanian Society for Cell Biology*, 1972-1984.

Wardani, O. M., & Subowo, S. (2020). Factors that influence capital structure with profitability as a moderating variable. Accounting Analysis Journal, 9(2), 103-109.

Wijayaningsih, S., & Yulianto, A. (2021). The effect of capital structure, firm size, and profitability on firm value with investment decisions as moderating. *Accounting Analysis Journal*, *10*(3), 150-157.

Windsor, D., & Boatright, J. R. (2010). Shareholder wealth maximization. *Finance ethics: Critical issues in theory and practice*, 437-455.

Yan, M. (2019). Corporate social responsibility versus shareholder value maximization: Through the lens of hard and soft law. Nw. J. Int'l L. & Bus., 40, 47.

Yulianti, A. S., Suteja, J., Alghifari, E. S., Gunardi, A., & Sarman, R. (2024). The Effect of Financing Decision on Firm Value: An Analysis of Mediation and Moderation. *Review of Integrative Business and Economics Research*, *13*(3), 441-450.

Zare, R., Moradi, J., & Valipour, H. (2013). Dividend Policy and Information Asymmetry from the Signaling Perspective. *Asian Economic and Financial Review*, *3*(4), 445.

Do Marketing Expenses Moderate the Relationship Between Working Capital Management and Profitability?

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Abstract

This study examines the impact of working capital management (specifically working capital financing policy, working capital investing policy (WCIP), and marketing expenses (MKTEXP)) on the profitability of listed manufacturing companies (LMCs) in Tanzania using 84 observations from the 14 financial statements of the six LMCs from 2005 to 2018. A panel data regression analysis was conducted utilizing these variables, revealing a significant collective influence on profitability. However, only the constant term and working capital financing policy (WCFP) have a strong statistically significant relationship with profitability. The marketing expenses used as another predictor variable improves the collective relationship between the policies and profitability but as a moderating variable diminishes the relationship between explanatory variables and LMCs' profitability. Considering the findings, this research recommends that, the companies should adopt a comprehensive approach to decision-making that takes into account the interplay between working capital financing and investing policies, alongside marketing strategies to improve profitability.

Key words: WCM; working capital management; WCFP; working capital financing policy; working capital investing policy; marketing expenses; profitability; DuPont; URT; United Republic of Tanzania.

Introduction

Tanzania's manufacturing industry has been growing with an annual rate of 4% and a GDP contribution of 8% in recent years and is a critical component of its economy as indicated by (Ministry of Industry and Trade [Tanzania Commercial Guide], 2020).

However, manufacturing firms in Tanzania face challenges related to WCM, which affects their profitability and growth prospects. For instance, Tanzania Oxygen made loss of 894.5 million between2001 and 2010 (TOL Gases financial statements, 2005-2018), Tanzania Tea parkers made an average loss of 364.7 million and 1.01 billion respectively each year between 2009 and 2017 (TATEPA financial statements, 2005-2018).   WCM involves striking a balance between maintaining liquidity and optimizing profitability, and improper management can lead to a shortage of working capital or an excessive amount of it being tied up in operational needs (Deloitte, n.d.). Additionally, while prior studies have analyzed the role of working capital financing and investing policies on firm profitability in other countries (Akinniyi, & Faboyede, 2013; Hota, & Barik, 2020; Rehman, et al., 2017), limited research has been done in the Tanzanian context that looks at the moderating role of marketing expenses on this relationship.

Statement of the Problem

In Tanzania's manufacturing industry, WCM is crucial for improving firms' profitability, liquidity, and overall performance. However, the industry faces significant operational challenges such as fluctuating demand, volatile input costs, and limited access to financing (Komba, & Mwakalasya, 2018; Mushi, et al., 2020; Mwakalasya, & Mwakalasya, 2019). The reviewed literature lacks the study on the impact of working capital financing and investing policies on the profitability measured by DuPont, alongside the moderating role of marketing expenses on this relationship globally and in the Tanzanian manufacturing industry's context. Some scholars employing marketing expenses as explanatory variable revealed it as the agent to increase product

awareness by building and maintaining customer relationship (Totok,2018) and a stabilizer of company product prices in the market and increase market share (Rehman, Shaikh and Sattar, 2015) but no one used it as a moderating variable. Without this knowledge, listed manufacturing firms in Tanzania may struggle to properly manage their working capital and make strategic decisions related to financing and investing policies, leading to financial difficulties and missed growth opportunities (Magoma, et al., 2022). This study seeks to fill this gap by examining the relationship between WCFP and profitability of Tanzanian LMCs, assessing the impact of WCIP on the profitability of Tanzanian LMCs and investigating the moderating role of MKTEXP on the relationship between working capital financing and investing policies and profitability of Tanzanian LMCs.

The Concept of Profitability

Profitability

Profitability is the ability for a business firm to create profit from its activities. Akinleye, and Ogunleye, (2019) and Kung'u, (2015) explain profitability as the ability of a company to make revenue and, Utia, et al. (2018) definition, profitability measures the worth of a firm and its status to achieve the firm's overall goal of maximizing profit. Utia, et al. (2018) showed that profitability is not only limited to finance but also the way the firm puts together all resources to attain its desired goal. According to Utia and his fellow scholars, profitability is a measure of a company's wealth which is vital to achieving the company's determination of wealth maximization for its proprietors. Likewise, profit is an excess of earnings over related expenses for activity over a while. Terms with similar meanings include 'income', 'earnings', and

'margin'. Keynes, (1936) observed profit as a machine that stimulates a business. Each business must earn the necessary profits to continue and grow over a long period (Coufal, 2020). It is the guide to economic progress, improved state revenue, and an increasing standard of life. Therefore, profit is the genuine object, but it ought not to be over-stressed. In this study profitability is measured by DuPont.

DuPont Analysis

DuPont analysis, also known as DuPont model or DuPont equation, is a profitability ratio that breaks down the return on equity (ROE) into three component ratios: net profit margin, total asset turnover and financial leverage. It was developed by the DuPont Corporation in the 1920s as a way to measure the efficiency of its operations and has since become a widely used tool for analyzing a company's financial health (Sheela, & Karthikeyan, 2012). The DuPont analysis is a model that is explained by three profitability components which are net profit margin (PM), assets turnover (AT), and financial leverage measured by equity multiplier (EM) (McGowan & Stambaugh, 2012; Teodor & Maria, 2014).

The DuPont analysis provides a comprehensive view of a company's profitability by showing how efficiently the company is using its assets to generate profits and how much leverage is being used to finance those assets. Other profitability measures such as gross profit margin, operating profit margin, and net income are also used to measure profitability but they focus on different aspects of the income statement and do not provide a complete picture of a company's profitability like the DuPont analysis. According to a study by Das, et al. (2014), DuPont analysis is a better predictor of future profitability compared to other

profitability measures such as gross profit margin, net profit margin, and return on assets. Another study by Aggarwal, and Priyadarshni, (2017) found that the use of DuPont analysis can help investors identify undervalued companies that have high potential for growth. In conclusion, the DuPont analysis provides a more comprehensive and insightful understanding of a company's profitability compared to other measures. Therefore, in this study DuPont is used to measure profitability of the LMCs in Tanzania.

The Study's Theoretical Background and Literature Review

The Theoretical Review

The Traditional Theory
The theory was introduced by Smith, (1973) and it advocates that companies should maintain a moderate level of working capital to avoid liquidity problems while not overinvesting as it increases the cost of capital. This policy assumes a relatively constant cost of capital while operating in a stable environment. However, it has its own limitations. It assumes a stable environment, making it potentially unsuitable for companies that operate in a volatile economy. Furthermore, it can lead to ineffective use of resources, as the moderate level of working capital suggested by the theory may not be the optimal level for every firm (Bierman, & Smidt, 2009). Regardless of its drawbacks, this theory is used in this study to inform WCIP. The theory compliments with hedging theory to extensively explain the impact of working capital policies on company profitability.

The Hedging Theory
The theory was first proposed by Black, and Scholes, (1973) who developed the first

formal model of financial derivatives and later on extended by Merton, (1976), who introduced the concept of "hedging" to describe the use of financial derivatives to reduce risk exposure. The theory suggests that companies should use a combination of short-term and long-term financing to manage risk. This policy assumes that companies must manage risk exposure by using different financing methods. Nevertheless, it may result in increased financing costs and may not be appropriate for companies with low exposure to risk (Bierman, & Smidt, 2009). This implies that companies should be alert at what time they should use the short time financing approach and what time to use long term financing approach to enhance their financial performance.

Regardless of their criticisms, these theories were used by Kieschnick, and Rotenberg, (2016) in their studies on working capital management company profitability and therefore this study is also guided by these two theories. Hedging theory guides the WCFP, which is one of the two independent variables of working capital management, by suggesting that companies should use a combination of financing strategies to mitigate the risks associated with working capital fluctuations. In other words, hedging theory suggests that companies should use a mix of financing sources, such as long-term debt and equity, to reduce the cost of capital and minimize liquidity risk (Bierman, & Smidt, 2009). The traditional theory in this study guides the WCIP

Literature Review

The effect of working capital financing policy on profitability

Working capital financing policies refer to the methods that companies use to finance their operational needs related to accounts receivable, inventory, and accounts payable. The main sources of working capital financing are trade credit, bank loans, and short-term borrowing. Proper management of working capital financing policies can help firms maintain optimal levels of liquidity, profitability, and growth. Past studies have examined the effect of working capital financing policies on firm profitability in different countries and industry sectors. For instance, Akinniyi, and Faboyede, (2013) investigated the impact of working capital management on Nigerian firms' profitability and found that using long-term financing sources can increase profitability. Rehman, et al. (2017) explored the relationship between working capital management and the performance of Pakistani manufacturing firms and concluded that using short-term financing sources improves profitability. Similarly, Hota and Barik, (2020) studied the impact of working capital financing policies on the profitability of Indian firms and found that the use of short-term debt is positively related to profitability. This implies that the proper use of the short-term financing policy is the most cost-effective method that can be used in Pakistan to improve company profitability.

Altaf, and Ahmad, (2019) study used two step generalized moments techniques to study working capital financing, company performance and the constraints of finance. The researchers used Tobin Q and ROA as dependent variables with the control variables of growth, assets tangibility and firm age and the findings indicated WCFP having an inverted U-shaped correlation with company performance. Altaf and Ahmad findings imply that there is an optimum level that should be observed at which profitability is increased. The study offers insights into the relationship

between working capital financing and firm performance, but it is not specific to manufacturing companies, and the findings are based on data from India, which may not necessarily apply to Tanzania.

Panda, and Nanda, (2018) provide understandings into the non-linear relationship between WCFP and profitability in Indian manufacturing companies. The scholars used genderized model of moments (GMM) and the results show that the more the use of working capital financing policies, the more the increase of corporate profitability. However, the study does not investigate the moderating effect of other variables, such as marketing expenses, and the findings may not necessarily apply to Tanzania.

Pirashanthini et al. (2012) scrutinized the relationship between working capital policies and profitability with samples of twenty manufacturing companies listed under Colombo stock exchange (CSE) in Sri Lanka for a period of 2008-2012. The study uses the correlation and regression models to investigate the relationship among variables and the impact of working capital approaches on returns of firms. The study reports no relationship between the profitability measures of firms and working capital investment and financing policies. The study also finds working capital investment and financing policies have no impact on profitability measures of ROA and ROE. While the research carries more intuition on the study of working capital management on profitability, it does not explore the moderating role of other variables like marketing expenses in the relationship between working capital management and company profitability.

Thakur, and Muktadir-Al-Mukit, (2017) investigated the impact of WCFP on the profitability of 80 Dhaka Stock Exchange (DSE) LMCs in Bangladesh for a sample period of 2009-2014. The study employs fixed effect panel data regression technique and finds a negative impact of WCFP on firm profitability measured by ROA. The study recommends a conservative approach to WCFP by relying more on long-term financing alternatives rather than short-term ones. Thakur and fellows' findings imply that if the companies are to maintain high level of liquid assets, avoid excessive reliance on loans, keep borrowing levels low, they must cleverly utilize the stable and long-term sources to fund long term assets. This will ensure company's low risk of insolvency and help in meeting unforeseen business downturn. However, this can also hinder growth by keeping high level of liquidity instead of investing into high returns. As a result of the literature reviewed the following hypothesis is developed:

H0: There is no significant relationship between WCFP and profitability of the listed Tanzanian manufacturing firms.
H1: There is a significant relationship between WCFP and profitability in the listed Tanzanian manufacturing firms.

The effect of working capital investing policies on profitability

Working capital investing policies refer to the methods firms use to invest their excess cash in short-term instruments such as marketable securities, short-term deposits, and treasury bills. Proper management of working capital investing policies can help firms earn higher returns on their excess cash, thereby improving their profitability. Shah, et al. (2014) studied the impact of working capital investing policies on Indian manufacturing firms' profitability and found that investing a larger proportion of excess cash in marketable securities has a

positive impact on profitability. Similarly, Yadav, and Sehrawat, (2019) investigated the effect of working capital management on Indian manufacturing firms' profitability and concluded that investing in marketable securities has a positive impact on profitability. Recently, Caggiano, et al. (2022) studied the impact of working capital management policies on the profitability of listed Italian small and medium enterprises and found that a longer operating cycle duration has a positive effect on excess cash holdings

Prior studies have examined the relationship between working capital management and profitability in different countries and time periods, but few studies have focused on Tanzania's manufacturing industry. Furthermore, there is a research gap on the impact of different working capital management policies on profitability in the industry that focused on the moderating role of marketing expenses. Therefore, this study aims to fill this gap by examining the effect of working capital financing and investing policies on the profitability of LMCs in Tanzania.

Several studies have revealed negative relationship between working capital policies and company profitability. For instance, the study by Javid, and Zita, (2014) provide useful insights into the importance of working capital policies on company profitability. The study findings revealed an inverse correlation between working capital policies and company profitability. However, the study focused on cement companies in Pakistan, which may not be directly applicable to manufacturing companies in Tanzania. Furthermore, the study does not investigate the moderating effect of marketing expenses on the relationship between working capital management and profitability.

Raheman, et al. (2010) focused on the impact of working capital management on firm performance in Pakistan for the period 1998-2007. The study employs balanced panel data of 204 manufacturing firms listed on the Karachi Stock Exchange to analyze the effect of cash conversion cycle, net trade cycle, and inventory turnover in days on firm performance. The study finds that manufacturing firms in Pakistan face challenges with their collection and payment policies, and financial leverage, sales growth, and firm size significantly affect profitability. The study recommends that manufacturing firms in Pakistan concentrate on improving their collection and payment policies and formulate effective policies for individual components of working capital, with a focus on efficient management and financing of working capital to increase their operating profitability. The study further suggests that manufacturing firms in Pakistan should hire specialized finance professionals to advise on working capital management.

More studies were done on the influence of working capital policies and company profitability. For instance, the study by Arnaldi et al. (2021) investigated the impact of working capital management policies on manufacturing firms in the Czech Republic. Using dynamic panel data quantitative methodology, and findings revealed the individual working capital variables having a negative correlation with company profitability. Nevertheless, while it offers valuable insights, the findings may not directly apply to Tanzania and the variables used in the study may not fully capture the Tanzanian context. The study also does not investigate the moderating effect of marketing expenses, which is a key variable in the proposed study.

Vahid, et al. (2014) investigates the impact of aggressive and conservative working capital management policies on the profitability and value of 28 Iranian companies listed on Tehran Stock Exchange for a period of five years from 2005 to 2009. The study findings indicated conservative investment policy and aggressive financing policy having negative impact on a firm's profitability and value. The study also finds that firm size and growth have a positive impact on the firm's profitability and value, while firm leverage has a negative impact. Though, the study did not investigate the moderating effect of marketing expenses on the relationship between working capital management and profitability

Nyabuti, and Alala, (2014) explores the relationship between working capital management policy and financial performance of firms quoted at NSE. The study includes ten companies listed at the NSE for five years from 2008 to 2012 and uses secondary data obtained from the published financial statements available at NSE and CMA libraries. The study concludes that there is a relationship between working capital management policy and financial performance of companies quoted at NSE. The study also finds that the degree of aggressiveness of investment policies (AIP) and financing policies (AFP) influences return on assets (ROA) of selected firms by 17.2%.

Mwangi, (2016) investigated the relationship between working capital management and financial performance of manufacturing firms listed at NSE. The study examined inventory turnover days, cash conversion period, and net payment period using regression models. The study found that inventory turnover days have a negative relationship with return on equity (ROE), while cash conversion period and

net payment period show a significant negative relation with ROE. These findings suggest that firms' financial performance can be increased through proper inventory management systems and engaging in relationships with suppliers who allow for long credit periods and customers who accept short payment periods.

Kasozi, (2017) examined the trends in working capital management and its impact on the financial performance of listed manufacturing firms on the Johannesburg Securities Exchange (JSE). The study used a panel data methodology with different regression estimators to analyze the relationship based on an unbalanced panel of 69 manufacturing firms listed during the period 2007-2016. The findings reveal that the average collection period and the average payment period have a negative and statistically significant relationship with profitability, indicating that firms that efficiently manage their accounts receivable and pay their creditors on time perform better. Additionally, a positive statistically significant relationship between the number of days in inventory and profitability is supported, suggesting that firms that stock up and maintain their inventory levels suffer less from stock-outs and avoid challenges of securing financing when needed. It is inconclusive whether a shorter or longer cash conversion cycle enhances firm profitability, as findings to support this premise were weak. The study contributes to existing literature by presenting recent findings on this topic.

The reviewed studies provide valuable recommendations for firms to improve their working capital policies and management, with a focus on efficient management and financing of working capital to increase operating profitability. However, the studies are limited by the

sample size and context, and further research is needed to generalize the findings to other contexts. As a result of the reviewed literature the following hypothesis is developed:

H0: There is no significant impact of WCIP on the profitability of Tanzanian listed manufacturing firms.

H1: There is a significant impact of WCIP on the profitability of Tanzanian listed manufacturing firms.

The moderating role of Marketing expenses.

Marketing expenses refer to the money a firm spends on promoting its products or services. Effective marketing can help firms create brand awareness, increase sales, and build customer loyalty. The use of marketing expenses as an independent variable on the relationship between working capital management and profitability has recently gained attention in research literature.

Lyu, and Wang, (2023) explored the impact of marketing expenses on the operational performance of pharmaceutical companies and the result indicated marketing expenses positively related to company profitability. However, marketing expenses was not used as a moderating variable. Prior literature has established the importance of proper management of working capital financing and investing policies on firm profitability (Arnaldi et al., 2021; Caggiano et al., 2022; Javid and Zita., 2014; Nyabuti and Alala., 2016; Shah et al., 2014). In conclusion, the prior literature used marketing expenses as an independent variable but this study uses the marketing expenses as a moderating variable. Therefore, this study will fill this gap by investigating the impact of working capital financing and investing policies on firm profitability in the Tanzanian manufacturing industry, while also

examining the moderating role of marketing expenses in this relationship

As a result of the reviewed literature, the following hypothesis is developed:

H0: Marketing expenses do not significantly moderate the relationship between working capital management financing and investment policies and profitability of Tanzanian listed manufacturing firms.

H1: Marketing expenses significantly moderate the relationship between working capital management financing and investment policies and firm profitability of Tanzanian listed manufacturing firms.

Research Gap

There are limited scholarly researches on the relationship between working capital financing and investing policies and firm profitability in the Tanzanian manufacturing industry context. While studies in other countries have examined this relationship, the Tanzanian context is unique, and its manufacturing sector requires specific attention due to its contribution to the country's economic growth and development. The reviewed studies provided some insights into how working capital management policies affect firms' profitability and served as a reference for future research. However, none of them included marketing expenses as a moderating variable or Du Pont as a dependent variable, which presents an opportunity for further research. In contrast to the approach taken by Kisyeri, and Kira, (2022), who investigated the influence of working capital management on company profitability using cash holding ratio, average collection period, number of days inventory, and average payment period as independent variables and marketing expenses as one of the two moderating variables, this study focuses on the influence of working capital financing

and investing policies as independent variables.

By including marketing expenses as a moderating variable and Du Pont as a dependent variable, this study explores how working capital management policies interact with MKTEXP to affect the different components of Du Pont.

Effective marketing strategies and higher marketing expenses can play a crucial role in creating awareness and attracting customers, and increasing sales. MKTEXP may lead to increased acquisition, and retention of customers and brand royalty, resulting in financial performance captured by DuPont.
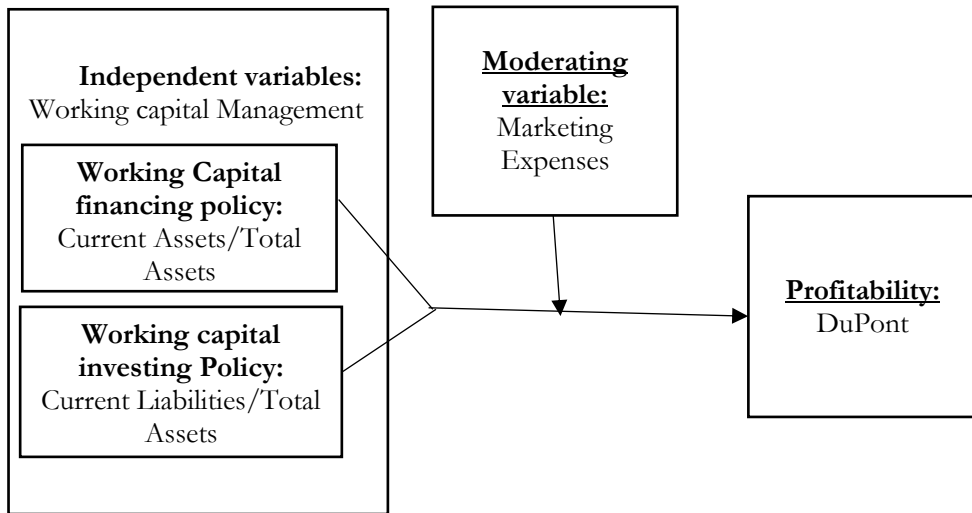

Figure 1: Conceptual framework (Author, 2023) based on literature review

Conceptual Framework

According to the conceptual framework in figure 1, WCFP informed by current assets over total assets and WCIP informed by current liabilities over total assets, first have direct relationship with profitability measured by DuPont then to see how it improves or reduces with the effect of MKTEXP as a moderator. The conceptual impression is that MKTEXP moderation will improve the relationship between the independent and dependent variables.

Methodology

This study used an explanatory study design to investigate the influence of working

capital policies on the profitability of LMCs in DSE, Tanzania. Explanatory research pursues to establish a causal relationship between variables (Saunders, 2009). In this study, the quantitative research approach is espoused as elucidated by Creswell, (2014). This is a method where a researcher employs a tactical way of investigation that comprises gathering quantitative data to best examined and understand the research delinquent empirically. This approach is used when a study is directed by hypothesis with a causal effect association. This study has used the same approach in testing the relationship between working capital

financing and investing policies and LMCs' profitability (Creswell, 2014; Creswell, 2009).

Population of the study

The population of this research were all six LMCs in Dar es Salaam Stock Exchange from the year 2005 to 2018.

The Linear regression model for this study.

The panel linear regression model considering the variables in this study is as follows:

When MKTEXP is considered as another explanatory variable, the model for the panel regression would be:

$$Y_{it} = \beta_0 + \beta_1(WCFP)_{it} + \beta_2(WCIP)_{it} + \beta_3(MKTEXP)_{it} + E_{it}........(1)$$

When MKTEXP is considered as moderating variable, the panel regression model would be:

$$Y_{it} = \beta_0 + \beta_1(WCFP\_WCIP)_{it} + \beta_2(MKTEXP)_{it} + \beta_3(WCFP\_WCIP * MKTEXP)_{it} + E_{it} ...... (2)$$

where, Y_{it} represents the response variable, DuPont analysis which is the result of Net profit margin X Asset turnover X Equity multiplier, where,

$$\text{Net profit margin} = \frac{Net\ Income}{Revenue}$$

$$\text{Asset turnover} = \frac{Revenue}{Total\ Assets}$$

$$\text{Equity multiplier} = \frac{Total\ assets}{Total\ shareholder'equity}$$

WCFP represents working capital financing policy, WCIP represents working capital investing policy and i represents the companies and t represent the time. $(WCFP\_WCIP)_{it}$ represents the interaction term for the two independent variables (working capital financing policy and working capital investing policy) multiplied together. $(MKTEXP)_{it}$ represents the moderating variable. β0, β1, β2, β3 are the regression coefficients corresponding to the intercept, the main effect of $(WCFP\_WCIP)_{it}$, the main effect of MKTEXP, and $(WCFP\_WCIP * MKTEXP)_{it}$ represents the interaction effect between WCFP_WCIP and MKTEXP, respectively. ɛ represents the error term, capturing unexplained variation in the model. In this panel linear regression model, the aim would be to analyze the impact of working capital financing policy $(WCFP)_{it}$ and working capital investing policy $(WCIP)_{it}$ on DuPont analysis, while considering the potential moderating effect of marketing expenses MKTEXP within panel data. E represents the error term that captures all factors affecting Y_{it} that are not included in the model. It accounts for discrepancies between the observed values and the values predicted by the linear relationship established by the independent variables. The model would provide insights into how these variables relate to and influence overall profitability and financial performance measured by DuPont analysis.

**Table 1: Variables operationalization and measurement**

CATEGORY	VARIABLE	OPERATIONALIZATION	MEASUREMENT
Dependent variable	Profitability	DuPont (A measure of company's profitability (Sheela &Karthikeyan, 2012) using net profit margin, assets turnover and equity multiplier.	$Net\ Profit\ Margin = \dfrac{Net\ Income}{Revenue}$
Independent Variables	Working capital financing policy	WCFP: Measures the proportion of a company's total assets that are financed by current liabilities (Farhan et al, 2021).	$WCFP = \dfrac{Current\ Liabilities}{Total\ Assets} * 100$
	Working capital investing policy	WCIP: Measures the proportion of a company's total assets that are made up of currents assets in percentage (Hassani & Tavosi, 2014; Islam & Mili, 2012)	$WCIP = \dfrac{Current\ Assets}{Total\ Assets} * 100$
Moderating variable	Marketing expenses	MKTEXP: Measures the portion of a company's total operating expenses that is allocated to marketing (Totok,2018)	$MKTEXP = \dfrac{Marketing\ expenses}{Total\ operating\ expense} * 100$

Source: (Author, 2024) based on literature review

Assumptions of the linear regression model

Normality

In figure 2, we assessed the normality assumption by employing the Normal P.P plot which displays the expected cumulative probabilities against the observed cumulative probabilities, and a diagonal straight line between them. The data points form roughly straight pattern and appear to follow the diagonal line. This result suggests that the residuals are normally distributed, and the assumption of normality is met. We conclude that our linear regression model satisfies the assumption of normality, and the results can be interpreted with confidence.

Figure 2: Normal P.P plot.
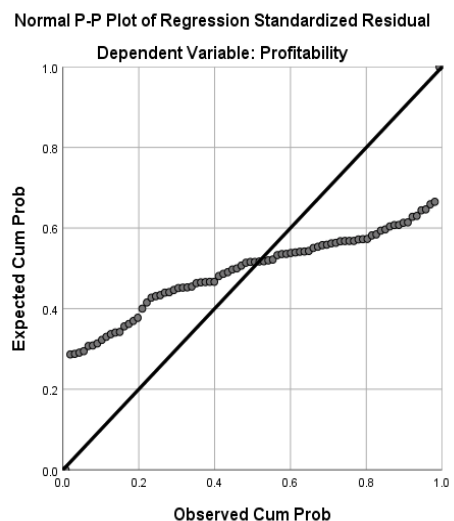
Source: SPSS version 26 output

In Table 2, the Pearson correlation of -0.006 between the two independent variables suggests that there is almost no relationship between them, and they are essentially independent of each other. The negative sign indicates a weak negative association, but the absolute value is close to zero, which implies that the variables are almost uncorrelated.

Table 2: Pearson correlation analysis

		WCFP	WCIP
WCFP	Pearson Correlation	1	**-.006**
	Sig. (2-tailed)		.954
	N	84	84
WCIP	Pearson Correlation	**-.006**	1
	Sig. (2-tailed)	.954	
	N	84	84

Source: SPSS version 26 output

Multicollinearity

Multicollinearity problem arises when an independent variable in regression model exhibits high correlation with other independent variables (Huyen, 2017, Maxwell, et al., 2019). The multicollinearity diagnostic was done by using Variance Inflation Factor (VIF. According to Pallant, (2013), the VIF below 10 is tolerable indicating no multicollinearity issues. In table 3, the VIF values for all independent variables are less than 5, indicating that there is no severe multicollinearity present in the data used for the regression analysis.

Therefore, results support the validity and reliability of the regression model

Table 3: Collinearity statistics

Model		Sig.	Collinearity Statistics	
			Tolerance	VIF
1	(Constant)	.061		
	WCFP	**.012**	.959	1.043
	WCIP	.575	.992	1.008
	MKTEXP	.961	.951	1.051

Source: SPSS version 26 output

Linearity and homoscedasticity

To examine the assumption of linearity in the relationship between the dependent variable and the independent variables, scatter plots were utilized. In figure 3, a straight horizontal line in the scatter plot implies that the residuals have a constant variance across the range of the predicted values, which supports the assumption of homoscedasticity and linearity between independent and dependent variables. Moreover, the randomness and centeredness of the residuals around zero suggest that their distribution is close to normal. Therefore, a straight horizontal line in the scatter plot between the regression standardized residual and regression standardized predicted value is a desirable pattern that confirms the validity and reliability of the linear regression model and assures us that the statistical assumptions are met.

Figure 3: Scatter plot
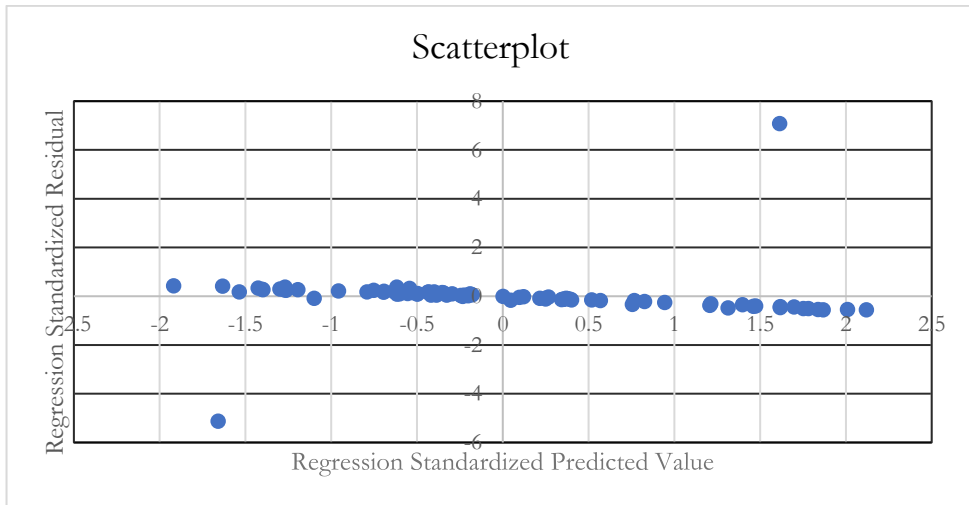
Source: SPSS version 26 output

Independence

In Table 4, the assumption of independence of observations was evaluated using the Durbin-Watson test (Flatt, and Jacobs, 2019). This test detects autocorrelation, which indicates the presence of a relationship between the residuals of the regression model (Flatt, and Jacobs, 2019). The value of Durbin-Watson between 0 and 4 and the value close to 2 indicates no significant autocorrelation. The data analysis revealed Durbin Watson of 2.168 which indicates no significant autocorrelation.

Table 4: Independence assumption

Model	R	R Square	A. R Square	Std. Error of the Estimate	D. Watson
1	.286[a]	.082	.059	3.81687	2.168

Source: SPSS version 26 output

Model selection and justification

In this study, both fixed effect and random effect models were considered to analyze the data. Assumptions related to linearity, independence, homoscedasticity, normality, and absence of multicollinearity were carefully examined and met for the regression model. Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) are commonly used measures to compare the goodness-of-fit of statistical models. AIC is based on the principle of maximum likelihood

estimation, while BIC incorporates a penalty for model complexity. Lower values of AIC and BIC indicate a better fit. In this case, the Akaike corrected value is 475.654 for the fixed effect model, while it is 484.649 for the random effect model. Similarly, the Bayesian value is 484.649 for the fixed effect model, whereas it is also 484.649 for the random effect model. Comparing the Akaike corrected values, the fixed effect model has a lower AIC (475.654 < 484.649) indicating a better fit. However, when comparing the Bayesian values, both models have the same BIC (484.649) (Stata Version 15 output). The results of the analysis that there was no significant difference between the fixed effect and random effect models in terms of model fit or the interpretation of the coefficients. Therefore, either model can be applied. For simplicity and interpretability, we chose to present the results from the random effect model in subsequent sections.

Results and Discussion

Regression Analysis for working capital investment policy, working capital financing policy and Profitability

Table 5 indicated a significant relationship between the independent variables and the dependent variable. The R squared of 0.586 denotes a moderate-strength positive correlation between the WCFP, WCIP, and profitability. It implies that changes in these independent variables explain a proportion of the variation in the dependent variable. Additionally, the R2 coefficient of 0.344 suggests that 34.4% of the total variation in the dependent variable can be accounted for by the WCFP and the WCIP. The regression model, which includes the mentioned predictors, has a significant overall effect on the dependent variable.

The p-value of 0.032 suggests that at least one of the predictors has a significant influence on the dependent variable. The overall model is statistically significant with an F-statistic of 3.595 and a p-value of 0.032, indicating that the model predicts the dependent variable significantly better than the mean.

The standardized coefficients indicate the relative importance of each variable while accounting for their differing scales. The significant p-values of 0.039 and 0.010 for the constant term and WCFP respectively suggest that these variables have a significant impact on the Profitability since their significant values are less than 0.05. The constant term of -2.817 suggests the expected value of the dependent variable "Profitability" when all independent variables are zero. The coefficient for "Working Capital Financial Policy" (0.076) implies that for a one-unit increase in this variable, the "Profitability" is expected to increase by 0.076 units, while holding other variables constant. Due to these results, the alternative hypothesis for WCFP is accepted and the null hypothesis is rejected.

The significant p-value for the constant term and WCFP show that these variables have a significant effect on company profitability, reflecting the importance of proper management of WCFP in maximizing the profitability of the company. The results suggest the emphasis for financial managers to concentrate on the management of the WCFP as the primary factor to influence the DuPont return on equity ratio. We reject the alternative and accept the null hypothesis for WCIP because it does not have a significant effect on the profitability of the firm.

Table 5: Regression results for profitability with model summary without MKTEXP

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R-squared	Adjusted .R-squared	F	Sign
1 (Constant)	-2.817	1.346		-2.093	**.039**	.586	.344	.259	3.595	.032
WCFP	**.076**	.029	.280	2.625	**.010**					
WCIP	.019	.034	.060	.564	.574					
a. Dependent Variable: Profitability (DuPont analysis)										

Source: SPSS version 26 output. Note:1. R is the correlation coefficient

The regression analysis incorporating Marketing Expenses (MKTEXP) as an explanatory variable reveals critical dynamics in understanding profitability among manufacturing companies in Tanzania. The constant term is -2.789, with a standard error of 1.468 and a p-value of 0.034, indicating that when all predictors are zero, the profitability remains negatively affected. The analysis shows that WCFP has a positive coefficient of 0.076, a standard error of 0.030, a beta of 0.281, and a p-value of 0.010, suggesting that a unit increase in working capital financing policies is associated with a 0.076 unit increase in profitability. This positive relationship emphasizes the critical role of effective financial management.

Conversely, WCIP has a coefficient of 0.019, a standard error of 0.034, a beta of 0.061, and a p-value of 0.575, indicating that changes in working capital investment policies do not significantly impact profitability, suggesting negligible practical relevance. The addition of MKTEXP reveals a negative coefficient of -0.109, a standard error of 2.196, a beta of -0.005, and a p-value of 0.041. This relationship implies that for every unit increase in marketing expenses, profitability decreases by 0.109 units, indicating that marketing investments may not yield the expected financial returns.

Table 6: Regression results for profitability including model summary with MKTEXP

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sign	R-squared	Adjusted R-squared	F	Sign
1 (Constant)	-2.789	1.468		-1.900	.034	.618	.306	2.505	.027
WCFP	.076	.030	.281	2.565	.010				
WCIP	.019	.034	.061	.562	.575				
MKTEXP	-.109	2.196	-.005	-2.049	.041				

Source: SPSS version 26 output

In Table 7, the overall model exhibited an R value of 0.300, indicating a weak positive correlation between the independent variables and profitability. R² value ranges from 0 to 1, where a higher value indicates a better fit of the model to the data. The modification of R²adjusts for the number of predictors in the model, providing a more accurate measure when comparing models with different numbers of predictors. The R² value of 0.090 reveals that only 9% of the variance in profitability is explained by the model, highlighting potential omitted variables that may significantly influence profitability. Additionally, the Adjusted R² of 0.032 suggests that after accounting for the number of predictors, only 3.2% of the variance in profitability is explained, emphasizing the limited explanatory power of the current model.

The regression analysis yielded several key coefficients. The constant was -2.619, providing a baseline for profitability when all independent variables are zero. Notably, WCFP emerged as a significant predictor of profitability, with an unstandardized coefficient of 0.079, a beta of 0.290, and a p-value of 0.013. This indicates that effective management of WCFP positively influences profitability, reflecting its importance in operational efficiency for manufacturing firms. The coefficient for "WCFP" (0.079) implies that for a one-unit increase in this variable, the "Profitability" is expected to increase by 0.079 units, while holding other variables constant. Due to these results, the alternative hypothesis for WCFP is accepted and the null hypothesis is rejected.

The significant p-value for the constant term and WCFP show that these variables have a significant effect on company profitability, reflecting the importance of proper management of WCFP in maximizing the profitability of the company. The results suggest the emphasis for financial managers to concentrate on the management of the WCFP as the primary factor to influence the DuPont return on equity ratio. We reject the alternative and accept the null hypothesis for WCIP because it does not have a significant effect on the profitability of the firm.

Table 7: The regression results for profitability with model summary and moderation analysis

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sign	R	R Squared	A R Squared	F	Sign
		B	St Error	Beta							
1	(Constant)	-2.619	1.557		-1.681	.097	.300	.090	.032	1.547	.185
	WCFP	.079	.031	.290	2.528	.013					
	WCIP	.017	.039	.054	.437	.664					
	MKTEXP	-.556	2.361	-.028	-.235	.815					
	WCFP_WCIP	-.189	.549	-.044	-.345	.731					
	WCFP_WCIP*_MKTEXP	-.604	.740	-.095	-.817	.416					

    a.   Dependent variable: DuPont Analysis
Source: SPSS version 26 output

Adding marketing expenses as an additional explanatory variable, yielded a negative and significant relationship with profitability indicating that a reduction in investment in marketing will increase profitability. However, in Table 7, the interaction terms WCFP_WCIP and WCFP_WCIP*MKTEXP further indicated that MKTEXP does not serve as a significant moderator in the relationship between WCFP and WCIP with profitability. Both interaction terms had negative coefficients and were statistically insignificant (p-values of 0.731 and 0.416, respectively). This suggests that MKTEXP does not strengthen or enhance the relationships between WCFP, WCIP, and profitability.

Furthermore, the adjusted R^2 value dropped to 0.032, suggesting that the model's explanatory power was limited. The higher p-value of 0.185 indicated that the relationship between the predictors and the outcome variable was not statistically significant.

In fact, it resulted in a weaker model fit and diminished explanatory power. These unexpected results imply that MKTEXP, when considered as a moderating variable, does not significantly impact the relationship between the working capital financing and working capital investing policies and the outcome variable. This highlights the need for further investigation and potentially exploring alternative variables or models to better understand the dynamics between MKTEXP and the predictors of profitability. The figures provided in the model summary emphasize the significant decrease in R^2 and adjusted R^2 when MKTEXP were included as a moderating variable.

Conclusion
The study examined whether working

capital financing and investing policies have an influence on profitability of the LMCs in Tanzania and if MKTEXP has any effect on the relationship. The comprehensive analysis of manufacturing companies listed on Tanzania's Dar es Salaam Stock Exchange, as evidenced by Tables 5 sheds light on the influence of working capital financing and investing policies on company profitability. The findings provide insights that are relevant to the hedging theory. Tables 2 to 4 and Figures 2 and 3 present the tests for regression model assumptions indicating that all assumptions for the regression model have been met. Table 6 reveals a significant relationship between company profitability (as measured by DuPont) and the independent variable WCFP. Table 7 also demonstrates that the inclusion of MKTEXP as a moderating variable weakens the overall model's ability to predict company profitability but when it is used as an additional explanatory variable as evidenced in Table 6, the relationship is highly increased.

Furthermore, the results in Table 5 reveal that the WCFP has a statistically significant positive influence on profitability. The regression analysis shows that a one-unit increase in the WCFP leads to a substantial 7.6% increase in profitability. The results demonstrate the significance of the WCFP in influencing profitability. This finding further supports the hedging theory which suggests that companies should use combination of financing sources leading to reduction of costs to minimize liquidity risk. and emphasizes the importance of effectively managing working capital financing. The limited moderating effect of MKTEXP in Table 7 indicates a need for companies to reevaluate their marketing strategies to ensure that investments in marketing yield tangible returns.

Furthermore, the low explanatory power of the model recommends that future research explore additional variables that may better account for the factors influencing profitability in the Tanzanian manufacturing sector.

Implications of the study

The implications for manufacturing companies are twofold. Firstly, companies should adopt a comprehensive approach to decision-making that takes into account the interplay between working capital financing and investing policies, alongside marketing strategies to improve profitability.

Secondly, the positive relationship between WCFP and profitability highlights the necessity for companies to optimize their working capital financing strategies, as an effective approach in this area can lead to improved profitability. Specifically, a unit increase in working capital financing correlates with a 0.076 unit increase in profitability, indicating a positive effect that should be prioritized by management.

Thirdly, the negative coefficient associated with MKTEXP raises critical concerns about the effectiveness of marketing expenditures. The statistically significant negative relationship implies that increasing marketing spending does not necessarily lead to improved profitability, with an associated decrease of 0.109 units for each unit increase in MKTEXP. This result calls for an urgent reassessment of marketing strategies to ensure that investments yield tangible returns. Companies may benefit from more targeted and efficient marketing tactics, tailored to enhance profitability effectively.

Recommendation for future studies

For future studies, it would be valuable to explore the influence of working capital financing and investing policies on profitability across different industries represented on Tanzania's Dar es Salaam Stock Exchange. This could provide insights into the sector-specific dynamics and implications of working capital management. Additionally, examining the long-term effects of these policies on profitability and their sustainability over time would contribute to a more comprehensive understanding of the topic.

REFERENCES

Aggarwal, M., & Priyadarshni, A. (2017). DuPont model: A performance analysis of Indian banks. *Journal of Accounting, Finance and Auditing Studies, 3*(2), 34-44.

Akbar, A., Jiang, X., & Akbar, M. (2022). Do working capital management practices influence investment and financing patterns of firms? *Journal of Economic and Administrative Sciences, 38*(1), 91–109.

Akinleye, G. T., & Ogunleye, J. S. (2019). Liquidity and The Profitability of Manufacturing Firms in Nigeria. *Applied Finance and Accounting, 5*(2), 68-73.

Akinniyi, O. D., & Faboyede, O. S. (2013). Working capital management and profitability: Evidence from Nigerian quoted firms. *International Journal of Business and Management, 8*(14), 120-128.

Altaf, N., & Ahmad, F. (2019). Working capital financing, firm performance and financial constraints: Empirical evidence from India. *International Journal of Managerial Finance, 15*(4), 464–477.

Arnaldi, A., Novak, B., Roscigno, R., & Zhang, W. (2021). Working capital management and profitability: Empirical evidence. *International Journal of Business Management and Economic Research, 12*(2),

1911–1917.

Bierman, H. Jr., & Smidt, S. (2009). *The capital budgeting decision: economic analysis and financing.* Springer Science & Business Media.

Black, F., & Scholes, M. (1973). The pricing of options and corporate liabilities. *Journal of Political Economy, 81*(3), 637-654.

Caggiano, G., Lóránth, G., & Vernizzi, A. (2022). Working Capital Management and profitability: Evidence from Italy. *Journal of Applied Accounting Research, Ahead-of-print(Ahead-of-print).*

Cooper, D., Schindler, P. & Sharma, K. K. (2012). *Business Research Methods.* New York: McGraw Hill Companies Inc.

Coufal, M. (2020). Significance of different financial ratios in predicting stock returns: In *NYSE-cross-industry Analysis.* New York Stock Exchange. Retrieved September 28, 2023, from https://scholar.google.com/scholar.

Creswell, J. W. (2014). *Research Design Qualitative , Quantitative and Mixed Methods approaches.* (4th ed) :). SAGE Publications.

Das, T. K., Mukherjee, S., & Dutta, K. (2014). DuPont analysis as a tool for predicting future profitability: A study of select Indian companies. *International Journal of Research in Finance and Marketing, 4*(1), 26-39.

Deloitte. (n.d.). *Working Capital Optimization.* Deloitte. Retrieved September 14, 2023, from https://www2.deloitte.com/za/en.html

Dingwall, R., & Staniland, K. (2020). *Qualitative research methods for nurses.* Sage.

Farhan, N.H.S; Almaqtari, F.A.; Al-Matari, E.M.; SENAN, N.A.M.; Alahdal, W.M.; Hazaea, S.A. Working Capital Management Policies in Indian Listed Firms: A State-Wise Analysis. Sustainability 2021, 13, 4516. https://doi.org/10.3390/su13084516

Flatt, C., & Jacobs, R. L. (2019). Principle assumptions of regression analysis: Testing, techniques, and statistical

reporting of imperfect data sets. *Advances in Developing Human Resources, 21*(4), pp.484-502.

Hassani, M., & Tavosi, A. R. (2014). To survey the effect of working capital policies (investing and financing) on profitability risk (evidence from Tehran stock exchange). *Journal of Investment and Management*, *3*(1), 30-36.

Hota, D. B., & Barik, J. (2020). Does Working Capital Management impact profitability? A study of manufacturing sector in India. *International Journal of Computer Science and Management Studies, 20*(2), 28–36.

Huyen, T. T. (2017). *Investigating the factors affecting consumers 'green purchase behavior on natural cosmetics (a case study of the body shop in president university).* [Doctoral dissertation,]. President University.

Islam, I. M. M, Abdullah-Al-Masum, M., & Azad, M. S. (2021). Nexus between Working Capital Management and Firm Profitability: *Evidence From the Cement Industry in Bangladesh.*

Islam, M. N., & Mili, S. A. (2012). *Working capital investment and financing policies of selected pharmaceutical companies in Bangladesh.* Research Journal of Finance and Accounting, 3(4), 1-8.

Javid, S., & Zita, V. P. (2014). Impact of working capital policy on firm's profitability: A case of Pakistan cement industry. *Research Journal of Finance and Accounting, 5*(5), 182-191.

Kasozi, J. (2017). The effect of working capital management on profitability: a case of listed manufacturing firms in South Africa. *Investment Management and Financial Innovations, 14*(2–2), 336-346. https://doi.org/10.21511/imfi.

Keynes, J. M. (1936). *The General Theory of Employment, Interest, and Money,.*

Khan, S., Mahmood, K., & Ahmed, H. (2018). Working capital management

policies: a review of management theories. *International Journal of Finance and Banking Research*, *4*(1), 61–75.

Kieschnick, R., & Rotenberg, W. (2016). Working capital management, the credit crisis, and hedging strategies: Canadian evidence. *Journal of International Financial Management & Accounting, 27*(2), 208-232.

Kisyeri, D. M., & Kira, A. R. (2022). The Influence of Working Capital Management on the Profitability of Listed Manufacturing Companies in Tanzania. *Asian Journal of Economics and Empirical Research, 9*(2), pp.73-82.

Komba, H., & Mwakalasya, E. (2018). Working Capital Management and Liquidity of Manufacturing Firms in Tanzania. *International Journal of Economics, Commerce and Management, 6*(10), 1-16.

Kung'u, J. (2015). *Effect of Working Capital Management on Profitability of Manufacturing Firms in Kenya.* [Master of Business Administration]. Nairobi.

Lyu, J., & Wang, S. (2023). Study on the Impact of Marketing Expenses on the Operational Performance of Pharmaceutical Companies: A Case Study of CR Sanjiu Pharmaceutical Co., Ltd. *Frontiers in Business, Economics and Management, 10*(1), 209-214.

Magoma, A., Mbwambo, H., Sallwa, A., & Mwasha, N. (2022). Financial Performance of Listed Commercial Banks in Tanzania: A CAMEL MODEL Approach. *African Journal of Applied Research, 8*(1), 228-239.

Maxwell, O., Chukwudike, C. N., Chinedu, O. V., Valentine, C. O., & Paul, O. C. (2019). Comparison of Different Parametric Methods in Handling Critical Multicollinearity: Monte Carlo Simulation Study. *Asian Journal of Probability and Statistics,* pp 1-16.

McGowan, C.B. & Stambaugh, A.R. (2012). Using disaggregated return on assets to conduct a financial analysis of a commercial bank using an extension of the DuPont

system of financial analysis, *Accounting and Finance Research, 1 (1) (online).*

Merton, R. C. (1976). Option pricing when the underlying stock is not traded. *Journal of Financial Economics, 3*(1–2), 33-61.

Ministry of Industry and Trade [Tanzania Commercial Guide]. (2020). *Manufacturing growth in Tanzania.* Ministry of Industry and Trade. (2021). Tanzania Country Commercial Guide International Trade Administration. Retrieved From https://www.trade.gov/knowledge-product/tanzania-country-commercial-guide-0.

Mushi, S., Komba, H., & Mwakalasya, E. (2020). Working Capital Management Practices and Firm Performance: Evidence from Tanzanian Manufacturing Firms. *International Journal of Economics, Commerce and Management, 8*(5), 1–15.

Mwakalasya, E., & Mwakalasya, A. (2019). Working Capital Management and Profitability of Manufacturing Firms in Tanzania. *International Journal of Economics, Commerce and Management, 7*(2), 1–4.

Mwangi, A. M. (2013). *the Relationship between working capital management and financial performance of manufacturing firms listed at the Nairobi securities exchange* [Doctoral dissertation]. University of Nairobi.

Nyabuti, W. M., & Alala, O. B. (2014). The relationship between working capital management policy and financial performance of companies quoted at Nairobi securities exchange, Kenya. *International Journal of Economics, Finance, and Management Sciences*, *2*(3), 212–219.

Pallant, J., J. (2013). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS,.* McGraw-Hill, Maidenhead.

Panda, A. K., & Nanda, S. (2018). Working capital financing and corporate profitability of Indian manufacturing firms. *Management Decision*, *56*(2), 441-457.

Pirashanthini, S., Tharmila, K., & Velnampy, T. (2012). Working capital approaches and firm's profitability of manufacturing companies in Sri Lanka. *Comprehensive Research Journal of Management and Business Studies (CRJMBS)*, *1*(2), 024–030.

Raheman, A., Afza, T., Qayyum, A., & Bodla, M. A. (2010). Working capital management and corporate performance of manufacturing sector in Pakistan. *International Research Journal of Finance and Economics, 47*(1), 156-169.

Rehman, R. U., Khan, ., S. U., & Ahmad, K. (2017). Impact of working capital management on firm performance: a study of Pakistani firms. *Journal of Managerial Sciences, 11*(1), 48-68.

Saunders, M. (2009). *Research Methods for business students.* Pearson Education.

Shah, S. Z. A., Rehman, R. U., & Kouser, R. (2014). Working capital management and profitability: evidence from Pakistan. *Business and Economic Research, 4*(1), 67-84.

Sheela, C. S., & Karthikeyan, K. (2012). Financial performance of Pharmaceutical Industry in India using DuPont Analysis, *European Journal of Business and Management, 4*(14). http://www.iiste.org.

Smith, J. (1973). Traditional Theory of Working Capital Management. *Journal of Finance and Accounting, 45*(2), 78–92.

Thakur, O., & Muktadir-Al-Mukit, D. (2017). Working capital financing policy and profitability: empirical study on Bangladeshi listed firms. *British Journal of Economics, Management & Trade, 17*(1), 1-6.

Teodor, H., & Maria, A. T. (2014). The profit and loss account and the DuPont analysis–Study models of performance in companies listed on BSE. *WSEAS Transactions on Business and Economics, 11,* pp. 592-607.

Totok, H (2018). Marketing Strategy: Marketingexpense contribution to profitability (study on Telecommunication Company). *In Proceeding International Conference of Business,.*

Utia, V., Dewi, N., & Sutisna, H. (2018). The impact of working capital management to profitability of manufacturing company listed in Indonesian stock exchange. *Hasanuddin Economics and Business Review, 2*(1), 1-17.

Vahid, T. K., Mohsen, A. K., & Mohammadreza, E. (2014). The impact of working capital management policies on firm's profitability and value: Evidence from Iranian companies. *International Research Journal of Finance and Economics, 88*(1), 155-162.

Yadav, N., & Sehrawat, M. (2019). An empirical investigation of working capital management and its impact on profitability: evidence from Indian manufacturing companies. *Journal of Advances in Management Research, 16*(4), 428-446.

Accounting for Disasters: A Cultural Perspective

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Abstract

This paper examines the ways and manner in which disaster management stakeholders are involved and engaged in the rendering of disaster accountability in Ghana. Particularly, the paper attempts to explain the limited involvement and participation of sections of the public in the disaster accountability process by considering the influence of culture on disaster accountability and stakeholder involvement.

To achieve the objectives of the study we adopt a qualitative, single case study of the coordinating body responsible for managing disasters in Ghana: National Disaster Management Organisation (NADMO). The study makes use of semi-structured face-to-face interviews and a review of publicly available documents in collecting data and adopts a largely inductive approach to data analysis.

The study finds that an all-inclusive approach is adopted in defining disaster management roles and responsibilities for which accountability may be demanded. However, the level of inclusiveness varies with the nature and characteristics of the social actors, particularly the community. We find that compared to urban communities, rural communities are more responsive to stakeholder involvement efforts and have a preference for felt accountability. The urban communities, conversely, tend to be less responsive and have a preference for upward accountability. There is, therefore, evidence of the co-existence of both upward and felt accountability.

We argue for a more adaptive approach to delivering disaster accountability that takes into account the cultural differences and accountability preferences of the stakeholder groups. We are, therefore, arguing for a fully adaptive accountability approach to adequately manage the tensions and contradictions present in the co-existence of upward and felt accountability.

Key words: Culture, Disaster accountability, inclusiveness, responsibility, accountability, stakeholder involvement, adaptive accountability.

Introduction

In recent years, the importance of accountability in disaster management has gathered increasing

attention, with studies highlighting the crucial role that transparent practices play in ensuring effective responses to crises (Lai, Leoni, & Stacchezzini, 2014; Sargiacomo, Ianni, & Everett, 2014; Taylor, Tharapos, & Sidaway, 2014; Perkiss & Moerman, 2020; Agyenim-Boateng & Oduro-Boateng, 2019). While, accountability, in its essence, involves an obligation by responsible parties to provide explanations and justifications for their actions, especially in situations where public welfare and resources are at stake, studies reveal that not all stakeholders—particularly those directly impacted by disasters—are equally represented or empowered in accountability processes. This lack of representation can lead to miscommunication, unmet needs, and diminished trust between disaster management agencies and affected communities (Agyenim-Boateng & Oduro-Boateng, 2019).

Moreover, accountability is shaped by external factors such as organisational norms, societal values, and cultural expectations. Among these, culture stands out as a particularly influential component, affecting how people interpret and enact accountability (Khlif, 2016; Gray,1988). Cultural norms shape behaviours, priorities, and expectations in significant ways, influencing not only individual actions but also the collective practices of organisations. Past research has underscored how cultural factors affect various accountability outcomes, such as financial reporting and social disclosures, in contexts outside disaster management (Gray & Vint, 1995; Tsakamus, 2008; Khlif, Hussainey, & Achek, 2015). These studies emphasise that cultural perspectives impact not only what information is shared but also how it is communicated, interpreted, and valued by different stakeholder groups.

Despite the established influence of culture on accountability outcomes, a significant gap remains in understanding how these cultural factors influence the *process* of accountability itself, particularly in high-stakes situations such as disaster management. While research has focused extensively on accountability in financial and corporate settings, there has been limited examination of how accountability functions within disaster management frameworks, where transparency and responsiveness are critical to public trust and safety (see Lai, Leoni, & Stacchezzini, 2014; Sargiacomo, Ianni, & Everett, 2014; Taylor, Tharapos, & Sidaway, 2014; Perkiss & Moerman, 2020; Agyenim-Boateng & Oduro-Boateng, 2019). More specifically, there has been a notable lack of attention to the role of external stakeholders in these processes, including the communities directly impacted by disasters and the general public who rely on disaster management entities for protection and recovery support (Gray & Vint, 1995; Khlif et al., 2015).

The existing literature has primarily focused on the role of accountability providers, such as managers and officials, often neglecting the perspectives and involvement of accountability recipients. This gap raises important questions about whether and how cultural differences might act as barriers to inclusive stakeholder participation in disaster accountability. For example, certain cultural norms may prioritize hierarchical structures, limiting opportunities for direct community engagement in accountability discussions. Conversely, in cultures that value collectivism and community-driven decision-making, the lack of representation among stakeholders in accountability processes may lead to perceptions of exclusion or neglect. Thus, a deeper

understanding of how culture shapes stakeholder roles and expectations in disaster accountability processes is essential to foster inclusive practices that meet the needs of diverse communities.

The limited insights into the cultural dynamics of accountability creates unresolved challenges and potential controversies in the field of disaster management. The limited involvement of diverse stakeholders due to cultural factors may impede effective accountability, undermining transparency, equitable resource allocation, and ultimately, public trust in disaster response and recovery efforts. Where certain cultural barriers prevent stakeholders from fully participating in accountability processes, it can lead to outcomes that fail to address the specific needs and vulnerabilities of affected communities, leaving them at greater risk during disaster events (Agyenim-Boateng & Oduro-Boateng, 2019).

The current study, therefore, seeks to address a crucial unresolved question: To what extent do cultural norms and values influence stakeholder involvement in disaster accountability, and in what ways do they shape the expectations, behaviours, and perceived roles of both providers and recipients of accountability in this process? This enquiry is necessary because understanding these cultural dynamics can contribute to the development of more culturally inclusive disaster accountability practices. Such practices are essential for ensuring that all stakeholders, particularly marginalized or underrepresented groups, have meaningful opportunities to engage in accountability processes that impact their well-being.

By examining these unresolved issues, this study aims to fill a critical gap in the literature and provide valuable insights that can inform policy and practice in disaster management. The findings may serve as a foundation for more culturally sensitive frameworks that enhance the effectiveness, transparency, and trustworthiness of accountability practices in disaster contexts. In doing so, this research contributes to broader efforts to build resilience in disaster-prone communities through accountability processes that respect and reflect the diverse cultural identities of those they serve.

As such the study sets out to address the following research questions.
   a) What is the nature of the disaster accountability process?
   b) How does culture impact the nature of the disaster accountability process and the involvement of communities in the process?

The paper contributes to the existing literature on disaster accountability and provides insight on how the process of rendering accountability may be impinged upon by differences in cultural norms. The findings are useful for framing national accountability policies and give managers of organisations insight into how the cultural dispositions of the external stakeholders may influence the rendering of accountability, to guide their practice.

The paper is structured as follows. In Section 2 we review relevant literature on culture, accountability and stakeholder salience to provide a context for discussing our findings. We consider the concept of culture, the impact of culture on accountability and the impact of culture on stakeholder salience in this section. Section 3 presents the research methodology

adopted for this research. We adopt a qualitative, case study for this research making use of semi-structured interviews and publicly available documentation to obtain data for the research. Section 4 presents and discusses the findings of the study while we provide our research conclusions and recommendations in Section 5.

Literature Review

The Concept of Culture

Culture is defined as "the collective programming of the mind which distinguishes the members of one human group from the other" (Hofstede, 1980). It is regarded as a key environmental factor that explains systematic behavioural differences (Steekamp, 2001). Hofstede's (1980) research on culture provides an extensive study of cultural differences among nations (Doupnik & Tsakumis, 2004) and helps us to understand why various social groups behave differently. In this study, he presents four cultural dimensions that together influence the behavioural patterns of different social groups namely: Large versus Small Power Distance, Strong versus Weak Uncertainty Avoidance; Individualism versus Collectivism and Masculinity vs Femininity. In a later study, Hofstede presents a fifth dimension which is Long-term versus Short-term orientation also known as Confucian Dynamism (Hofstede, 2001). These five cultural dimensions are hereafter discussed in detail.

Hofstede's Cultural Dimensions

Large vs Small Power Distance

Power distance refers to the extent to which a society accepts and expects unequal distributions of power among its members. In societies with high power distance, large inequalities in power and wealth are both prevalent and accepted, with authority concentrated among a few powerful individuals or groups (Hofstede, 2001). Members in these societies often embrace hierarchical structures, believing that each person has a defined place in the social order, which is respected and rarely questioned (Koleśnik, 2013). Decision-making authority typically rests with those at the top of the hierarchy, and lower-ranking individuals are expected to comply with these decisions without challenge.

In contrast, low power distance societies favor egalitarian principles, emphasizing equality and minimizing hierarchy. In these communities, authority figures are expected to justify any power inequalities, and decision-making is often more collaborative. Members value equal participation and often seek to distribute power more evenly across social roles (Koleśnik, 2013).

In the context of disaster management, these orientations influence how authority and responsibility are perceived. In high power distance societies, disaster management actors are likely to follow directives from leaders without question, valuing compliance and deference to authority. Conversely, in low power distance communities, there would be a greater emphasis on equality and shared responsibility, with stakeholders expecting to participate actively and voice their perspectives in disaster response activities.

Strong vs Weak Uncertainty Avoidance

The cultural dimension of uncertainty avoidance reflects how comfortable members of a society are with ambiguity and unknown situations (Søndergaard, 2024). Societies with strong uncertainty avoidance have low tolerance for unpredictability, often relying on strict rules

and maintaining the status quo to minimize risk. In these communities, unconventional behaviors or ideas are typically unwelcome, and there is a preference for stability and adherence to established norms (Bouderbala, Eljammi, & Gherib, 2020).

Conversely, societies with weak uncertainty avoidance exhibit a higher tolerance for ambiguity, showing openness to innovative ideas and a flexible approach to challenges. These groups place greater emphasis on practical solutions and adaptability over strict principles, enabling a more experimental mindset in uncertain situations (Koleśnik, 2013).

In disaster management, these orientations can shape responses. Societies with weak uncertainty avoidance may rely on the expertise and judgment of disaster managers, allowing for flexible, adaptive strategies. In contrast, strong uncertainty avoidance societies may expect disaster managers to closely follow established rules and procedures, scrutinizing deviations to ensure alignment with regulations.

Individualism vs Collectivism
The dimension of individualism versus collectivism captures the degree to which members of a society prioritize personal achievements over collective goals, shaping the nature of social bonds within the group (Khlif, 2016). Individualism reflects a social framework where individuals are expected to prioritize their own interests and achievements, often at the expense of or with less regard for collective goals. This dimension also describes how strongly or loosely members of a group are connected (Søndergaard, 2024), with individualistic societies often valuing personal autonomy and independence. In such contexts, there is an emphasis on self-reliance, with social members encouraged to act based on personal goals rather than collective needs

(Zhang, Zhang, & Zhang, 2015). Consequently, a general sense of opportunism may prevail, where individuals see situations—including challenging ones—as opportunities for personal gain or advancement (Minkov & Kaasa, 2021).

In contrast, collectivism represents a cultural orientation where individuals view themselves as part of a tightly bonded social group, fostering strong interdependencies and a deep sense of loyalty among members. In collectivist societies, social bonds are not only tight but are also characterized by shared responsibilities, mutual support, and a commitment to the well-being of the group as a whole (Koleśnik, 2013). Such societies emphasize the importance of contributing to the collective good, with members often willing to subordinate personal goals for the benefit of the community. This fosters a sense of solidarity and mutual obligation, with group members prioritizing shared goals and cooperative strategies over individual ambitions.

In the context of disaster management, these orientations can shape stakeholder behavior. In individualist societies, stakeholders might prioritize self-interest, potentially viewing disaster situations as opportunities for personal or organizational advantage. In collectivist societies, however, stakeholders are more likely to pursue cooperative efforts that benefit the entire community, focusing on collective resilience and support rather than individual gains.

Masculinity vs Femininity
This cultural dimension underscores the influence of gender roles on societal structures and expectations, impacting how roles and responsibilities are allocated across different contexts (Khlif, 2016). In

societies characterized by high masculinity, there is a strong emphasis on values traditionally associated with masculinity, such as competitiveness, performance, and a focus on tangible achievements (Zhang et al., 2015). These societies often stress personal achievement, assertiveness, heroism, and material success, which are viewed as indicators of social status and individual merit (Minkov & Kaasa, 2021). Such values shape organizational and societal dynamics, where individuals are encouraged to pursue excellence, demonstrate assertiveness, and prioritize personal or organizational success, sometimes even over collaborative or community-oriented goals.

Conversely, societies with a high degree of femininity are generally more oriented towards values such as modesty, cooperation, social harmony, and an emphasis on supporting those who are vulnerable or disadvantaged (Søndergaard, 2024). In these societies, collaborative and inclusive approaches are valued, and there is a greater focus on maintaining relationships and ensuring the well-being of all members. This orientation often leads to organizational and communal practices that prioritize empathy, mutual support, and shared responsibility. Within the context of disaster management, stakeholders in feminine societies may thus be more likely to adopt approaches that emphasize collaboration, collective efforts, and support for affected populations, reflecting the broader societal inclination toward caring and communal solidarity.

In disaster response and accountability processes, these cultural orientations could influence how stakeholders approach their roles and responsibilities. Masculine-oriented societies may focus on efficient, performance-driven strategies, highlighting leadership and individual initiatives. In contrast, feminine societies may adopt a more cooperative approach, ensuring that responses are inclusive and supportive, and that stakeholders work together to address the needs of all affected groups.

Confucian Dynamism (Long versus Short Term Orientation)

Beyond these four dimensions, Hofstede and Bond (1988) later introduced a fifth dimension. This dimension refers to the extent to which a society appreciates pragmatism and futuristic virtues. Societies with a short-term orientation tend to be normative in their thinking with little regard for saving for the future (Zhang, Liu, & Liu, 2012). They exhibit a concern for establishing the absolute truth and tend to maintain tradition. Unlike short-term orientation societies, long-term orientation societies perceive the truth as a result of circumstance and context and may vary over time (Jaw, Ling, Wang, & Chang, 2007). They exhibit a high level of adaptability to tradition and tend to be more concerned about saving for the future.

Based on Hofstede's (1980) study, he classified the countries included in the study into some cultural areas. The more developed Anglo area, for instance, is characterised by high individualism, low uncertainty avoidance and power distance and moderate masculinity while the less developed Latin cultural area is, on the other hand, characterised by low individualism, high uncertainty avoidance and power distance and quite high masculinity. These arguments can be extended to suggest some relationship between the level of development and the culture of the society. Specifically, we can expect rural and urban communities to exhibit some differing characteristics based

on the above.

Culture and Accountability

Environmental factors have a significant influence on the nature and development of accountability. Specifically, cultural beliefs and norms influence the perceptions, nature and behaviours of people (Markus & Kitayama, 1991), including those who render accounts and those to whom accounts are rendered, thereby influencing the nature and process of accountability. Attempts have been made by accounting researchers to examine the role of culture in explaining management behaviours and other issues in accounting (Han, Kang, Salter, & Yoo, 2010; Hope, 2003). Notable among studies that have linked Hofstede's (1980) cultural dimension to accountability is Gray's (1988) framework. In his framework, Gray (1988) presents four accounting value dimensions namely: professionalism versus statutory control; uniformity versus flexibility; conservatism versus optimism, and; secrecy versus transparency. The first and second dimensions deal with authority and enforcement or regulation in the practice of accounting while the third and fourth deal with the measurement and disclosure of accounting information (Finch, 2009). With these dimensions, Gray (1988) shows how Hofstede's cultural dimensions affect accounting values. The dimensions are now discussed in turn.

Gray's Accounting Subcultures

Professionalism vs Statutory Control

This dimension is defined by Gray (1988, p.8) as "a preference for the exercise of individual professional judgment and the maintenance of professional self-regulation as opposed to compliance with prescriptive legal requirements and statutory control." Professionalism is closely linked with a culture of increased individualism as it requires the individual judgement of accounting professionals and is related to low uncertainty avoidance due to the inevitable differences in their professional judgement (Tabără & Nistor, 2014). Also, the need for mutual trust in the accounting profession makes professionalism closely linked to low power distance and masculinism (Tabără & Nistor, 2014)

Uniformity vs Flexibility

Uniformity vs Flexibility indicates *"a preference for the enforcement of uniform accounting practices between companies and the consistent use of such practices over time as opposed to flexibility in accordance with the perceived circumstances of individual companies"* (Gray, 1988, p. 8). Uniformity is directly related to strong uncertainty avoidance and high collectivism and is also closely linked with high power distance, where members of the society ten to more easily accept the imposition of rules (Tabără & Nistor, 2014). This dimension considers the impact of culture on the consistency in the application of accounting policies and principles across organisations (Chanchani & Willett, 2004).

Conservatism vs Optimism

Conservatism vs Optimism relates to *"a preference for a cautious approach to measurement so as to cope with the uncertainty of future events as opposed to a more optimistic, risk-taking approach"* (Gray, 1988, p. 8). Conservatism is particularly linked to strong uncertainty avoidance, low individualism and high masculinity (Tabără & Nistor, 2014). This dimension establishes the impact of culture on how various elements of financial statements are measured and is closely linked to the prudence concept of accounting.

Secrecy vs Transparency

Secrecy is defined by Gray (1988, p. 8) as a "preference for confidentiality and the

restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open and publicly accountable approach". It is argued that the level of transparency among managers of firms, which in turn determines the extent of financial disclosure, may be influenced by the power distance, individualism, uncertainty avoidance and masculinity dimensions (Gray, 1988; Gray & Vint, 1995; Tsakamus, 2008).

Khlif (2016) illustrates that high power distance organisations generally have a lower commitment to transparency leading to more deficiencies in internal controls. Indeed, organisations with high power distance are more likely to have cases of overriding existing controls thereby increasing the risk of material misstatements (Chan, Lin, & Mo, 2003). Bringing a number of these dimensions together, Gray (1988, pp. 10-11) states that: *"the higher a country ranks in terms of uncertainty avoidance and the lower it ranks in terms of individualism and masculinity then the more likely it is to rank highly in terms of conservatism. The higher a country ranks in terms of uncertainty avoidance and power distance and the lower it ranks in terms of individualism and masculinity then the more likely it is to rank highly in terms of secrecy."*

Forms of Accountability and Cultural Implications

In addition to those discussed above, the extant literature on accountability presents various forms of accountability which include Upwardy-imposed Accountability, Felt Accountability and Adaptive Accountability. A review of these forms of accountability shows that each of them presents a form of culture and can be related to the cultural dimensions propounded by Hofstede (1980).

On one hand, upwardly imposed accountability refers to a form of accountability that has been used in several contexts to connote a form of accountability where a person is held answerable or is required to show reckoning to some powerful stakeholders, typically those who fund organisational activities (Roberts J. , 1991; Roberts J. , 2001; Sinclair, 1995; Mulgan, 2000; Ebrahim, 2009; Agyemang, O'Dwyer, Unerman, & Awumbila, 2017; Yang, Northcott, & Sinclair, 2017; O'Dwyer & Boomsma, 2015). This form of accountability is characterised by formal, narrowly-defined accountability requirements that seek to clear any ambiguity and ensure stability and certainty and curtail opportunistic behaviour (O'Dwyer & Boomsma, 2015) Based on Hofstede's (1980) cultural dimensions Upwardly imposed accountability tends to suggest and is likely to thrive in a society characterised by high power distance, low collectivism, high masculinity and low uncertainty avoidance.

On the other hand, felt accountability presumes that human actors feel a sense of ethical and moral responsibility to render account and voluntarily open up to scrutiny (O'Dwyer & Boomsma, 2015). This form of accountability is based on mutual trust and solidarity and gives human actors a voice in arriving at accountability outcomes (Agyenim-Boateng & Oduro-Boateng, 2019). Felt accountability in contrast to imposed accountability tends to suggest and is likely to thrive in a society that emphasises collectivism, low power distance, low uncertainty avoidance and high feminism.

Adaptive accountability combines the two and promotes the notion of combining the strength of these two forms of

accountability into a more adaptive approach. It requires the management of the tensions inherent in the co-existence of upwardly imposed and felt accountability and the integration of the two forms of accountability to combine the benefits of both (Ebrahim, 2009). Ebrahim (2009) notes that both of these formal and informal arrangements co-exist to differing extents under adaptive accountability with the relative dominance of each changing across time and space.

Adaptive accountability resonates with the reality of living in diverse societies where the sub-groups within the society may have underlying cultural differences. Indeed, Hofstede's work has been criticised for assuming nations have a single culture which may not be the case entirely (Baskerville, 2003; Joannidés, Wichramasinghe, & Berland, 2012). Nonetheless, the work of Hofstede presents very useful insight into the differences in the behavioural patterns of various human groups. Thus, in this study, we consider culture as the collective behaviours of human groups.

Culture and Stakeholder Salience

The stakeholder salience theory explains how the attributes of power, legitimacy and urgency influence how managers decide on stakeholders that are relevant in the focus of their activities, including rendering accountability (Mitchell, Agle, & Wood, 1997). They are considered as variable, socially constructed realities which may not be consciously and wilfully exercised (Mitchell et al., 1997). Mitchell et al. (1997) have presented three attributes that influence the relative importance of each stakeholder group and influence management decisions about which social actors are considered as significant. These attributes are power, legitimacy and

urgency. They are considered as variable, socially constructed realities which may not be consciously and wilfully exercised (Mitchell et al., 1997). Mitchell et al. (1997), drawing on Etzioni, (1964), have explained that a party to a relationship (social actor) has power when that party can impose its will on the relationship through some coercive, utilitarian or normative means. However, the state of possessing power is not constant. Rather, the attribute of power is transitory implying that it could be gained or lost over time (Mitchell et al., 1997). This means that stakeholder salience attained through power may be gained or lost over time by disaster management stakeholders over time.

Considering that there are stakeholders who are not powerful but are still relevant to organisations and their management, it follows that issues of stakeholder power alone are not enough to fully explain the concept of stakeholder salience. Mitchell et al. (1997, p. 866) indicate that "the principle of who or what really counts" is generally based on legitimacy. Legitimacy is a desirable social good that may be defined and negotiated at various levels of social organisation, including individual, societal and organisational levels (Mitchell et al., 1997). Though socially accepted and expected structures or behaviours are often tied with power (e.g. Davis, 1973), suggesting that legitimate stakeholders are powerful and vice versa, this is not always the case (Mitchell et al., 1997). The concepts of power and legitimacy are independent attributes that may both lead to stakeholder salience and may both be gained or lost over time.

The independent view attributed to power and legitimacy emphasises that there are parties that may be legitimate even in the absence of power. However, according to

Mitchell et al. (1997), these attributes do not consider the dynamics of the interactions between stakeholders and management. They, therefore, introduce the third attribute, urgency, which is based on (1) the time-sensitivity of a relationship or claim and (2) the criticality of the relationship or claim to the stakeholder. Just like power and legitimacy, the concept of urgency is also socially conceived, and may, therefore, be wrongly perceived (Mitchell et al., 1997). A social actor may, therefore, be considered as a salient stakeholder by management based on power, legitimacy or urgency.

Being socially constructed, these three attributes are a direct result of the culture of the social group. Orij (2010, p.873) explains that "national culture dimensions, as societal values, are reflected in situational factors, which equate to the stakeholder salience attributes, and in management characteristics". Furthermore, Van der Laan Smith, Adikhari, & Tondkar (2005, p. 132) indicate that "*in a society concerned with social issues, …stakeholder groups have more power, possess greater legitimacy, and have their claims viewed with greater urgency".* This means that the level of involvement of stakeholders in the disaster accountability process, which is based on the salience attributes they possess, can be expected to vary based on the culture of a social group.

Methodology
The study seeks to understand the nature of stakeholder involvement in the disaster management process. Thus, a qualitative case study approach was adopted to achieve the purpose of the study. This approach was most suitable for the study as it allowed us to obtain a detailed description of the feelings, opinions, and experiences of social actors in the disaster accountability process; and to interpret the meanings of the actions of these actors (Denzin, 1989). The

approach afforded us the ability to pay adequate attention to the individual perspectives and to understand the different people's voices, meanings and events in the disaster setting (Rahman, 2017). This was particularly beneficial to the study as it analysed the varying perspectives of human actors in an attempt to discover the inner experiences of participants and to find out how meanings are shaped and through culture (Corbin & Strauss, 2008).

The case study design was found to be appropriate for this study since the study is situated in the specific real-life context of Ghana and the analysis of data is connected with the context in question (Yin, 2014). Also, the case study approach was beneficial since the study requires a detailed qualitative account of the disaster accountability process to help explore and describe the data in real-life, and to explain the complexities of these real-life situations (Zaidah, 2007).

To properly understand these experiences and interpret the individual perspectives of the social actors, the case study required an approach which has a flexible structure that allows for the design to be constructed and reconstructed to a large extent (Maxwell, 2012). Therefore, semi-structured interviews were used to gather data for the study and corroborated with publicly available documents. These data collection methods are discussed hereafter.

Data Collection
The study drew on multiple data collection methods to triangulate and corroborate the findings (Miles, Huberman, & Saldana, 2014). Using the different methods helped confirm (and disconfirm) the study findings. The methods are now discussed in turn.

Semi-Structured Face-to-face Interviews

Being exploratory, the study employed interviews as the source of primary data. By using interviews, the study gathered valid and reliable data relevant to the research (Saunders, Lewis, & Thornhill, 2009) and gained insight into the meaning and significance of the phenomenon of interest (Wilkinson & Birmingham, 2003) by looking at different roles and situations (Myers, 2013). The use of interviews presented one of the best ways to enter into the perspective of respondents (Patton, 2002) and get a detailed account of how disaster accountability is rendered and the socio-cultural patterns therein (Warren, 2002). Specifically, the interviews were conducted using a semi-structured, face-to-face approach. Using face-to-face interviews allowed for adequate attention to be given to non-verbal cues, making it easier to, for instance, know when the interviewee (or even the interviewer was confused), and address such concerns (Stephens, 2007). Such non-verbal cues, including body language, mannerisms and dressing, could be very rich in providing qualitative data (Oltmann, 2016). The semi-structured interview design was adopted to allow for adequate control over the direction of the interview while ensuring a considerable level of flexibility (Wilkinson & Birmingham, 2003). Thus, it provided ample direction by providing a predetermined set of questions and themes (interview guide) for the interview while allowing for impromptu questions as the interview flows to help gain deeper insight into areas of interest (Saunders *et al.*, 2009). The semi-structured nature of the interviews made it possible to ask follow-up questions to clarify responses and helped in gathering data from different roles and situations.

The respondents for the semi-structured interviews were purposefully selected. However, the data collection also benefited from snowballing techniques. The data collection focused on NADMO officers directly involved in the provision of disaster relief and those directly involved in accountability processes at the national and regional levels. Victims of disasters and members of frequently affected communities were also interviewed to enrich the data that was collected. Equal opportunity was given to each respondent based on their willingness to participate and their ability to provide useful and credible information, irrespective of gender. Issues of gender are irrelevant to the study findings and did not influence the selection criteria.

Review of Publicly Available Documents

The study also used publicly available documents to triangulate and strengthen evidence gathered through the interviews (Miles, Huberman, & Saldana, 2014). The documents were reviewed to identify trends in disaster management reporting, evidence of stakeholder relations and other information to confirm our initial findings as well as to inform subsequent interviews. These publicly available documents included disaster management reports, website information, news reports, press releases, acts of parliament and photos.

Data Analysis Methods

The processes of collecting, analysing and drawing conclusions from qualitative data are interactive and closely related (Saunders *et al.*, 2009). Thus, data was collected and analysed concurrently, though subsequent analysis was performed after the data collection period (Kvale, 1996). By way of the semi-structured nature of interviews, interview data was analysed while being collected to inform follow-up questions

and deepen the understanding of issues being discussed. The analysis was also done by making side notes and self-memos on the issues being discussed. This initial analysis helped shape the direction of the data collection and thereby allowed for the adjustment of subsequent data collection (Strauss & Corbin, 2008). The interactive nature of the data collection and analysis processes allowed for the identification of potential themes, patterns and relationships (Saunders *et al.*, 2009).

The nature of data collected for the study has implications for subsequent analysis and as noted by Saunders *et al.*, (2009), qualitative data tends to be non-standardised and thus requires classification and categorisation through the use of conceptualisation. The subsequent data analysis aimed to reduce data to a manageable size to help draw and verify research conclusions (Miles, Huberman, & Saldana, 2014). To do this, the data analysis process drew on patterns and relationships from the data gathered as well as from the review of extant literature. This helped us to assess themes that emerged from the data while linking the study to the existing body of knowledge in disaster management and accountability research (Saunders *et al.*, 2009).

This section details how qualitative data collected for the study was analysed to answer research questions and draw research conclusions. These are discussed hereafter.

Documentation of Data

As noted earlier, data analysis began while qualitative data was being collected. Thus, the first step of the analysis was the documentation of the qualitative data (Schutt, 2011). This was done by making notes and self-memos as well as recording

during interviews. The recorded interviews were then transcribed into text to aid in the analysis. This initial documentation and transcription of interview recording aided in familiarising with the data at hand and also helped in framing the direction of subsequent interviews questions (Saunders *et al.*, 2009) by reviewing responses while the interviews were in session. The documentation of the qualitative data did not only focus on what was said by interviewees but also how they were said (Saunders *et al.*, 2009) thereby taking note of non-verbal cues. To ensure that the data collected was clean and free from errors, transcripts were sent to interviewees for their review and corrections where necessary. In addition, the main points were emphasised at the end of each interview to ensure that the respondents were clearly understood.

Summarisation of Data

After preparing transcripts from interview recordings and personal notes, a summary of the emerging key findings was drafted (Saunders *et al.*, 2009). This process aided in eliminating aspects of the data collected that are not critical to answering the research questions and drawing the study conclusions. The summary helped to condense long statements into brief statements while maintaining the central points (Kvale, 1996). This aided in becoming familiar with the main ideas emerging from the data and how these were to be subsequently explored.

Coding and Data Reduction

In the third stage, the summarised data was segregated by assigning open codes to the text. Pulling data into codes is very important in qualitative data analysis (Schutt, 2011) since it helps to reduce the size of data and is useful for retrieving and organising data (Myers, 2013; Miles, Huberman, & Saldana, 2014). Similar units

of data were assigned the same codes (Saunders *et al.*, 2009) allowing them to be grouped. After the open coding, relationships between codes were carefully sought (Saunders *et al.*, 2009) to further reduce the number of codes assigned to the text and to arrive at mutually exclusive and exhaustive themes (Boateng, 2014). The coding of qualitative data was largely inductive and based on a reflection on the data at hand. However, the activity also benefited from the interaction with existing literature. The codes that were arrived at the end of this stage included: resources, capacity, legitimacy, politics, coordination, engagement etc.

Take for instance this quote by a respondent:

> *"Yes of course! As for the community, they are always part of everything. They are part of the primary and them they are part of the secondary responders. Indeed, they are the first responders to any emergency"*

Some codes that were arrived at included: involvement, collaboration, response, immediacy, proximity, indispensability etc.

Categorisation of Codes in Themes

The final stage of the analysis involved developing categories from codes derived in the previous stage and attaching these categories to meaningful groups of data (Saunders *et al.*, 2009). This helps derive relationships and further develop the categories into thematic areas (Braun & Clarke, 2006) for discussing the findings and drawing research conclusions. As noted earlier, categorisation of codes into themes was based on literature as well as from a reflection on the data at hand. Here, codes were grouped based on similarities and interrelatedness to intensify the distinctiveness of the themes to be identified. Data within the identified

themes need to cohere meaningfully, while the themes remain reasonably distinct (Braun & Clarke, 2006). The identified themes formed the basis of the discussion of empirical material and the drawing of research conclusions. The findings of the study are now discussed in turn.

Findings

Cultural Diversity in the Disaster Accountability Process

The community within which a disaster occurs plays a key role in the management of the disaster and is considered a key stakeholder of the disaster management and accountability process. They are referred to by some respondents of the study as *'the first responders to any emergency'* and *'the first point of call when there is a need for any response'.* The community is made up of several groups of human actors including disaster victims, opinion leaders and the general public. The constitutionally mandated disaster management organisation (National Disaster Management Organisation -NADMO), is responsible for coordinating disaster management activities and the subsequent rendering of accountability for those activities. In executing their activities, NADMO interacts with the external environment at several levels.

The Accountability Process

As noted in the literature (McKernan, 2012; Roberts & Scarpens, 1985), accountability is based on responsibility and as such, any accountability process can be reasonably expected to begin with the assignment of responsibility or to be related in one way or the other to the process of assigning responsibly. This is mainly because accountability may only be demanded from one to whom responsibility has been assigned. Our analysis of the empirical data confirms this line of thought, as NADMO's

system of accountability is based on the assignment of responsibility for various disaster management activities.

As we have noted earlier, accountability outcomes may be upwardly imposed on the accountee or jointly determined by both the accountor and the accountee, with each approach having its own set of strengths and weaknesses (O'Dwyer & Boomsma, 2015). The approach adopted by NADMO largely seeks to foster a joint effort among disaster management stakeholders in defining disaster management responsibility. Thus, the organisation works through the technical committees in designing disaster management expectations which will form the basis of rendering accountability as explained by a head office-based NADMO official:

> *"We form a technical working group involving all the agencies so as soon as we are developing the thing [plan] the agency is involved. So, it's not like NADMO is going to tell them that this is your role. You look at, first, the mandate of that agency".*

In addition to the involvement of the various disaster management agencies who form part of the technical advisory committees, the organisation also engages with the public and communities (who are the potential victims of any disaster) in defining the various disaster management roles. There are instances where disaster management plans have been altered in response to the opinions of the members of the community. In an interview, an official recalled:

> *"We reviewed some of our activities and plans as a result of information we gathered from them [community]. And based on these simulation exercises that we did, at the end of that year, we reviewed our contingency plan to involve some of these activities."*

However, the level of inclusion that

characterises the process of assigning responsibility varies across different parts of the country. It is observed that the level of inclusiveness of the community is relatively higher in rural communities compared to the urban communities. This is confirmed by an official of NADMO who said:

> *"It's easier engaging the rural communities. …it is very difficult to organise these things in Accra. It makes most of our zonal officers a little redundant within Accra".*

Therefore, within the urban communities, the communities contribute very little to the framing of disaster management goals and outcomes. The process is therefore dominated by the disaster management organisation and its other agencies. This arrangement makes the process unbalanced since not all stakeholder interests are considered in determining accountability outcomes.

Nevertheless, the inclusive approach to defining disaster management roles is very important as it helps to avoid clashing of roles among actors as well as to prevent duplication of efforts and the suboptimal use of resources. An inclusive approach also creates the opportunity to fill out any loopholes in the proposed or existing disaster management plans.

> *"A typical example is the June 3 situation where we [NADMO] thought that the police must collect the dead bodies and they said "No! We don't collect dead bodies" … …Ambulance said "No! The ambulances are for the living who are dying, not the dead!" … …We eventually discovered that that should have been taken up by the environmental health department of the District Assembly, which we didn't know... … But when we see some loophole somewhere, we try to fill it". (NADMO Official)*

Irrespective of this inclusive approach, some roles are imposed on actors as is rightly explained by the official. Some roles

are defined by the legal mandate of the agency in question and in defining any disaster management responsibility, *"you look at, first, the mandate of that agency".* Thus, the process is inclusive and incorporates the views of the actors or agencies to the extent that the agreed accountability outcomes fall within these constitutionally-mandated, upwardly-imposed roles and outcomes. This is to suggest that there exists within the process both upwardly-imposed and mutually agreed roles, evidencing the co-existence of the two forms of accountability suggested by O'Dwyer & Boomsma (2015). The effective management of the tensions inherent in the coexistence of these two forms of accountability calls for an adaptive approach that will bring to the table the benefits of both forms.

As already mentioned, accountability follows the assignment of roles and responsibility. Therefore, we demand accountability from those to whom responsibility is assigned. Following this, NADMO's accountability process is concerned with assessing the ability of various disaster management agencies to meet previously agreed and assigned goals or outcomes in relation to specific disasters. The organisation, together with the relevant technical advisory committee(s) and disaster management actors, assesses the activities of disaster management actors in what is referred to as After-Action Review (AAR).

> *…so when there is an emergency and…it has been managed and it is over, while we are waiting for the long-term recovery, we also have this AAR and see what went right with the response, what went wrong with the response. Was is communication that broke down? Why did communication break down? Could we have done something differently? We do all that… …It is meant to help us improve on our work.*

(NADMO Official)

The AAR is designed in a fashion that allows for the various disaster management actors to receive an assessment of their activities and to provide constructive feedback to improve on subsequent disaster recovery efforts. However, the composition of participants in this review process potentially leaves out key stakeholders of the process. These left-out stakeholders include the representation of the members of the affected community (including victims) and the media both of which have the potential for meaningful contribution to the accountability process.

Moreover, the results of the AAR are not accessible to all stakeholder groups and particularly the community. Even in the rural areas where it is supposedly easier to engage members of the community, no such communication is done with regard to accountability outcomes. This arrangement emphasises the presence of internal accountability and upward accountability with little traces of downward accountability. A head office official of NADMO said:

> *…the AAR includes Technical Advisory Committee members and the players in the field who are all part of the various agencies. So the AAR is not an internal thing. We are bringing all the agencies. When we finish, we distribute the outcome. They all have it."*

Clearly, the intention is not to make the AAR an internal accountability process and this is evidenced by the above statement. However, the composition of the review members strategically excludes important external stakeholders, the community, thus resulting in an internal form of accountability. While the public need not necessarily be represented on the AAR, failure to communicate the outcome of the review process makes it an internal process, with access to some privileged

stakeholders.

As seen above, the nature of the accountability process is partly attributable to the behavioural patterns of the rural and urban communities. These differences in culture which have implications for the nature of the accountability process are subsequently highlighted in the light of Hofstede's (1980) cultural dimensions.

Culture of Urban and Rural Communities

Individualism vs Collectivism

Empirical data suggests that the willingness of human actors to be engaged in the disaster accountability process varies across the urban and rural parts of the country. For instance, an Accra-based NADMO official said:

> *"… when you come to bigger communities like Accra, nobody cares… …it's easier engaging the rural communities… …there are peculiar challenges that we face and until people become security and disaster management conscious, and are willing to participate in their own safety mechanisms it is going to be very difficult for anybody like me to do anything."*

The unwillingness to participate in the disaster management accountability process in the urban communities is made evident by the official and it is attributed to some peculiarities, which is the culture of the urban communities. Another NADMO official explains further indicating that:

> *"…it may appear to you as if we are not engaging the public. However, it is not because we are not engaging the public, but when you come to the bigger cities like Accra, Kumasi, Takoradi, Koforidua, Ho etc. they are not worried about these things. They think that when it happens, we will manage, when we get to the bridge, we will cross it."*

High collectivism can be observed in rural communities, where there is a great sense of communism making it easier for members of the community to rally around

a common goal such as taking part in the disaster accountability process. The urban areas are on the other hand characterised by high individualism where there is constant mobility and an intense struggle by individuals to make ends meet, and therefore an increased focus on self-interest and survival of the fittest.

Uncertainty Avoidance

The urban and rural communities also tend to differ in their preference for a formalised and detailed structure of the way things are expected to be done. The urban communities have a preference for formalised structures and this evidenced by the constant reference to legal mandate of institutional stakeholders when arriving at disaster management roles as explained by an official of NADMO saying: *"You look at, first, the mandate of that agency"*. In the rural communities, there is little preference for formalised structure. These communities tend to trust and rely on opinion leaders, chiefs and other influential people to effectively get things done. An official on NADMO indicated that:

> *"the opinion leaders play a major role and from district to district and region to region, each of our offices have their own way of relating to these people."*

These opinion leaders and traditional rulers tend to be highly trusted in the rural areas and are considered by NADMO as critical stakeholders of the disaster accountability process. Therefore unlike the urban communities where uncertainty avoidance is high, the rural communities exhibit low uncertainty avoidance.

Power Distance

The degree to which inequalities are accepted also varies between urban and rural communities. A review of the empirical data reveals that power distance is generally low in urban communities. There

is often a demand for greater accountability and equal access to information. A recent example is the passing of the Right to Information (RTI) law which generated massive support in the urban communities while many rural folks remain unaware of its existence. Rural communities on the other hand exhibit high power distance. This is evidenced by the increased trust in their leaders and therefore do not question their opinion leaders. Within the rural communities we observe little emphasis on accountability relationships, which is consistent with Taylor, Tharapos, & Sidaway (2014), where it is argued that where there is a close relationship between the "accountor" and the "accountee", there may be no need for formalised accountability.

Masculinity vs Femininity
Urban communities are typically characterised by high masculinity. There is a high-performance culture in these communities, with an emphasis on struggling to make ends meet and achieve more. Rural folk, on the other hand, tend to share more. There is a focus on the community, social responsibility and mutual well-being. They are therefore characterised by high femininity compared to the urban communities.

In summary, the empirical data suggests that the urban communities rate highly in uncertainty avoidance, masculinity and individualism and exhibit small power distance. On the contrary, rural communities exhibit large power distance and have a low rating in terms of individualism, masculinity and uncertainty avoidance. As seen in Gray (1988) the culture of each of these types of communities has implications for the nature of accountability observed as part of the disaster management process. These are discussed hereafter.

Implications of Culture on Accountability and Stakeholder Salience
With regard to accountability, a review of the findings shows that urban communities tend to have a preference for imposed forms of accountability. Here, there are clear lines of reporting and the activities of organisational stakeholders are guided by their legal mandate, making the expected accountability outcomes somewhat non-negotiable. This form of accountability tends to be promoted by the low uncertainty avoidance exhibited by the urban communities leading to a preference for increased uniformity, transparency, statutory control and conservatism in the delivery of accountability outcomes.

The rural communities on the other tend to prefer felt accountability where responsibility is based on mutual trust and a collective approach when it comes to deciding accountability outcomes. This is driven by the high collectivism and feminism as well as low uncertainty avoidance exhibited by these social groups. There is, therefore, an increased preference for flexibility and professionalism as well as lower transparency compared to the urban communities.

This evidence presents the co-existence of these two forms of accountability in the disaster accountability process. As noted in O'Dwyer & Boomsma (2015), there are tensions which arise in the co-existence of imposed and felt accountability and these have to be managed well by way of a more adaptive accountability process.

Also, with regards to stakeholder involvement, it is seen that whereas NADMO prefers to adopt an inclusive approach in the accountability process, the urban communities who exhibit high individuality tend to shy away from this

approach. With an increased focus on self-interest, as noted earlier, members of this type of community generally have little interest in a collective approach to arriving at disaster accountability outcomes. These communities, therefore, prefer to withdraw from the process and rely on just the outcomes, based on the rules and structures in place.

Unlike the urban communities, the members of the rural communities prefer to be engaged and be part of the process of arriving at the accountability outcomes. With a preference for pursuing the mutual interest of the community, as we have seen in our findings, they are therefore more willing to be involved in NADMO's inclusive approach. This makes NADMO's inclusive approach more successful in rural communities.

Conclusion

This study has considered the reasons for the differences in how stakeholders are involved in the disaster accountability process and has revealed that culture affects how disaster management stakeholder participation (particularly the community),

maybe influenced by their collective human behaviours. We conclude that there are differences in the cultural values of rural and urban communities and this generates a preference for imposed accountability on the part of urban communities and felt accountability for rural communities. This presents evidence of the coexistence of felt and adaptive accountability and is likely to generate tensions in the accountability process as a single approach may not meet the interests of both types of communities. Therefore, a more adaptive approach is encouraged to effectively manage the tensions inherent in the co-existence of imposed and felt accountability. NADMO can draw on the strengths of both felt and imposed accountability to arrive at a more adaptive form of accountability by combining the preferences of the urban and rural communities.

Future studies may consider the nature of interactions between disaster management stakeholders by looking at the quality of their involvement in the accountability process. Also, the extent of the differences in the cultures could be statistically examined by future quantitative studies.

REFERENCES

Agyemang, G., O'Dwyer, B., Unerman, J., & Awumbila, M. (2017). Seeking 'conversations for accountability': Mediating the impact of non-governmental organization (NGO) upward accountability processes. *Accounting, Auditing & Accountability Journal, 30*(5), 982-1007.

Agyenim-Boateng, C., & Oduro-Boateng, K. (2019). Accounting for Disasters: Evidence of Under-representation in the Disaster Accountability Process. *Journal of Accounting in Emerging Economies*.

Baskerville, R. (2003). Hofstede never studied culture. *Accounting, Organizations and Society, 28*(1), 1-14.

Boateng, R. (2014). *Research Made Easy.* Accra : PearlRichards Foundation.

Bouderbala, R., Eljammi, J., & Gherib, J. (2020). Relevance of Hofstede's model in identifying specific national cultural character: the case of a North African country. *Social Business, 10*(3), 247-279.

Braun, V., & Clarke, V. (2006). Using

thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. Retrieved January 10, 2016, from http://eprints.uwe.ac.uk/11735

Chan, K., Lin, K., & Mo, P. (2003). An empirical study on the impact of culture on audit-detected accounting errors. *Auditing: A Journal of Practice and Theory, 22*, 281-295.

Chan, K., Lin, K., & Mo, P. (2003). An empirical study on the impact of culture on audit-detected accounting errors. *Auditing: A Journal of Practice and Theory, 22*, 281-295.

Chanchani, S., & Willett, R. (2004). An empirical assessment of Gray's accounting value constructs. *The International Journal of Accounting, 39*, 125-154.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research.* London: SAGE Publications Ltd.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research.* London: SAGE Publications Ltd.

Denzin, N. K. (1989). *Interpretive interactionism.* Newbury Park, CA: Sage.

Doupnik, T. S., & Tsakumis, G. T. (2004). A Critical Review of the Tests of Gray's Theory of Cultural Relevance and Suggestions for Future Research. *Journal of Accounting Literature, 23*, 1-48.

Ebrahim, A. (2009). Placing the normative logics of accountability in 'thick' perspective. *American Behavioral Scientist, 52*(6), 885-904.

Finch, N. (2009). Towards an Understanding of Cultural Influence. *Journal of International Business and Cultural Studies, 2*(1), 1-6.

Gray, S. (1988). Towards a theory of cultural influences on the development of accounting systems internationally. *Abacus, 24*, 1-15.

Gray, S., & Vint, H. (1995). The impact of culture on accounting disclosures: some

international evidence. *Asia-Pacific Journal of Accounting, 21*, 33-43.

Han, S., Kang, T., Salter, S., & Yoo, Y. (2010). A cross-country study on the effects of national culture on earnings management. *Journal of International Business Studies, 41*(1), 123-141.

Hofstede, G. H. (1980). *Culture's Consequences – International Differences in Work-Related Values.* London: Sage Publications.

Hofstede, G. H. (1980). *Culture's Consequences – International Differences in Work-Related Values.* London: Sage Publications.

Hofstede, G. H. (2001). *Culture's Consequences.* London: Sage Publications.

Hofstede, G., & Bond, M. H. (1988). The Confucian connection: From cultural roots to economic growth. *Organizational Dynamics, 16*, 4–21.

Hope, O. (2003). Firm-level disclosures and the relative roles of culture and legal origin. *Journal of International Financial Management & Accounting, 14*, 218-248.

Jaggi, B. (1975). The impact of the cultural environment on financial disclosure. *International Journal of Accounting, 11*, 75-84.

Jaw, B. S., Ling, Y. H., Wang, C. Y. H., & Chang, W. C. (2007). The impact of culture on Chinese employees' work values. *Personnel Review, 36*, 763–780

Joannidés, V., Wichramasinghe, D., & Berland, N. (2012). Critiques on Gray-Hofstede's model: what impact in cross-cultural accounting research? *33ème congrès de l'Association Francophone de Comptabilité (AFC) : Comptabilités et Innovation.* Grenoble. Retrieved from https://basepub.dauphine.fr/handle/123456789/9497

Khlif, H. (2016). Hofstede's cultural dimensions in accounting research: a review. *Meditari Accountancy Research, 24*(4), 545-573.

Khlif, H., Hussainey, K., & Achek, I. (2015). The effect of national culture on the association between profitability and

corporate social and environmental disclosure: a meta-analysis. *Meditari Accountancy Research, 23*(3), 296-321.

Koleśnik, K. (2013). The Role of Culture in Accounting in the Light of Hofstede's, Grays's and Schwartz's Cultural Dimensions Theories - A Literature Review. *Financial Internet Quarterly, 9*(3), 33-41.

Kvale, S. (1996). *InterViews.* Thousand Oaks, CA: Sage.

Lai, A., Leoni, G., & Stacchezzini, R. (2014). The socializing effects of accounting in flood recovery. *Critical Perspectives on Accounting*, 579-603.

Markus, H. R., & Kitayama, S. (1991). Culture and the Self: Implications for Cognition, Emotion, and Motivation. *Psychological Review, 98*(2), 224-253.

Maxwell, J. A. (2012). *Qualitative research design: An interactive approach.* London: Sage.

McKernan, J. (2012). Accounting as aporia, testimony, and gift. *Critical Perspectives on Accounting, 23*(3), 258-278.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: an expanded sourcebook* (5th ed.). Thomas Oaks: Sage Publications.

Minkov, M., & Kaasa, A. (2021). A test of Hofstede's model of culture following his own approach. *Cross Cultural & Strategic Management, 28*(2), 384-406.

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts. *The Academy of Management Review, 22*(4), 853-886.

Mulgan, R. (2000). 'Accountability': an ever-expanding concept? *Public Administration Review, 78*(3), 553-573.

Myers, M. D. (2013). *Qualitative Research in Business and Management* (2nd ed.). London: SAGE Publications Limited.

O'Dwyer, B., & Boomsma, R. (2015). The co-construction of NGO accountability: Aligning imposed and felt accountability in NGO-funder accountability relationships. *Accounting, Auditing and Accountability Journal, 28*(1), 36-68.

Oltmann, S. M. (2016). Qualitative Interviews: A Methodological Discussion of the Interviewer and Respondent Contexts. *Forum Qualitative Sozialforschung / Forum:, 17*(2). Retrieved from http://nbn-resolving.de/urn:nbn:de:0114-fqs1602156

Orij, R. (2010). Corporate social disclosures in the context of national cultures and stakeholder theory. *Accounting, Auditing & Accountability Journal, 23*(7), 868-889.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Perkiss, S., & Moerman, L. (2020). Hurricane Katrina: exploring justice and fairness as a sociology of common good(s),. *Critical Perspectives on Accounting, 67*, 102022.

Rahman, M. S. (2017). The Advantages and Disadvantages of Using Qualitative and Quantitative Approaches and Methods in Language "Testing and Assessment" Research: A Literature Review. *Journal of Education and Learning, 6*(1).

Roberts, J. (1991). The possibilities of accountability. *Accounting, Organizations and Society, 16*(4), 355-368.

Roberts, J. (2001). Trust and control in Anglo-American systems of corporate governance: the individualizing and socializing effects of processes of accountability. *Human Relations, 54*(12), 1547-1572.

Roberts, J., & Scarpens, R. (1985). Accounting systems and systems of accountability - understanding accounting practices in their organisational contexts. *Accounting, Organizations and Society*, 443-456.

Sargiacomo, M., Ianni, L., & Everett, J. (2014). Accounting for Suffering:

Calculative practices in the field of disaster relief. *Critical Perspectives on Accounting*, 652-669.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Harlow: Pearson Education Limited.

Schutt, R. K. (2011). *Investigating the Social World: The Process and Practice of Research.* California: Sage Publications.

Sinclair, A. (1995). The chameleon of accountability: forms and discourses. *Accounting, Organizations and Society, 20*(2-3), 219-237.

Søndergaard, M. (2024). Hofstede's Consequences, 1980–2022. In *Hofstede Matters* (pp. 209-246). Routledge.

Steekamp, J. (2001). The role of national culture in international marketing research. *International Marketing Review, 18*(1), 30-44.

Stephens, N. (2007). Collecting data from elites and ultra elites: Telephone and face-to-face interviews with microeconomists. *Qualitative Research, 7*(2), 203-216.

Strauss, A., & Corbin, J. (2008). *Basics of Qualitative Research* (3rd ed.). Newbury Park, CA: Sage.

Tabără, N., & Nistor, C. (2014). Cultural Dimensions in Accounting Systems. *European Journal of Accounting, Finance & Business, 2*(1), 12-22.

Tabără, N., & Nistor, C. (2014). Cultural Dimensions in Accounting Systems. *European Journal of Accounting, Finance & Business, 2*(1), 12-22.

Taylor, D., Tharapos, M., & Sidaway, S. (2014). Downward accountability for a natural disaster recovery effort: Evidence and issues from Australia's Black

Saturday. *Critical Perspectives on Accounting*, 633-651.

Tsakamus, G. (2008). The influence of culture on accountants' application of financial reporting rules. *Abacus, 43*(1), 27-48.

Van der Laan Smith, J., Adikhari, A., & Tondkar, R. (2005). Exploring differences in social disclosures internationally: a stakeholder perspective. *Journal of Accounting and Public Policy, 24*(2), 123-151.

Warren, C. A. (2002). Qualitative interviewing. In J. F. Gubrium, & J. A. Holstein, *Handbook of interview research: Context and method* (pp. 85-101). Thousand Oaks, CA: Sage.

Wilkinson, D., & Birmingham, P. (2003). *Using Research Instruments: A Guide for Researchers.* London: RoutledgeFalmer.

Yang, C., Northcott, D., & Sinclair, R. (2017). Understanding the accountability information needs of key charity funders. *Public Money Management, 37*(3), 173-180.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.

Zaidah, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan, 5*(1).

Zhang, M., Zhang, W., & Zhang, S. (2015). National culture and firm investment efficiency: international evidence. *Asia-Pacific Journal of Accounting & Economics, 23*(1), 1-21. doi:10.1080/16081625.2015.1027714

Zhang, S., Liu, W., & Liu, X. (2012). Investigating the relationship between Protestant work ethic and Confucian dynamism: An empirical test in mainland China. *Journal of business ethics*, *106*, 243-252.

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