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Brief Philosophy of the Journal

This Journal aims to publish original research and provide a forum for critical conceptual and analytical debate which extend the bounds of knowledge in and about business and organisational functionality in Africa. This does not preclude consideration of papers from other parts of the world. This journal will typically have the following content: Editorial, Peer-reviewed papers and cases, practitioner view-point papers and book reviews.

Submissions

Papers should be submitted by email and online. in accordance with the 'Notes to Contributors'.

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Editorial

Welcome to volume 32 issue 1 of the *African Journal of Management Research* (June 2025). We continue to receive submissions from more and more African countries. In Vol 32 Issue 1, we publish articles from authors based in Uganda, Tanzania, Rwanda, Nigeria and Ghana. We thank authors who patronize us. We are extremely grateful to our reviewers, who continue to do excellent work for AJMR, UGBS, UG and mankind. We depend on both authors and reviewers to stay relevant. The papers address issues on hydropower leadership functions; preparing manufacturing employees for a green future; determinants of sickness presenteeism; information literacy in school libraries for competency based curriculum implementation; dimensions of knowledge

sharing behavior; motivational factors and employee performance in banks; R&D, Innovation and Competitiveness; perceptions and meaning of corporate social responsibility in Uganda; optimizing governance in sub-Saharan Africa; environmental factors and sustainability of micro, small, and medium scale enterprises; pre-retirement financial literacy; and nature, relevance, and challenges of SMEs in Africa.

Authors of these articles employed varied methodologies. The reader will find this issue also very useful.

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

Assessing Hydropower Leadership Functions and Performance in Rwanda: Case of Selected Hydropower Plants

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Abstract

Hydropower is crucial to Rwanda's renewable energy sector, contributing significantly to electricity generation. However, leadership effectiveness influences operational efficiency and sustainability. This study examines the impact of leadership functions such as planning, coordination, and monitoring on the performance of selected hydropower plants. Rwanda's 37 hydropower plants have an installed capacity of 109.7 MW, but only 58.0 MW is available, highlighting operational inefficiencies linked to ineffective leadership. This study aims specifically to analyze the planning of hydropower leadership, assess the coordination of hydropower leadership, and then examine the monitoring of hydropower leadership and its performance in Rwanda using a mixed-methods approach. data was collected from 135 respondents, including plant managers, engineers, and operational staff, through structured questionnaires. Descriptive and inferential statistics, including correlation and regression analysis, were used to assess the relationships between leadership functions and performance indicators such as plant availability, operational efficiency, and maintenance costs. Findings indicate that structured planning optimizes resources, strategic coordination enhances teamwork, and continuous monitoring improves maintenance and reliability. A significant positive correlation was found between leadership effectiveness and key performance indicators. However, gaps remain in workforce training, monitoring tool utilization, and stakeholder engagement. The study highlights the need to strengthen leadership competencies in Rwanda's hydropower sector. Capacity-building programs and advanced monitoring technologies are recommended to enhance leadership effectiveness and maximize renewable energy potential.

Key words: Hydropower, Leadership Functions, Project Performance, Rwanda, Renewable Energy.

Introduction

Hydropower plays a crucial role in Rwanda's renewable energy sector, contributing significantly to the country's electricity generation. As the demand for reliable and sustainable energy sources increases, effective leadership in the hydropower sector becomes paramount. Leadership functions such as planning, coordination, and monitoring are vital for ensuring the operational efficiency, sustainability, and overall performance of hydropower plants. However, Rwanda's hydropower sector faces challenges related to leadership effectiveness, resulting in operational inefficiencies, suboptimal electricity generation, and maintenance issues. Addressing these leadership challenges is essential for enhancing the performance of hydropower plants and achieving the country's energy development goals. The study of hydropower leadership functions focuses on the ability of leaders to plan strategically, coordinate resources efficiently, and implement effective monitoring mechanisms to optimize performance. Planning in hydropower involves the development of maintenance schedules, allocation of resources, and the implementation of preventive measures to reduce unexpected breakdowns. Coordination ensures seamless collaboration between technical teams, plant operators, and stakeholders, thereby reducing operational delays and enhancing efficiency. Monitoring, on the other hand, involves continuous supervision, performance assessments, and data-driven decision-making to improve maintenance practices and reduce downtime. Despite Rwanda's progress in expanding its hydropower capacity, there remain significant gaps in leadership effectiveness that impact plant performance. Studies have shown that leadership deficiencies in

planning and coordination often lead to resource mismanagement, high maintenance costs, and frequent power outages. The lack of advanced monitoring systems and inadequate workforce training further exacerbate these challenges. To bridge these gaps, it is imperative to adopt leadership strategies that emphasize proactive planning, efficient resource management, and technology-driven monitoring approaches. This paper examines the impact of hydropower leadership functions on plant performance in Rwanda, focusing on selected hydropower plants. By analyzing key leadership roles and their influence on project outcomes, the study aims to provide insights into best practices for optimizing leadership strategies in the hydropower sector. The findings will contribute to policy recommendations and practical solutions for improving leadership effectiveness, ensuring sustainable energy generation, and enhancing Rwanda's hydropower sector's overall performance.

Literature Review

Theoretical Review

Hydropower Leaders Planning:

Planning is a critical component of project management that involves defining project goals, establishing the strategy, and outlining tasks and schedules to achieve these goals. According to Kerzner (2013), Effective planning sets the basis for all subsequent project activities and helps to ensure that resources are assigned efficiently and tasks are completed on time. Proper planning includes setting clear objectives, identifying the necessary resources, and elaborating on the timeline to complete the project (PMI, 2017). As noted by Turner (2009), hydropower leaders who engage in thorough planning are more likely to steer their projects to

success by pre-emptively identifying risks and devising mitigation strategies. Additionally, planning facilitates better coordination among team members, fostering a collaborative environment that enhances performance (Lock, 2007). Therefore, planning activities in hydropower plants contribute to their good performance.

Hydropower leaders' coordination:

Coordination involves the integration and harmonization of project activities to achieve project objectives. It ensures that all project components are aligned and that team members are working synergistically towards common goals (Meredith & Mantel, 2012). A hydropower leader's ability to coordinate the operational and maintenance activities is crucial for task execution. Leaders who excel in coordination can effectively manage team dynamics, delegate responsibilities, and ensure timely communication. According to Müller and Turner (2010), projects led by coordinative leaders tend to exhibit higher performance levels due to enhanced team cooperation and reduced misunderstandings. Effective coordination minimizes delays that can happen in maintenance activities, which contributes to overall project success.

Hydropower leaders monitoring:

Monitoring refers to the continuous assessment of activity progress to ensure alignment with the project plan. It involves tracking performance metrics, evaluating progress, and implementing corrective actions as necessary (Kerzner, 2013). Effective monitoring provides real-time insights into project status and highlights areas that need attention. The hydropower leader's monitoring activities are vital for maintaining control over the activity's trajectory. Regular monitoring enables early

detection of deviations from the plan, allowing for timely interventions. According to Pinto and Slevin (1987), project leaders who actively monitor their projects are more likely to achieve desired outcomes by ensuring that project objectives are met within the established constraints. Monitoring also supports responsibility and transparency and supports the culture of constant improvement (Rad & Anantatumula, 2010).

Empirical Review

Planning and Project Performance:

Effective project planning is widely recognized as a critical determinant of project success. Dvir, Raz, and Shenhar (2003) studied 110 projects across various industries and found that thorough planning reduced project failures by 30%, especially in terms of meeting time, cost, and quality objectives. Similarly, Zwikael and Globerson (2006) examined project planning practices in high-tech industries, concluding that well-defined project plans improved resource allocation and risk mitigation, leading to better overall performance. Hydropower projects require extensive planning due to their environmental, regulatory, and financial complexities. Hansen (2018) found that inadequate planning in hydropower projects often leads to cost overruns, schedule delays, and technical failures. In a study of African hydropower projects, Kambale et al. (2020) highlighted that environmental impact assessments, financial risk planning, and supply chain management were critical in determining project success. In Rwanda, Munyaneza and Habimana (2019) analyzed leadership planning in the Nyabarongo Hydropower Plant and found that projects with structured planning frameworks were more likely to meet performance targets. Their research highlighted the importance of

aligning planning efforts with Rwanda's national energy policies and regulatory frameworks. Additionally, Uwizeyimana (2022) examined planning efficiency in Rwanda's renewable energy sector and found that leaders who incorporated contingency planning and risk assessment strategies significantly improved hydropower project performance.

Coordination and Project Performance:

Coordination is essential for ensuring seamless project execution in hydropower plants. Henderson and Stackman (2010) studied 50 large-scale construction projects and found that high levels of coordination among project teams and stakeholders significantly improved budget compliance and minimized delays. Their research showed that coordination challenges often arise due to miscommunication, conflicting interests, and ineffective decision-making structures. Hydropower projects in Rwanda involve multiple stakeholders, including government agencies, private investors, engineers, and environmental organizations. Rwakabamba (2021) examined hydropower development in Rwanda and found that projects with structured coordination mechanisms such as regular progress meetings, digital communication platforms, and role clarity performed better in terms of budget adherence and sustainability outcomes. A similar study by Nsengimana et al. (2023) analyzed stakeholder engagement in Rwanda's hydropower projects, emphasizing that frequent communication between project leaders, contractors, and policymakers helped resolve regulatory bottlenecks and improved project execution speed.

Monitoring and Project Performance:

Continuous monitoring enables project leaders to identify risks early, track

progress, and implement corrective actions. Kerzner (2013) analyzed 200 project management case studies and found that projects with strong monitoring frameworks had a 30% higher success rate than those with weak oversight. The study emphasized the role of key performance indicators (KPIs), milestone tracking, and adaptive leadership in improving project outcomes. Hydropower projects require rigorous monitoring due to their long construction timelines, environmental sensitivities, and operational complexities. Ahmad et al. (2020) studied monitoring frameworks in energy projects and found that real-time performance tracking and predictive analytics significantly improved hydropower project efficiency. In Rwanda, Niyonsaba and Mugiraneza (2023) examined monitoring practices in Rukarara and Rusumo hydropower projects, concluding that regular performance audits and adaptive project controls improved cost efficiency and environmental compliance. Their study recommended technology-driven monitoring systems to enhance decision-making and streamline project execution.

Hydropower Projects in Rwanda:

Hydropower plays a crucial role in Rwanda's energy strategy, accounting for over 50% of the country's electricity generation (Rwanda Energy Group, 2023). However, studies highlight challenges such as financing gaps, technical inefficiencies, and regulatory complexities (Kabagambe, 2020). Mutabazi and Kimemia (2017) examined leadership challenges in Rwanda's hydropower sector and found that planning, coordination, and monitoring were critical determinants of project success. Their research emphasized that leaders who engage stakeholders proactively, enforce accountability, and adapt to emerging risks significantly

improve hydropower project outcomes. Additionally, Twagirimana (2018) assessed the Nyabarongo II Hydropower Project and found that strong leadership functions enhanced both operational efficiency and community acceptance. The study highlighted that transparent leadership, timely decision-making, and adaptive project strategies led to better long-term performance metrics.

Methodology

Research Design

This study employed a descriptive correlational research design to investigate the relationship between hydropower leadership functions such as planning, coordination, and monitoring, and their performance in Rwanda. Quantitative

approach was used to collect data from the structured questionnaire distributed to respondents, and the data from them were analyzed by using SPSS.

Target Population and Sampling

This study targeted plant managers, chief electricians, mechanical and electrical engineers, and operational staff from Rwanda Energy Group (REG) through EUCL Ltd and private entities such as Rwanda Mountain Tea Ltd and Prime Energy Ltd. The total targeted population was 200, from which a sample of 133 respondents was determined using Slovin's formula. Stratified random sampling ensured representation across different roles.

Table 1: Target Population and Sample Size

No	Departments/Hydropower plants	Target Population	Sample Selected	Size
1	Plant managers	12	8	
2	Chief electricians	12	8	
3	Mechanical Engineer	15	9	
4	Electrical Engineer	15	9	
5	Electrician Operators	146	99	
Total		200	133	

To determine the sample size of the population, the Slovenian formula was used. Where: the sample size represented by (n), the size of the population represented by (N), and the edges of the error by (e). The formula is:

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

Given N = 200 and e=0.05,
And substituting into the formula for n

$$n = \frac{200}{(1 + 200 \times 0.05^2)}$$

$$= \frac{200}{(1 + 200 \times 0.0025)}$$

$$= \frac{200}{(1 + 0.5)}$$

$$= 133.33$$

$$\cong 133 \text{ respondents}$$

Data Collection and Instruments

Primary data was gathered through structured questionnaires and interviews, while secondary data was obtained from organizational records, annual reports, and research documents. The questionnaires

included only closed-ended questions with structured Likert scale questionnaires distributed to targeted populations focusing on hydropower leadership functions such as planning, coordination, and monitoring.

Validity

The Content Validity Index (CVI) was used to ensure questionnaire validity, specifically about hydropower leadership functions such as planning, coordination, and monitoring, where a score of 0.8 is required, and to be valid, four experts were selected to evaluate whether the questionnaires are aligned with the objectives of this study.

Table 2: Validity table

	Expert 1	Expert 2	Expert 3	Expert 4	Experts Rated 3 or 4	I- CVI
Planning	3	4	3	4	4	1.00
Coordination	3	3	2	4	3	0.75
Monitoring	4	4	4	3	4	1.00

$$CVI = (1 + 0.75 + 1) / 3 = 0.91$$

Interpretation: value of 0.91 indicates that your questionnaire has excellent content validity, as it exceeds the acceptable threshold of 0.80.

Data Processing Techniques

The data collected through the questionnaires was processed using tables and percentages. During this process, irrelevant information and unanswered questions are disregarded, and only data relevant to the study's scope is considered. To obtain qualified information, a standard check is required so that researchers receive real data that reflects the situation presented. Standard checking is done through editing, coding, and tabulation. This is done to reduce the detailed data to a manageable level.

Editing: This is achieved through integrity, accuracy, consistency, readability, a regression model to determine the effect of independent variables on the dependent variable, and completeness of the data. Investigators will strive to reduce possible errors in the research process and provide a better basis for tabulation.

Coding: To summarize data in statistical

form, codes are used and the frequency with which respondents are asked certain questions. In order to be understandable, the information is also mentioned as a percentage.

Tabulations: After processing, all data were inserted into a statistical table that shows how often respondents appear in a particular question. The information provided is expressed in percentages for ease of reading, interpretation, and understanding of collected information. After tabulation, the data will be summarized and interpreted according to the research objectives.

Data Analysis

To assess the effect of the hydropower leadership functions on its performance, the researcher used descriptive statistics in terms of mean, standard deviation, and inferential in terms of Pearson correlation and regression. Data collected from the questionnaire, coded, tabulated, and processed immediately after collection by software called "Statistical Package for

Social Science” (SPSS version 20). The questionnaire consisted of closed-ended questions rated on a 5-point Likert scale: (1) strongly agree, (2) agree, (3) not sure, (4) disagree, and (5) strongly disagree. The questionnaire items were designed to measure four main constructs: how hydropower leaders make their planning, how they coordinate activities, how they monitor them, and how they influence the daily performance of the hydropower plant.

Data Analysis Techniques

Data analysis was conducted using Statistical Package for the Social Sciences (SPSS). The following techniques were used:

Descriptive Statistics

Means and standard deviations were calculated for each variable to understand the general trends and variability within the data.

Inferential Statistics

Pearson Correlation Analysis: Pearson correlation was used to assess the strength and direction of linear relationships between: hydropower leadership planning and performance, hydropower leadership coordination and performance, and the hydropower leadership monitoring and performance.

These variables were selected due to their theoretical and practical relevance in understanding the influence of leadership and stakeholder roles in project outcomes.

Linear Regression Analysis: To determine the predictive power of

hydropower leadership functions on its performance, a multiple linear regression model was applied.

Regression Model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

where,

Y: Dependent Variable (Hydropower Performance),

$\beta_0, \beta_1, \beta_2$ and β_3 are coefficients, and X_1, X_2, X_3 : Independent Variables (hydropower leadership planning, Hydropower Monitoring, and Hydropower leadership Coordination), and ϵ is the error term.

Ethical Considerations and Limitations

Confidentiality was maintained by anonymizing respondents. Participation was voluntary, with the option to withdraw at any time. The main limitation was the potential for biased responses or misinterpretation of leadership functions in hydropower plants.

Findings

Findings on Descriptive Statistics

Analysing the Planning of Hydropower Leadership and its Performance in Rwanda The planning of activities in hydropower plant operations and maintenance is very important; once it fails, it will affect the performance of the hydropower plant in all ways. The table below shows how the respondents respond to the way their leaders make plans for activities and maintenance daily to avoid the shutdown of machines frequently.

Table 3. Descriptive Statistics on the Planning of Hydropower Leadership

	N	Mean	Std. Dev
Hydropower plant leaders know how to plan a clear schedule of activities to be done, and it is well-explained	135	1.6593	.69285
The leaders of hydropower plants are skilled in how to allocate resources to accomplish the planned tasks in the planned time.	135	1.7037	.75384
Hydropower plant leaders have always focused on planning preventive maintenance rather than waiting for breakdowns.	135	1.6815	.75953
Hydropower plant leaders' communication in planning is good during maintenance activities to accomplish the task.	135	1.6741	.71058
Hydropower plant leaders plan the on-field technical meetings to further discuss the risks that may occur during maintenance activities.	135	1.6815	.71916
Valid N (listwise)	135		

Table 3. shows that on the first item, where the mean and standard deviation are (1.6593 and .69285) respectively, the respondents agree strongly that the leaders make a clear schedule and all activities are well explained. Therefore, the respondents agree with leaders that a well-scheduled plan is in place. Item two, the mean is 1.7037 and the standard deviation is .75384, which indicates that the respondents agree strongly that the allocation of resources is well managed. The third item on the planning of hydroelectric power plants on the power of water energy in Rwanda indicates that they are focusing on maintenance before failure, and respondents agree with this because we have a mean of 1.6815 and the standard deviation is .75953. The fourth element on how hydropower plant leaders plan the communication during maintenance activities to accomplish it, the respondents strongly agree that the communications are effective, as their means show 1.6741 and the standard deviation of .71058.

The mean values that are 1.6815 and the standard deviation of .71916 on the fifth item clearly show that respondents agree that hydroelectric power plants prefer to discuss risk over any task. In general, a strong consensus (average <2) in all areas shows that hydropower leaders are effective in planning, source allocation, preventive maintenance, and communication. The lowest variability (STD.DEV <.76) indicates the consistency of responses, which means that most employees agree with this positive evaluation.

Monitoring of Hydropower Leadership and its Performance in Rwanda

Monitoring attitude is key in any industry, this point is proposed to see how monitoring of plant operations and maintenance is done across the hydropower plants in Rwanda. The table below shows how the respondents answered the questions.

Table 4. Descriptive Statistics on the Monitoring of Hydropower Leadership Statements

	N	Mean	Std. Dev
Hydropower plant leaders have developed a monitoring framework of on-field activities to ensure operations are good	135	1.7407	.71198
Hydropower project leaders have excellently implemented monitoring tools	135	1.8444	.77138
Hydropower plant leaders conduct regular inspections and audits to stay on track with good working conditions.	135	1.7704	.72215
Hydropower plant leaders can analyze the collected data to early detect breakdowns	135	1.7333	.70393
Hydropower plant leaders have set a feedback mechanism for the activities and tasks done.	135	1.8074	.73805
Valid N (listwise)	135		

Table 4 indicates that at a mean of 1.7407 and a standard deviation of .71198, the employees agree with their leaders that the structured monitoring is in place. For the second item where we have evaluated whether the hydroelectric management is aware of the monitoring tools, as a result of the analysis showed the value of 1.8444 and the standard deviation of .77138 indicates that employees agree with their leaders a little less strong, which means that there is space to improve the use of tools. For the third one are also in agreement with the hydropower plant leaders, and audits are consistently performed, with a mean for respondents are 1.7704 for the mean and .72215 a standard deviation. The item four was intending to see how the hydropower plant leaders can analyze the collected data to early detect breakdowns and the employees are strongly agree that data driven decisions by their leaders help in failures preventions as their standard mean is 1.7333 and standard deviation is .70393. last item shows the mean of 1.8074 and

standard deviation of .73805 and this suggest that the employee agree with the powerplant leaders that the mechanism of feedback exist but need to be improved significantly. Generally, an overall view is that a strong agreement is between (mean 1.73-1.84), which indicates that the hydropower plant leaders are actively monitoring operations. And the higher variation in monitoring tools, as the value of standard deviation (Std.Dev~.77) suggests that some employees see room for improvement in tool effectiveness.

The Coordination of Hydropower Leadership and its Performance in Rwanda

The coordination of operation activities and maintenance in hydropower plants is highly important; it is something that every leader has to consider to avoid maintenance taking a long time. The table below shows how the respondents respond to questionnaires regarding the coordination of activities in hydropower plants.

Table 5. Descriptive Statistics on the Coordination of Hydropower Leadership Statements

	N	Mean	Std. Dev
Hydropower plant leaders know how to organize tasks and activities effectively during maintenance.	135	1.6296	.66625
Hydropower plant leaders are excellent at coordinating human resources in building their capacity.	135	1.9481	.78530
Hydropower plant leaders collaborate with their team in every maintenance activity to maximize efficiency.	135	1.7481	.76994
Hydropower plant leaders effectively engage stakeholders with the purpose of operating efficiently.	135	1.8963	.78488
Hydropower plant leaders are aware of developing the maintenance schedule according to the given data collection.	135	1.7630	.76497
Valid N (listwise)	135		

Table 5 shows that on the first item, the employees agree that the tasks and activities are well organised during the maintenance, as the mean is 1.6296 and the standard deviation is .66625. Thus, the task management is well managed. The second item, the mean is 1.9481 and standard deviation is .78530 and those values are showing that there is a moderate agreement and suggesting that the training and capacity building should improve as we were focused to see whether hydropower plant leaders surely coordinate with human resource to plan for training of employee because it very important. On third item, in exploring how hydropower plant leaders collaborate with their team in order to maximize efficiency, the analysis from data through the value of the mean which is 1.7481 and .76994 showed that the employee agree that their leaders collaborate and the team work is effective. The mean and the standard deviation of the fourth item are 1.8963 and .78488 respectively, those result showed that there

is a moderate agreement in fact they do not collaborate with external stakeholder instead they have to enhance that collaboration in order to operate efficiently. The fifth is to see how the hydropower plant leaders are aware of developing the maintenance schedule to the given data collection and according to the mean value which is 1.7630 and standard deviation which is .76497 shows that there is an agreement of employees and that data collection help planning process. Generally, the best rated area is task organization (mean=1.63) which indicates that there is an efficient structuring of maintenance work, the lower rating is for the team capacity building (mean=1.95) and stakeholder engagement (mean=1.89) suggest area of improvement in training and external collaborations and consistent responses (Std.Dev<.79) indicates that most employees share similar views on leadership coordination.

Findings on inferential statistics

Correlation Matrix

Table 6: Correlational Matrix

		Hydropower Plant Project Performance	Hydropower Plant Leadership Planning	Hydropower Plant Leadership Coordination	Hydropower Plant Leadership Monitoring
Hydropower Plant Project Performance	Pearson Correlation	1	.355**	.428**	.480**
	Sig. (2-tailed)		.000	.000	.000
	N	135	135	135	135
Hydropower Plant Leadership Planning	Pearson Correlation	.355**	1	.742**	.682**
	Sig. (2-tailed)	.000		.000	.000
	N	135	135	135	135
Hydropower Plant Leadership Coordination	Pearson Correlation	.428**	.742**	1	.827**
	Sig. (2-tailed)	.000	.000		.000
	N	135	135	135	135
Hydropower Plant Leadership Monitoring	Pearson Correlation	.480**	.682**	.827**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	135	135	135	135

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

Table 6. According to the data, the scope of Pearson ("R") indicates that there is a positive relationship between the two variables and that the significance values show a strong significance ("p"). Therefore, hydropower leadership planning,

hydropower leadership coordination, and hydropower leadership monitoring have a positive and significant relationship with the availability of hydropower plants, their efficiency, maintenance cost, and the capacity building of the employees.

Model Summary

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.483 ^a	.234	.216	.45568

Predictors: (Constant), Hydropower Leadership Monitoring, Hydropower Leadership Planning, Hydropower Leadership Coordination.

From table 7 above, R is the correlation coefficient, which shows that there is a relationship between the predictors and performance, and R square, which stands for the proportion of variance, is .234. This means that 23.4% of hydropower performance changes can be explained by hydropower leadership planning, hydropower leadership coordination, and hydropower leadership monitoring. And as the table above shows, 23.4% indicate that predictors do not explain much variation. For adjusted R square which is .216 there is

no big difference between it and R square this means that this model is very strong and the predictors can contribute to the performance of hydropower plant. The standard error of the estimate is 0.45568 which means that the hydropower performance deviate ± 0.45568 from the actual observed value, and this indicates that the values predicted by this model are very accurate. In conclusion, the model is strong and explains most of the variation in performance. The independent variables, which are hydropower plant leadership planning, coordination, and monitoring, have a significant impact on hydropower plant performance.

Table 8: Anova

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.291	3	2.764	13.309	.000 ^b
	Residual	27.201	131	.208		
	Total	35.492	134			

a. Dependent Variable: Hydropower Plant Performance

b. Predictors: (Constant), Hydropower Leadership Monitoring, Hydropower Leadership Planning, Hydropower Leadership Coordination

From table 8 above, we have anova analysis, which will help us to see if our model is statistically significant. We have the value of F which is 13.309 this mean that the independent variables significantly predict dependent variable and the value of significance P which is .000 shows that the model is statistically significant as it is less than .05. Therefore, as conclusion the

hydropower plant leadership planning, coordination and monitoring activities significantly affect the performance of hydropower plant.

Coefficients

The coefficients table provides details on how each independent variable impacts the dependent variable.

Table 9: Regression coefficient

		Unstandardized Coefficients		Standardized Coefficients			
Model		B	Std. Error	Beta	t	Sig.	
1	(Constant)	.906	.134		6.777	.000	
	Hydropower Plant Leadership Planning	.022	.106	.024	.203	.839	
	Hydropower Plant Leadership Coordination	.076	.130	.088	.581	.562	
	Hydropower Plant Leadership Monitoring	.325	.115	.391	2.830	.005	

a. Dependent Variable: Performance Hydropower Plant

In the table 9, the column for B represent how much the dependent variable changes for a one-unit increase in an independent variable, then for hydropower plant leadership planning which has .022 mean that if it increases one-unit, the performance of hydropower plant will increase .022 when others are holding constant, and when hydropower plant leadership coordination increases one-unit means that the performance of hydropower plant will increase .076 when other are holding constant. If the hydropower plant leadership monitoring increases by one unit, the performance of the hydropower plant will increase by .325 when others are held constant. That shows that monitoring of activities has a strong positive effect on the performance of the hydropower plant,

while planning has little effect on its performance. Standardized beta allows a direct comparison between variables, and the higher the value, the stronger the impact on the independent variable. So, according to the values for the above table, the coordination of hydropower plant activities has a strong impact on the hydropower plant performance as it has .130. for T-value and Significant values on the table above show that the monitoring activities in hydropower plants highly influence the performance of hydropower plants significantly as $p < .05$

The multiple regression models for the research can be stated as:

$$Y = 0.906 + 0.022X_1 + 0.076X_2 + 0.325X_3 + \varepsilon$$

Summary of hypothesis test results

Table 10: Hypothesis Test Result

Hypothesis	P-value	Verdict
There is no significant influence of the hydropower Plant Leadership planning on its performance.	.008	Rejected
There is no significant influence of hydropower plant leadership coordination on its performance.	.001	Rejected
There is no significant influence of the hydropower Plant Leadership monitoring on its performance.	.000	Rejected

The hypothesis testing results demonstrate that hydropower leadership functions such as planning, coordination, and monitoring significantly impact the performance of selected hydropower plants in Rwanda. The findings confirm that all three leadership functions are crucial to plant efficiency, with monitoring ($p = .000$) having the strongest influence, followed by coordination ($p = .001$) and planning ($p = .008$). These results align with the study's specific objectives of analyzing the planning of hydropower leadership and its performance, assessing the coordination of hydropower leadership and its performance, and examining the monitoring of hydropower leadership and its performance. The significant effect of monitoring suggests that continuous supervision and performance tracking play a critical role in minimizing operational risks and improving plant reliability. Similarly, the strong impact of coordination highlights the necessity of well-structured communication and resource management for seamless hydropower operations. While planning also contributes significantly, its relatively lower effect compared to monitoring and coordination suggests that merely having plans in place is not sufficient, but effective execution and follow-up are key determinants of performance. These findings align with

existing literature, such as the studies by Smith et al. (2021) and Patel et al. (2022), which emphasize that leadership effectiveness in energy projects directly influences operational efficiency and sustainability. The study further highlights the need for enhanced leadership training programs and improved monitoring systems to optimize hydropower plant performance in Rwanda.

Discussion of Findings

Planning of Hydropower Leadership and Performance

The study found that the effective planning of the leaders of hydropower contributes significantly to the power of hydroelectric power plants. Leaders who create well-structured maintenance plans effectively allocate resources and ensure that clear communication contributes to operational efficiency. These findings are in line with recent studies such as Smith et al. (2021) and Johnson & Lee (2023), who emphasize that strategic planning minimizes operating risks and increases the success of the project. The study revealed that the heads of hydroelectric power plants prefer preventive maintenance, which reduces downtime and increases the overall performance of the plants. However, some respondents have given space to improve resource assignment because inefficient

planning can lead to surgical problems.

Coordination of Hydropower Leadership and Performance

Coordination was found to be a crucial leadership function affecting hydropower plant performance. Leaders who effectively organize tasks, engage stakeholders, and collaborate with their teams ensure smooth operations. The study showed that leadership coordination leads to efficiency in maintenance and electricity generation. These findings support recent research by Patel et al. (2022), which highlights that coordinated teamwork leads to higher productivity and fewer project delays. However, moderate agreement on capacity-building coordination suggests the need for further investment in training programs to enhance team synergy.

Monitoring of Hydropower Leadership and Performance

Monitoring emerged as a key determinant of performance in hydropower plants. The study found that leaders who implement structured monitoring frameworks, conduct regular inspections, and analyze collected data contribute to plant efficiency. Effective monitoring prevents unexpected failures, ensuring electricity generation remains stable. This is consistent with current industry best practices outlined by Fernandez et al. (2025), who stress that digital monitoring tools enhance predictive maintenance. While monitoring tools were generally well-implemented, some respondents suggested the need for more advanced monitoring technologies, such as AI-driven analytics and IoT-enabled sensors.

Overall Relationship Between Leadership Functions and Performance

The findings indicate a strong relationship between hydropower leadership functions and performance. Leaders who excel in planning, coordination, and monitoring contribute to operational efficiency, reduced downtime, and improved electricity output. These results confirm the theoretical underpinnings of project management theories, such as the Logical Framework Method (LFM), which emphasizes the importance of structured leadership in achieving project success by Garcia & Thomas (2023). Addressing leadership gaps through targeted interventions can significantly improve plant performance and energy sustainability in Rwanda.

Conclusion

The study concludes that the function of hydropower leadership, such as planning, coordination, and monitoring, significantly affects the performance of the hydropower in Rwanda. Effective planning ensures optimization of resources and preventive maintenance, while coordination facilitates trouble-free teamwork and involvement of participating parties. Monitoring increases the efficiency of identifying and solving potential problems before they escalate. Despite the positive findings of the study, it emphasizes areas that require improvement, such as advanced monitoring technologies and initiatives for increased capacity building.

Recommendations For Hydropower Leaders

- I. Strengthen resource allocation strategies to enhance planning effectiveness.
- II. Invest in training programs to improve staff skills and leadership capacity, focusing on digital tools and modern management techniques.

- III. Enhance stakeholder engagement to ensure smooth project execution, particularly through structured multi-stakeholder collaboration frameworks.
- IV. Adopt advanced monitoring technologies, such as predictive maintenance tools, AI-based failure detection, and real-time data analysis platforms to improve efficiency.

For Hydropower Plant Management

- I. Implement structured leadership development programs to equip leaders with necessary skills in adaptive decision-making and crisis management.
- II. Allocate sufficient budgets for preventive maintenance to minimize breakdowns and improve energy output.
- III. Foster a culture of collaboration between different departments to enhance coordination and knowledge sharing, integrating cross-functional teams for holistic plant management.

For Policy Makers and Regulators

- I. Develop policies that promote leadership training in the energy sector, focusing on sustainability and digital transformation.
- II. Encourage investment in smart monitoring systems for real-time data analysis, aligning with Rwanda's energy sector modernization goals.
- III. Strengthen regulations to ensure that leadership functions are aligned with performance improvement goals, including accountability measures for project leaders and operational staff.

Areas for Further Research

Future research could explore the impact of leadership functions on specific performance metrics, such as energy output efficiency and financial sustainability. Additionally, comparative studies between public and private hydropower plants could provide further insights into best leadership practices in the sector. Further investigation into AI-driven monitoring and predictive analytics in hydropower management would also be beneficial for optimizing Rwanda's energy sector.

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Reskilling The Workforce: Preparing Manufacturing Employees for A Green Future

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Abstract

This study investigated the process of reskilling the manufacturing workforce in preparation for a sustainable future using a descriptive survey research design incorporating quantitative data analysis. The sample consisted of 360 employees from manufacturing firms in Lagos, Nigeria, selected through purposive sampling. Data collection was done with the Demographic Data Inventory (DDI) and the Reskilling the Workforce for Green Future Questionnaire (RWGFQ). Three hypotheses were formulated and tested using simple linear regression analysis at a 0.05 level of significance. The findings indicated that reskilling initiatives within the manufacturing workforce has a significant impact on the improvements in green future sustainability, enhance competency in green technologies among employees, and increase productivity. Hence it was concluded that the manufacturing firms within Lagos state, Nigeria, have initiatives in place for employee reskilling, green future sustainability, and competency in green technologies. However, there are areas for improvement, which include, increased effectiveness of reskilling programmes, improved communication regarding the importance of reskilling for a sustainable future, and enhanced training and resource allocation for developing employee competency in green technologies. This will enhance the sustainable future green manufacturing sector productivity.

Key words: Reskilling, workforce, productivity, green technologies, manufacturing sector.

Introduction

In recent years, the global discourse surrounding environmental sustainability and climate change has intensified, compelling nations worldwide to transition toward greener and more sustainable practices across various sectors of the economy (Intergovernmental Panel on Climate Change, 2018). Industry 4.0 is revolutionizing manufacturing processes and has a powerful impact on globalization by changing the

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workforce and increasing access to new skills and knowledge. World Economic Forum, in its Future of Jobs Report 2020, estimates that, by 2025, 50% of all employees will need reskilling due to adopting new technology and within this period, over two-thirds of skills considered important in today's job requirements will change (Schwab, & Zahidi, 2020). Ling (2022) forecasts that by the year 2027, over two-thirds of skills considered important in today's job requirements will change. He further asserts that by the year 2025, a third of the essential skills will consist of technology competencies not yet regarded as crucial to today's job requirements (Ling, 2022).

Rapid technological development makes skills depreciate faster than in the past while new technologies generate gaps in workers' skills and call for the acquisition of appropriate skills and lifelong learning. Kim and Park (2020) viewed that proper skill mixes for future jobs include strong cognitive skills, basic information and communication technology, and analytical skills, as well as a range of non-cognitive skills such as creativity, problem-solving, critical thinking, and communication. Retraining and reskilling workers are also crucial, particularly as life expectancy increases. All these changes lead to a major rethinking of education and skill training throughout a person's life (Kim & Park, 2020).

Lagos State in Nigeria, as one of Africa's leading economies and a pivotal player on the world stage, is no exception to this imperative shift. The manufacturing sector, being a significant contributor to Nigeria's Gross Domestic Product (GDP) and employment, plays a crucial role in this transition (Central Bank of Nigeria, 2019). There is an urgent need to reskill the workforce within Nigeria's manufacturing

industry to meet the demands of a rapidly evolving, environmentally conscious global economy.

The manufacturing sector in Nigeria employs millions of workers (National Bureau of Statistics, 2018), but the industry's practices, like in many parts of the world, were primarily traditional and resource-intensive, often resulting in adverse environmental impacts. The nation's commitment to the Paris Agreement (United Nations Framework Convention on Climate Change, 2016) and its pledge to reduce carbon emissions and adopt sustainable production methods have raised questions about the preparedness of its workforce to adapt to these transformative changes (Central Bank of Nigeria, 2019).

The term "green future" describes a vision of a more sustainable and environmentally friendly future, where industries and individuals prioritize actions and technologies that reduce their ecological footprint and contribute to mitigating climate change. It involves transitioning to clean and renewable energy sources, adopting sustainable practices in manufacturing and other sectors, and fostering a more eco-conscious society.

Adepoju, & Aigbavboa, (2021) see reskilling as a process of updating and enhancing the skills of an individual to equip them with the abilities required for new or evolving job roles or industries. It involves training and development initiatives aimed at helping workers adapt to changes in technology, industry trends, and business practices. Reskilling can be necessary when jobs become obsolete due to automation, technological advancements, or shifts in the economic landscape (Bessen, 2021; Choudhury, Ghosh, & Kaushik, 2020).

.According to the World Economic Forum (2020), reskilling the workforce, especially manufacturing employees, is crucial for preparing them for a green future in several ways. For instance, reskilling programmes can teach employees how to operate and maintain green technologies and equipment, such as solar panels, wind turbines and electric vehicles. This enables them to work in industries that are focused on reducing carbon emissions and promoting sustainability. International Labour Organization (2020) recommends that employees should learn about sustainable manufacturing processes and materials, which are essential for reducing the environmental impact of manufacturing operations. This includes knowledge of recycling, waste reduction and eco-friendly materials. Reskilling can include training in energy-efficient practices and technologies, which can help manufacturing employees reduce energy consumption in their operations. This aligns with the goals of a green future by conserving resources and reducing greenhouse gas emissions (Carvalho, Azevedo, & Cruz-Machado, 2022). Reskilling can include training in energy-efficient practices and technologies, which can help manufacturing employees reduce energy consumption in their operations. This aligns with the goals of a green future by conserving resources and reducing greenhouse gas emissions (Carvalho et al., 2022). Training can also cover environmental regulations and compliance standards, ensuring that manufacturing employees are aware of and adhere to laws related to pollution control, waste disposal, and sustainable resource use. Reskilling promotes innovation and adaptability by teaching employees how to embrace new technologies and practices. This is crucial in a rapidly changing world where green technologies and sustainable practices are continually evolving. Finally, as industries transit towards more

sustainable practices, there will be an increased demand for skilled workers in these areas (International Labour Organization, 2021). Reskilling manufacturing employees can therefore open up new job opportunities in green sectors. The objectives of this study are to examine the existing skill set and competencies of manufacturing employees in Nigeria's manufacturing sector in the context of green manufacturing principles and to assess the effectiveness of existing reskilling initiatives and programmes in preparing the manufacturing workforce for a green future.

Literature Review

Human capital theory, originally formulated by Becker (1962) and Rosen (1983), posits that individual workers possess a set of skills or abilities which can be improved or accumulated through training and education. This theory suggests that the skills and knowledge of individuals contribute to their productivity and potential earnings. When applied to reskilling the manufacturing workforce for a green future, this theory underscores the value of investing in training and education to enhance the human capital of manufacturing employees, enabling them to adapt to evolving technologies and environmental requirements.

Environmental innovation refers to organisational implementations and changes that centre on the environment, affecting a company's products, manufacturing processes, and marketing, with varying degrees of novelty (Kammerer, 2009). These innovations can encompass incremental improvements that enhance the performance of existing processes or radical changes that introduce entirely unprecedented approaches to

minimise the company's environmental impacts. Additionally, environmental innovation is closely linked to the level of proactive environmental management adopted by companies (Dias et al. 2012). Within the context of reskilling the manufacturing workforce for a green future, the environmental innovation theory can be employed to comprehend how the acquisition of new skills and knowledge enables employees to engage in environmental innovation within their organisations, ultimately contributing to sustainability and efficiency.

Nelson and Phelps (1966) have developed models indicating that education enhances adoption, yielding significant insights such as a higher return on education when technological progress is rapid. Furthermore, they found that the level of technology adopted is greater when the level of education is higher. Moreover, Bartel and Lichtenberg (1987) demonstrated a positive correlation between skill and the adoption of new technology in their study. They considered the hypothesis that firms implementing new technologies require a higher number of skilled workers. To test this hypothesis, they used the share of skilled workers as the dependent variable and the age of capital as an independent variable, suggesting that a high skill level results from the adoption of new technology.

In his view on reskilling and upskilling of the future-ready workforce in the era of Industry 4.0 and beyond, Ling (2022) described top skills sought by the industry to realize Industry 4.0 and presented a blueprint as a reference for people to learn and acquire new skills and knowledge. Ling further suggests that life-long learning should be part of an organization's strategic goals. Both individuals and companies need to commit to reskilling and upskilling and

make career development an essential phase of the future workforce. Great efforts should be taken to make these learning opportunities, such as reskilling and upskilling, accessible, available, and affordable to the workforce. Kim and Park (2020) also reviewed studies on human capital and skill formation in the era of rapid technological progress and the findings of the study shed light on new directions for lifelong education policies which contribute significantly to workers' productivity.

The manufacturing sector in Nigeria has traditionally been a key driver of economic growth, contributing significantly to employment and GDP (National Bureau of Statistics, 2018). This study aims to explore the current state of the manufacturing workforce in Nigeria and investigate the challenges and opportunities for reskilling employees to align with the principles of green manufacturing. It also highlights the importance of investing in human capital development as a cornerstone for Nigeria's sustainable industrial growth in the context of a greener global economy.

Recent literature has highlighted that reskilling in green technologies is critical for advancing sustainability within manufacturing, as these skills are integral to implementing energy-efficient processes and reducing environmental impact (Smith & Wang, 2021). However, despite these benefits, critics argue that while sustainability training is necessary, it may not guarantee a measurable improvement in sector-wide sustainability outcomes (Anderson, 2023). This criticism forms the basis of the first hypothesis (Ho1), suggesting that the positive effect of reskilling on sustainability must be critically examined to avoid overestimating its impact without clear evidence of sectoral improvement.

Further, recent studies debate the direct impact of green skills training on individual competency levels within the workforce. While some research suggests that green reskilling can enhance employees' abilities to manage eco-friendly technologies effectively, other findings indicate that without adequate infrastructure and ongoing support, this reskilling may not significantly boost competency (Green & Patel, 2022). This dichotomy informs the second hypothesis (Ho2), which questions whether reskilling efforts alone are sufficient to lead to significant competency gains across the workforce in green technologies. By embedding this critique, the hypothesis directly responds to mixed results within the literature regarding the effectiveness of isolated training programs in fostering comprehensive skill acquisition.

Lastly, the economic benefits of reskilling for green technologies, such as productivity gains, remain contested in the literature. While green skills are generally associated with operational efficiency, some researchers have pointed out that reskilling can incur substantial costs, with unclear returns on investment if implementation is inefficient or poorly aligned with organizational goals (Ahmed & Lee, 2021). This viewpoint shapes the third hypothesis (Ho3), suggesting that the anticipated economic benefits of reskilling might be overestimated if productivity improvements are not guaranteed by green training initiatives alone. Addressing these critiques within the literature helps clarify the hypotheses' foundations, ensuring they are grounded in current debates on the practical impacts of workforce reskilling for green innovation.

Hypotheses

The following hypotheses will guide the study.

Ho1: Reskilling of the manufacturing workforce will not lead to significant improvement in green future sustainability in the sector.

Ho2: Reskilling of the manufacturing workforce will not significantly improve employees' competency in green technologies.

Ho3: Reskilling of the manufacturing workforce for green technologies does not lead to economic benefits, such as increased productivity.

Methodology

Design and Participants

This study adopted the descriptive survey research design. The adoption of the survey research method permits for collection of data at a single point in time. In this design, reskilling of the manufacturing workforce is the independent variable, while green future sustainability, employees' competency in green technologies and productivity are the dependent variables. The population consisted of employees of manufacturing organizations in Lagos State. A sample of 360 employees was selected from the population through the purposeful sampling technique from five selected manufacturing companies situated in Lagos State, viz Dangote Cement, Wapa Textile and Garment Manufacturing Ltd, Sona Agro Allied Foods Ltd, PZ Cussons Nigeria Plc and GlaxoSmithKline (GSK) Nigeria.

Instruments

The instruments used for data collection in this study were developed by this researcher and included the Demographic Data Inventory (DDI) and Reskilling the Workforce for Green Future Questionnaire (RWGFQ). Further information on these

instruments is given below. *Demographic Data Inventory (DDI)*

A Demographic Data Inventory (DDI) containing four items was developed by this researcher to assess the demographic characteristic of the respondents such as gender, age, cadre and work experience.

Workforce for Green Future Questionnaire (RWGFQ)

The Workforce for Green Future Questionnaire (RWGFQ) was developed by this researcher to measure the variables of this study. It consists of 20 items formatted as a 4-point Likert-like scale with responses ranging from 1 = strongly disagree to 4 = strongly agree. The RWGFQ has the following sub-scales: Employee Reskilling, Green Future Sustainability, Employees' Competency in Green Technologies, and Productivity.

In order to ensure that the RWGFQ consistently measured what it purported to measure, the test-retest method was used to assess its reliability. Consequently, in a pilot study, the RWGFQ was administered on two separate occasions with an interval of two weeks between the two administrations on a sample of 30 employees of two manufacturing organizations randomly selected from Ogun State. An analysis of the two sets of scores obtained revealed test-retest reliability coefficients of .715, .738, .813 and .784 for the Employee Reskilling, Green Future Sustainability, Employees' Competency in Green Technologies, and Productivity sub-scales respectively. This indicated that the sub-scales were reliable since they all yielded stable scores over time. A rule of thumb is that a reliability coefficient should not be less than .6 for it to be acceptable. These high reliability coefficients implied that scores on each of the sub-scales did not vary widely over time or when it was

repeatedly used. Expert opinion was relied upon to determine the validity of the instrument.

Population

The population of this study comprises staff of the selected manufacturing firms in Lagos State. While Lagos State was selected based on its position as the major Nigeria's economic and commercial capital (MAN, 2018) and the highest revenue earner in terms of IGR (Internally Generated Revenue). Hence, the manufacturing companies selected were based in Lagos State.

Sample Size and Sampling Technique

A purposeful sampling technique was employed to select 360 employees of five selected manufacturing companies situated in Lagos, viz Dangote Cement, Wapa Textile and Garment Manufacturing Ltd, , Sona Agro Allied Foods Ltd, PZ Cussons Nigeria Plc, GlaxoSmithKline (GSK) Nigeria.

Method of Data Collection

Data collection started after obtaining ethical approval for the study. In line with this, the respondents were fully informed about the purpose of the survey, the nature of the participation, and were assured that that there is no potential risk or any conflict of interest behind the study and there was a section of acceptance to fill in the instrument. The confidentiality of the participants was guaranteed as the instrument was structured without trace of the respondents. All this helped to protect the rights and well-being of the participants, maintain the integrity of the research process.

Method of Data Analysis

The data were analysed with the use of both descriptive and inferential statistical analysis. Descriptive statistics such as mean and standard deviation, and inferential statistics, such as simple regression analysis were employed to test the formulated hypotheses at the .05 alpha level.

Results and Discussion

This section presents the results of data analysis. It includes a descriptive analysis of the distribution of the variables and test of hypotheses formulated for the study.

Table 1 revealed the extent of employee reskilling, green future sustainability, employees' competency in green technologies and productivity. On employee reskilling, Table 1 showed that, on the average, the participants agreed that they have received training and development opportunities to enhance their skills in green technologies (mean = 2.84, std. dev. = 1.90674). They disagreed that effective reskilling programmes are offered by their organizations to prepare for a green future (mean = 2.38, std. dev. = 2.36306). They agreed that their organization offers opportunities for reskilling to adapt to the changing demands of a green workforce (mean = 2.79, std. dev. = 3.08). They strongly agreed that they have the ability to apply newly acquired green technology skills in their current role (mean = 3.52, std. dev. = 2.54). They agreed that reskilling initiatives in their organization have positively impacted their career growth and opportunities (mean = 3.05, std. dev. = 2.97). They disagreed that their organizations communicate the importance of reskilling for a sustainable, green future (mean = 2.41, std. dev. = 1.75052).

On green future sustainability, the participants on average agreed that their organizations are committed to environmentally sustainable practices (mean = 2.79, std. dev. = 2.63410). They agreed that their organization's sustainability efforts align with global green future goals (mean = 3.16, std. dev. = 1.85972). They agreed that their organizations integrate sustainability into their business strategy and decision-making processes (mean = 3.14, std. dev. = 3.25972). They agreed that their organizations make efforts to reduce their carbon footprint and environmental impact (mean = 2.92, std. dev. = 4.07128). They agreed that their organizations prioritize the use of renewable energy sources and eco-friendly technologies in its operations (mean = 2.58, std. dev. = 2.66723). They agreed that their organizations engage in community or industry initiatives to promote green future sustainability (mean = 3.17, std. dev. = 5.45502).

On employees' competency in green technologies, the participants on average disagreed that they are proficient in using green technologies relevant to their job (mean = 2.36, std. dev. = 3.58793). They disagreed that they have received adequate training and resources to develop my competency in green technologies (mean = 2.28, std. dev. = 5.27398). They agreed that they are confident in their ability to troubleshoot and resolve issues related to green technology tools and equipment (mean = 3.25, std. dev. = 2.79305). They agreed that they can collaborate with colleagues to share knowledge and experiences regarding green technology applications (mean = 2.70, std. dev. = 3.74207). They agreed that their organizations assess and measure employees' competency in green technologies (mean = 2.58, std. dev. = 1.95683).

Table 1: Distribution of Employee Reskilling, Green Future Sustainability and Employees' Competency in Green Technologies

S/N		Mean ($\bar{x}$)	Std. Dev
1	<i>Employee Reskilling</i> I have received training and development opportunities to enhance my skills in green technologies	2.84	1.91
2	Effective reskilling programmes are offered by my organization to prepare for a green future	2.38	2.36
3	My organization offers opportunities for reskilling to adapt to the changing demands of a green workforce	2.79	3.08
4	I have the ability to apply newly acquired green technology skills in my current job role	3.52	2.54081
5	Reskilling initiatives in my organization have positively impacted my career growth and opportunities	3.05	2.96502
6	My organization communicates the importance of reskilling for a sustainable, green future	2.41	1.75
7	<i>Green Future Sustainability</i> My organization is committed to environmentally sustainable practices	2.79	2.63
8	I believe that my organization's sustainability efforts align with global green future goals	3.16	1.86
9	My organization integrates sustainability into its business strategy and decision-making processes	3.14	3.26
10	My organization makes efforts to reduce its carbon footprint and environmental impact	2.58	2.67
11	My organization prioritizes the use of renewable energy sources and eco-friendly technologies in its operations	2.92	4.07
12	My organization engages in community or industry initiatives to promote green future sustainability	3.17	5.45
13	<i>Employees' Competency in Green Technologies</i> I am proficient in using green technologies relevant to my job	2.36	3.59
14	I have received adequate training and resources to develop my competency in green technologies	2.28	5.27
15	I am confident in my ability to troubleshoot and resolve issues related to green technology tools and equipment	2.25	2.79
16	I collaborate with colleagues to share knowledge and experiences regarding green technology applications	2.70	3.74
17	My organization assesses and measures employees' competency in green technologies	2.38	1.96
18	<i>Productivity</i> Reskilling of the workforce increases output	3.58	2.97
19	Reskilling of the workforce increases efficiency of organizational materials and operations	3.41	2.48
20	Reskilling of the workforce optimizes the utilization of human resources	3.55	3.09

Note: SD = Strongly Disagree; D = Disagree; A = Agree; and SA = Strongly Agree

Decision Rule: If mean is less than 1.49- Strongly Disagree; 1.5-2.49- Disagree; 2.5- 3.49- Agree; 3.5- 4.0- Strongly Agree (Alaka, 2023).

On employees' productivity, the participants on average strongly agreed that reskilling of the workforce increases output (mean = 3.58, std. dev. = 2.96725). They agreed that reskilling of the workforce increases efficiency of organizational materials and operations (mean = 3.41, std. dev. = 2.48264). Finally, they strongly agreed that reskilling of the workforce optimizes the utilization of human resources (mean = 3.55, std. dev. = 3.09373).

Hypothesis One

H₀₁: Reskilling of the manufacturing workforce will not lead to significant improvement in green future sustainability in the sector.

H₁₁: Reskilling of the manufacturing workforce will lead to significant

improvement in green future sustainability in the sector.

Table 2 revealed significant results ($\beta = .237$, $t = 8.705$, $p < .0005$). The null hypothesis, which states that 'reskilling of the manufacturing workforce will not lead to significant improvement in green future sustainability in the sector, was therefore rejected while the alternative hypothesis was upheld. It was subsequently concluded that reskilling of the manufacturing workforce led to significant improvement in green future sustainability in the manufacturing sector. Table 2 further showed that the reskilling of the manufacturing workforce was positively associated with green future sustainability ($\beta = .237$) and that the latter could be predicted from the former by means of the regression equation:

Table 2: Coefficients of the Simple Linear Regression Analysis for Impact of Reskilling on Green Future Sustainability

	B	Std Error	β	T	Sig.
(Constant)	8.184	4.047		10.486	.000
Reskilling	.113	.026	.237	8.705	.000

Dependent Variable: Green Future Sustainability

Table 3: Coefficients of the Simple Linear Regression Analysis for Impact of Reskilling on Competency in Green Technologies

	B	Std Error	β	T	Sig.
(Constant)	5.629	5.185		12.339	.000
Reskilling	.137	.019	.269	10.073	.000

Dependent Variable: Competency in Green Technologies

Table 4: Coefficients of the Simple Linear Regression Analysis for Impact of Reskilling on Productivity

	B	Std Error	B	T	Sig.
(Constant)	10.274	4.906		7.836	.000
Reskilling	.118	.032	.163	6.201	.000

Dependent Variable: Productivity

Hypothesis Two

Ho2: Reskilling of the manufacturing workforce will not significantly improve employees' competency in green technologies.

H12: Reskilling of the manufacturing workforce will significantly improve employees' competency in green technologies.

Table 3 revealed significant results ($\beta = .269$, $t = 10.073$, $p < .0005$). The null hypothesis was therefore rejected while the alternative hypothesis was upheld. It was subsequently concluded that reskilling of the manufacturing workforce significantly improved employees' competency in green technologies. Table 3 further showed that the reskilling of the manufacturing workforce was positively associated with employees' competency in green technologies ($\beta = .269$) and that the latter could be predicted from the former by means of the regression equation:

$$\text{Competency in Green Technologies} = (0.137 \times \text{Reskilling}) + 5.629$$

Ho3: Reskilling of the manufacturing workforce for green technologies does not lead to economic benefits, such as increased Table 4 revealed significant results ($\beta = .163$, $t = 6.201$, $p < .05$). The null hypothesis was therefore rejected while the alternative hypothesis was upheld. It was subsequently concluded that reskilling

of the manufacturing workforce for green technologies led to economic benefits, such as increased productivity. Table 4 further showed that the reskilling of the manufacturing workforce was positively associated with productivity ($\beta = .163$) and that the latter could be predicted from the former by means of the regression equation:

$$\text{Productivity} = (0.118 \times \text{Reskilling}) + 10.274$$

productivity.

Discussion

The findings of this study highlight the impact of reskilling of the manufacturing workforce on several outcomes including green future sustainability, employees' competency in green technologies, and productivity. The study suggests that, though there is opportunity for training and development in green technologies, the effectiveness of the reskilling programmes is perceived not to be optimally effective. There is a general view that there is a need for better communication regarding the importance of reskilling for a sustainable, green future. Furthermore, there seems to be a lack of confidence in applying newly acquired green technology skills in their current roles.

Employees perceive a commitment to environmentally sustainable practices within their organization, but there appears to be room for improvement in the

integration of sustainability into the business strategy and decision-making processes. While efforts are being made to reduce the carbon footprint and promote the use of renewable energy sources, there still seems to be a need for stronger alignment with global green future goals and increased engagement in community and industry initiatives for promoting green future sustainability. The employees feel less confident in their proficiency in using green technologies relevant to their job, and there is a perceived lack of adequate training and resources to develop competency in this area. Collaboration and knowledge sharing among colleagues regarding green technology applications is occurring, but there are opportunities for improvement, particularly in the assessment and measurement of employees' competency in green technologies.

The test of the first hypothesis showed that the reskilling of the manufacturing workforce has a significant positive effect on the improvement in green future sustainability in the manufacturing sector. Specifically, the beta coefficient of .237 indicates a moderately strong positive relationship between reskilling efforts and sustainability improvements. This finding corroborated World Economic Forum's (2020) finding that reskilling the workforce is crucial for preparing them for a green future as it can teach employees how to operate and maintain green technologies and equipment. This finding was also in line with International Labour Organization (2020) and Jayal et al. (2021) who asserted that reskilling employees and enhancing their knowledge of recycling, waste reduction and eco-friendly materials is essential for reducing the environmental impact of manufacturing operations. This finding indicates that investing in reskilling initiatives and training and development of

manufacturing employees enhances sustainability practices within the manufacturing industry. By equipping employees with the knowledge and skills required to adopt environmentally friendly technologies and practices, organizations can make meaningful contributions to reducing their environmental footprint and addressing sustainability challenges.

The test of the second hypothesis showed that the reskilling of the manufacturing workforce significantly improved employees' competency in green technologies. This finding suggests that reskilling programmes have a significant positive impact on employees' competency in green technologies. The beta coefficient of .269 indicates a strong positive relationship between reskilling efforts and competency improvement. As the manufacturing sector transitions toward greener technologies and processes, having a skilled and knowledgeable workforce is crucial. This finding suggests that reskilling programmes effectively equip employees with the necessary skills and knowledge to adapt to these changes. The finding was in line with Ogbunike & Uchendu (2020) who found that green reskilling can enhance employees' abilities to manage eco-friendly technologies effectively. This finding disagreed with Green and Patel (2022) who averred that reskilling may not significantly boost competency.

The test of the third hypothesis showed that the reskilling of the manufacturing workforce for green technologies led to economic benefits, such as increased productivity. This result indicates that the reskilling of manufacturing employees for green technologies is associated with economic benefits, particularly in terms of increased productivity. The β coefficient of 0.163 suggests a moderate positive relationship between reskilling and

productivity. The t-statistic of 6.201 and the very low p-value ($< .0005$) demonstrate the statistical significance of this relationship. The finding suggests that investing in reskilling programmes not only benefits the environment but also positively impacts a company's bottom line. Increased productivity can lead to cost savings and enhanced competitiveness. Furthermore, productivity gains may arise from the improved efficiency and effectiveness of employees who have been trained in green technologies, as they can apply these skills to streamline processes and reduce waste. This finding, however, contradicted researchers such as Ahmed and Lee (2021) who found that reskilling can incur substantial costs that can erode economic benefits associated with reskilling.

In summary, the study highlights the critical role of reskilling in enhancing sustainability, competency, and productivity within the manufacturing workforce. However, it also points to areas for development, such as improved communication, continuous learning opportunities, and integration of green skills into core business strategies. This would allow organizations to better align their sustainability goals with industry standards and provide employees with the tools they need to thrive in a green economy. The findings suggest that, while reskilling offers substantial benefits, a holistic approach that addresses both individual and organizational needs is essential for maximizing its impact.

Conclusion and Recommendation

In conclusion, the findings suggest that while there are initiatives in place for employee reskilling, green future sustainability, and competency in green technologies in the manufacturing firms within the scope of this study, there are clear areas for improvement. These areas include the increased effectiveness of reskilling programmes, improved communication regarding the importance of reskilling for a sustainable future, and enhanced training and resource allocation for developing employee competency in green technologies. There is need to further integrate sustainability into business strategy, stronger alignment with global green future goals, and increased participation in community and industry initiatives could significantly bolster the organization's efforts toward green future sustainability.

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The authors declare that there is no conflict of interest.

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Determinants of sickness presenteeism: Empirical evidence from Ghana

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Abstract

The study explored the impact of demographic factors (gender, age, educational qualification, income, employment type, and position) on sickness presenteeism in Ghana. Using a one-way independent sample analysis of variance (ANOVA), the study found that the gender, age, and educational qualification of Ghanaian workers did not have a significant effect on sickness presenteeism. However, the study found that the income of employees in Ghana had a significant impact on sickness presenteeism. Furthermore, the study revealed that the employment type of employees had a significant impact on presenteeism among Ghanaian workers. Lastly, the findings revealed that the level of management employees operate in has a significant impact on sickness presenteeism. Further analysis revealed that the self-employed and employees at the executive level recorded higher sickness presenteeism. The study concludes by admonishing employers to create a culture that prioritises employee health, as it will consequently enable them to achieve their business goals.

Key words: Gender, age, education, income, employment type, management

Introduction

Sickness presenteeism is an issue that is given a lot of attention in occupational health (Jung et al., 2020). Sickness presenteeism can be defined as when employees report to work though they are sick and are unable to effectively perform their job duties (Rainbow et al., 2020). Dew, Keefe and Small (2005) also defined sickness presenteeism as when employees who are not mentally or physically well are compelled to come to work despite their health problems. Sickness presenteeism has been found to negatively affect work performance, productivity, job satisfaction and work ability and increase mental and physical health complaints and financial burdens

(Aysun & Bayram, 2017; Brborovic et al., 2017; Jung et al., 2020; Karanika-Murray et al., 2015; Lu & Cooper, 2018; Miraglia & Johns, 2016).

Past studies have shown that presenteeism due to sickness can lead to later serious health problems (Gustafsson & Marklund, 2011; Hansen & Andersen, 2009; Taloyan et al., 2012), and this consequently affects the financial costs of the firm in the long term (Dew et al., 2005). Effectively managing sickness presenteeism can therefore be a competitive advantage to organisations as it prevents low productivity (Hemp, 2004). Some factors that lead to sickness presenteeism include pressure in meeting deadlines, financial demands, lack of staff replacement, and work-related demands (Aronsson & Gustafsson, 2005 as cited in Johansen, Aronsson, & Marklund, 2014).

Studies from Sub-Saharan Africa, such as those conducted in Ethiopia, reveal a high prevalence of sickness presenteeism among healthcare workers and schoolteachers. Contributing factors include financial pressures, inadequate staffing, limited occupational health services, and lack of supervisory support (Mekonnen et al., 2018; Mamaye et al., 2024). Moreover, Evans-Lacko and Knapp (2016) assessed depression-related absenteeism and presenteeism across Brazil, Canada, China, Japan, South Korea, Mexico, South Africa, and the USA, finding the highest GDP impact from presenteeism in South Africa (4.2%) and the lowest in Korea (0.1%), underscoring its impact on the continent. While Ghanaian studies, such as Danquah and Asiamah (2022) and Darkwah (2024), have examined related workplace health issues like the physical work environment and illness-related absenteeism, direct investigations into sickness presenteeism

remain scarce.

Several demographic factors have been investigated to find out their relationship with sickness presenteeism, such as gender, age, and employment status (Chun & Hwang, 2018; Juszczuk et al., 2018; Nordenmark et al., 2019). For example, Sendén et al. (2016) examined the effect of gender differences in sickness presenteeism among doctors in Sweden and found that female doctors reported sickness presenteeism more often than male doctors. Past studies have also found that males practice sickness presenteeism more than females (Böckerman & Laukkanen, 2010; Hansen & Andersen, 2009). Furthermore, Yi and Kim (2020) conducted a study in South Korea and found that females, older employees (40 and above), shift workers and middle school graduates reported higher sickness presenteeism. Hansen and Andersen's (2009) findings also revealed that sickness presenteeism is more prevalent in older workers. Böckerman and Laukkanen (2010) also found that Finnish employees who worked in the private sector recorded high sickness presenteeism as compared to those in the public sector.

Furthermore, a study by Palo and Pati (2013) also revealed that low-income earners reported higher sickness presenteeism as compared to high-income earners among Indian workers. The findings of the study also revealed that employees with bachelor's degrees reported higher sickness presenteeism in comparison to employees with master's degrees. In addition, Li et al. (2019) findings revealed that married nurses in China practiced sickness presenteeism more than unmarried ones and age also impacted sickness presenteeism. Finally, Navarro et al. (2018) found that age,

number of years in a job, number of working hours and type of salary (fixed or variable) determined the level of sickness presenteeism experienced by salaried workers in Spain.

So far, research on individual determinants of sickness presenteeism has been heavily focused on Western countries with developed economies and low unemployment rates. The findings from such studies limit its generalizability in that the determinants of sickness presenteeism in such countries may differ relative to poor and developing countries, such as Ghana, where unemployment, underemployment, and vulnerable employment are relatively high (Nwani & Osuji, 2020; The World Bank, 2020; World Bank Group, 2020). Furthermore, there is a paucity of literature relative to the determinants of sickness presenteeism in Ghana. This calls for an examination of the determinants of sickness presenteeism in Ghana to ascertain if the findings in other parts of the world are like those in Ghana. It is in this regard that the present study examines the individual determinants of sickness presenteeism in Ghana, a country characterized by high unemployment and vulnerable employment. The present study therefore examines:

1. The impact of gender on sickness presenteeism in Ghana.
2. The impact of age on sickness presenteeism in Ghana.
3. The impact of educational qualification on sickness presenteeism in Ghana.
4. The impact of income status on sickness presenteeism in Ghana.
5. The impact of employment type on sickness presenteeism in Ghana.
6. The impact of position on sickness presenteeism in Ghana

Theoretical Review

The Health Belief Model (HBM) is one of the most widely used theoretical frameworks for understanding health-related behaviours, particularly in the context of disease prevention and health promotion (Zampetakis & Melas, 2021; Anuar et al., 2020). Originally developed by Rosenstock in the 1950s, the model posits that individuals are more likely to engage in a health-related behavior when they perceive themselves as susceptible to a health issue, believe that the consequences are severe, perceive benefits in taking action, and identify few barriers to that action (Rosenstock, 1974; Rosenstock et al., 1988). Over time, the model has been expanded to include constructs such as self-efficacy and cues to action, making it a robust framework for examining behavioural responses to illness, including sickness presenteeism (Lohaus et al., 2022; Anuar et al., 2020).

In the context of sickness presenteeism, the HBM provides a useful lens for understanding how demographic factors influence workers' decisions to report to work despite illness. For example, perceived susceptibility to worsening health may vary by age and gender—younger workers may feel more resilient, while older employees may be more conscious of health risks (Kinman & Grant, 2020). Perceived severity, or how serious one believes their illness is, may be influenced by educational level, as individuals with higher health literacy may better understand the implications of working while ill (Lohaus & Habermann, 2019).

Perceived benefits and barriers also play a crucial role. For workers in lower income brackets or in precarious employment types, staying home due to illness may be seen as a greater financial or professional

risk, leading them to undervalue the benefits of rest and recovery (Aronsson & Gustafsson, 2005). Additionally, those in higher-ranking positions may feel more indispensable to operations and thus more likely to engage in presenteeism, despite health risks (Karanika-Murray & Biron, 2020).

Moreover, cues to action, such as workplace attendance policies or the presence of occupational health services, can further moderate the effect of demographic variables on presenteeism behaviour. Self-efficacy, or belief in one's ability to take health-protective actions, may be higher among individuals with greater educational attainment or more supportive workplace environments (Miraglia & Johns, 2016).

The cross-sectional survey design was used for the study to explore sickness presenteeism in Ghana. This allowed the researchers to capture the impact of gender, age, educational qualification, income, position, and employment on sickness presenteeism at a particular point in time. The simple random sampling technique was used to select 1272 respondents for the study across the varied business units. The implementation involved stratifying the study population into key sectors, namely telecommunications, health, banking, and aviation, as well as employees from the maritime authority and the broader maritime industry. Within each stratum, individuals were assigned unique identification numbers, and a computerized random number generator was used to

randomly select respondents, ensuring each employee had an equal chance of being included to enhance representativeness and reduce selection bias, particularly in a multi-sector study such as this, where proportional inclusion from each group is essential for reliable and generalizable findings (Keeble et al., 2015).

Overall, the HBM underscores the complex interplay between individual beliefs, sociodemographic characteristics, and workplace contexts in shaping sickness presenteeism.

Method

Research design and sample.

The demographic details of the respondents are in Table 1 below. As shown in Table 1, majority of the participants were males (51.6%), aged between 21-30 years old (38.4%), had a first degree (43.1%), and had been in their business units for 1 to 3 years (32.6%), earned above GHC 3,000 (32.3%), are public sector employees (46.7%), and are non-managers (60.3%).

Table 1: Demographic characteristics of respondents

Variable		Frequency (N)	Percentage (%)
Gender	Male	655	51.6
	Female	614	48.4
Age	Under 21	23	1.8
	21 – 30	484	38.4
	31 – 40	471	37.4
	41 – 50	205	16.3
	51 – 60	62	4.9
	Above 60	14	1.1

Variable		Frequency (N)	Percentage (%)
Education	SSCE/WASSCE	109	8.6
	Diploma/HND	228	18.0
	First Degree	546	43.1
	Masters	261	20.6
	Doctorate	29	2.3
	Professional Certificate	86	6.8
	Other	7	0.6
Number of years in organisation	Less than 1yr	173	13.7
	1 - 3yrs	412	32.6
	4 - 7yrs	324	25.6
	8 - 10yrs	145	11.5
	11 - 13yrs	97	7.7
	14+yrs	114	9.0
Income	Below 500gh	34	2.8
	500-1000gh	244	19.3
	1100-2000gh	340	26.9
	2100-3000gh	236	18.7
	Above 3000gh	408	32.3
Employment Type	Private Sector	547	43.2
	Employee	592	46.7
	Public Sector	128	10.1
	Employee		
	Self-employed		
Position	Executive	94	7.6
	Middle Management	394	32.1
	Non-manager	742	60.3

Instrumentation and Procedure

Data for this study was collected using the Sickness Presenteeism Questionnaire (SPQ) developed by Lowe (2002). The SPQ is a 5-item questionnaire scored on a 7-point Likert scale ranging from very accurate (scored as 1) to very inaccurate (scored as 7) with lower scores indicating higher presenteeism and higher scores indicating lower presenteeism. The items on the SPQ are “I meet deadlines even when sick”, “I attend meetings when sick”, “I work no matter how bad I feel”, “I work

later if I miss time due to illness” and “I work extra hard to make up for sick days”. A description of the study was sent to multiple business units to inform them about the study and seek their approval to participate in the study or allow their employees to participate in the study. Following approval from a business unit to participate or allow its employees to participate in the study, the standardised questionnaire was sent to participants in an envelope. Participants were tasked to sign an informed consent form and proceed to

complete the questionnaire. Participants were asked to return the filled-out questionnaire in a sealed envelope at a drop point in the business unit. Though the study did not require an ethical approval from the University of Ghana Ethics Committee for Humanities, it was conducted in strict accordance of the ethical principles of the Declaration of Helsinki.

Data Analysis

The present data was analysed using the one-way independent sample analysis of variance (ANOVA). A one-way ANOVA was used instead of multiple regression because it is more suitable for comparing mean differences in sickness presenteeism across categorical demographic groups, without requiring a linear relationship (Field, 2013; Gravetter & Wallnau, 2017);

however, this approach does not account for potential interactions or combined effects of multiple variables, thereby limiting the ability to explore complex multivariate relationships (Tabachnick & Fidell, 2007).

Results

A test for normality (see Table 2) of the studied variable shows that the variable was normally distributed since skewness and kurtosis values that were within the accepted range of -2 and +2 suggested by Tabachnick and Fidell (1996). Listwise deletion was used to ensure that only complete responses were included in the final analysis to maintain the integrity and reliability of the results while avoiding missing data issues (Allison, 2001).

Table 2: Test for normality

Variable	Mean	SD	Skewness	Kurtosis
SP	4.06	1.41	1.94	2.53

Note: SP = Sickness presenteeism

The results from the one-way ANOVA (Tables 3 and 4) show that there was no significant effect of gender on sickness presenteeism, $F(1268) = .601$, $p > 0.01$, $\eta_p^2 = .000$, there was no significant effect of age on sickness presenteeism $F(1259) = .394$, $p > 0.01$, $\eta_p^2 = .000$, there was also no significant effect of education on sickness presenteeism $F(1265) = .991$, $p > 0.01$, η_p^2

$= .005$. Thus, hypotheses 1, 2, 3 were rejected. However, income, employment type and position had significant effects on sickness presenteeism $F(1262) = 2.381$, $p < 0.01$, $\eta_p^2 = .005$; $F(1266) = .5793$, $p < 0.01$, $\eta_p^2 = .009$; $F(1229) = 10.061$, $p < 0.01$, $\eta_p^2 = .016$ respectively. Thus, hypotheses 4, 5 and 6 were accepted.

Table 3: Descriptives of One-Way ANOVA

Variable		Mean	Standard Dev
Gender	Male	4.03	1.29
	Female	4.09	1.53
Age		3.85	1.24
	Under 21	4.08	1.58
	21 – 30	4.07	1.23
	31 – 40	4.06	1.39
	41 – 50	3.97	1.34
	51 – 60	4.45	1.72
	Above 60		
Education	SSCE/WASSCE	4.01	1.36
	Diploma/HND	4.02	1.84
	First Degree	4.14	1.27
	Masters	4.01	1.31
	Doctorate	3.67	1.31
	Professional Certificate	4.09	1.34
	Other	3.45	1.48
Number of years in organisation	Less than 1yr	4.12	1.31
	1 - 3yrs	4.05	1.56
	4 - 7yrs	3.96	1.31
	8 - 10yrs	4.14	1.40
	11 - 13yrs	4.13	1.25
	14+yrs	4.11	1.36
Income	Below 500gh	3.72	1.63
	500-1000gh	3.94	1.38
	1100-2000gh	4.08	1.66
	2100-3000gh	3.97	1.18
	Above 3000gh	4.21	1.30
Employment Type	Private Sector Employee	4.14	1.28
	Public Sector Employee	4.08	1.30
	Self-employed	3.67	2.15
Position	Executive	3.64	1.43
	Middle Management	3.93	1.55
	Non-management	4.21	1.32

Dependent Variable: Sickness Presenteeism

Table 4: Summary of One-Way ANOVA results

	R²	Adjusted R²	df	F	p-value	Partial Eta Squared
Gender	.000	.000	1268	.601	.438	.000
Age	.002	.003	1259	.394	.883	.002
Education	.005	.000	1265	.991	.430	.005
Income	.008	.004	1262	2.381	.050	.008
Employment	.009	.008	1266	5.793	.003	.009
Position	.016	.015	1229	10.061	.000	.016

Dependent Variable: Sickness Presenteeism

The analysis of effect sizes using Partial Eta Squared (η^2) in Table 4, reveals that most demographic variables had small or negligible effects on sickness presenteeism. Gender showed no meaningful impact ($\eta^2 = .000$), while age ($\eta^2 = .002$) and educational qualification ($\eta^2 = .005$) explained only minimal variance in presenteeism levels. Income ($\eta^2 = .008$) and employment type ($\eta^2 = .009$) approached moderate effect sizes, with employment type showing a statistically significant influence ($p = .003$). Job position exhibited the largest effect ($\eta^2 = .016$), indicating a small to moderate influence and suggesting that higher or lower positions within the organizational hierarchy may meaningfully affect presenteeism. According to Cohen (1988) and Richardson (2011), these values generally fall within the small effect size range, underscoring that while some demographic differences are statistically significant, their practical impact remains limited.

Tukey HSD Posthoc comparisons

Posthoc comparisons were conducted for the demographic factors that had a

significant impact on sickness presenteeism. However, for income, the test of homogeneity of variances revealed that the difference between the groups was equal therefore, posthoc comparisons were not conducted for income. The Tukey HSD post hoc comparisons (see Table 5) revealed that self-employed respondents reported a significant higher level of sickness presenteeism ($M = 3.67$, $S.D. = 2.15$) as compared to respondents who were in the public sector ($M = 4.08$, $S.D. = 1.30$) and those in the private sector ($M = 4.14$, $S.D. = 1.28$). However, there was no significant difference between private sector employees and public sector employees. The Tukey HSD post hoc comparisons (see Table 6) also revealed that employees at the executive level reported significantly higher sickness presenteeism ($M = 3.64$, $S.D. = 1.43$) than employees at the middle management level ($M = 3.93$, $S.D. = 1.55$) and non-management level ($M = 4.21$, $S.D. = 1.32$). However, there was no significant difference in sickness presenteeism of employees at the executive level and middle-level management employees.

Table 5: Tukey HSD Posthoc comparisons for Employment type on sickness presenteeism

(I) Employment type	(J) Employment type	Mean Difference (I – J)	Std. Error	Sig
Private Sector Employee	Public Sector Employee	.29829	.41769	.755
	Self-Employed	2.34007*	.69151	.002
Public Sector Employee	Private Sector Employee	-.29829	.41769	.755
	Self-employed	2.04178*	.68651	.008
Self-employed	Private sector employee	-2.34007*	.69151	.002
	Public sector employee	-2.04178*	.68651	.008

Table 6: Tukey HSD posthoc comparisons for position on sickness presenteeism

(I) Position	(J) Position	Mean Difference (I – J)	Std. Error	Sig
Executive	Middle Management	-1.42867	.80754	.180
	Non-management	-2.84363*	.77020	.001
Middle Management	Executive	1.42867	.80754	.180
	Non-management	-1.41496*	.43854	.004
Non-management	Executive	2.84363*	.77020	.001
	Middle Management	1.41496*	.43854	.004

Discussion

The study found that the gender of Ghanaian employees did not have a significant effect on sickness presenteeism (Sendén et al., 2016). This is contrary to findings of studies that revealed that females practiced presenteeism more than males and vice versa (Hansen & Andersen, 2009). Also, the study found that there was no effect of the age of Ghanaian workers on sickness presenteeism. This contradicts findings that revealed that age was an important determinant of sickness presenteeism (e.g., Yi & Kim 2020). Furthermore, the study found that the educational qualification of employees did not have an impact on sickness presenteeism of Ghanaian workers. This finding is consistent with Mandiracioglu et al. (2015) findings which indicated that educational qualification of workers in Turkey did not affect sickness presenteeism. Altogether, this study's findings (i.e., age, gender, and educational qualification) reflect the unique socio-economic and cultural dynamics in Ghana, where job insecurity, limited access to healthcare, and informal norms around workplace attendance may homogenize presenteeism behaviors across demographic groups (Lohaus & Habermann, 2019; Johns, 2010). In a context where economic survival often takes precedence over personal health, traditional demographic distinctions such as age and gender may exert less influence on decisions to attend work while ill.

The study also found that the income of employees in Ghana had a significant impact on sickness presenteeism. This finding contradicts that of Mandiracioglu et al. (2015), who revealed that the income of workers in Turkey did not have an impact on sickness presenteeism. Furthermore, the study revealed that the employment type of

employees had a significant impact on presenteeism among Ghanaian workers.

Further analysis revealed that the self-employed reported higher levels of presenteeism. This could be attributed to the fact that, since they own the business, a lot of weight is on their shoulders in ensuring the smooth running of their organisations; therefore, they show up to work despite illness to meet their business objectives. This finding contradicts that of Böckerman and Laukkanen (2010), who found that private sector employees practised sickness presenteeism more than those in the public sector. The final finding of this study revealed that the level of management employees operate in has a significant impact on sickness presenteeism. Specifically, employees at the executive level practice more sickness presenteeism than those at the middle-level management and non-management levels. This could be ascribed to the fact that employees at the executive level bear greater responsibility and therefore are reluctant to be absent from work even though they are under the weather, to make sure company affairs are handled appropriately.

Conclusion

The study explored the impact of demographic factors (gender, age, educational qualification, income, employment type, and position) on sickness presenteeism in Ghana. The findings revealed that income, employment type, and position were the demographic factors that significantly affected Ghanaian workers. To effectively reduce sickness presenteeism in Ghana, it is essential to cultivate a workplace culture where employees across all sectors, regardless of employment type, income level, or managerial rank, feel empowered to

prioritize their health without fear of negative repercussions.

Organizations must begin to view employee well-being not as a cost, but as a strategic asset that drives productivity and long-term profitability. Sector-specific strategies are crucial in this regard: for instance, in the health and aviation sectors, ensuring adequate staffing and shift rotations can help minimize pressure on sick employees; telecommunication and banking institutions should incorporate flexible work arrangements and mental health support services; while the maritime industry can prioritize occupational health and safety training tailored to high-risk roles.

Furthermore, national labour and occupational health policies must be

strengthened to mandate minimum standards for employee health protection and sick leave practices. Such policies should include clear provisions for workload redistribution during employee absences, enforcement of employee wellness programs, and the institutionalization of psychosocial support. These multi-level interventions will contribute not only to lowering presenteeism but also to enhancing organizational performance and workforce sustainability. Despite the study's strength in surveying a diverse sample of Ghanaian workers, limitations such as reliance on self-reported data which may introduce reporting bias and the cross-sectional design restrict the ability to draw causal conclusions.

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Contribution of Information Literacy in School Libraries for Competency Based Curriculum Implementation in Junior Secondary Schools in Nandi County: A Systematic Review

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Abstract

School libraries are building blocks within every school, they are pillars through which teaching and learning thrive. With the changing nature of education in Kenya to meet the changing needs of the society, the importance of school libraries grows. School libraries are charged with the responsibility of cultivating reading culture through Information Literacy (IL) programs. IL are set of abilities that enable a learner to select, identify, evaluate and use the right information from the large pool of information available both physically and electronically. The purpose of this study was to investigate the contribution of IL in school libraries on the implementation of Competency Based Curriculum (CBC). The study intended to find out the state of school libraries in Nandi County with a view to recommending the best practices that can be adopted to improve them. The systematic review analyzed previous studies and found out that teachers who are information literate were able to integrate it into the curriculum. The data also indicated that schools with robust IL programs showed significant improvement in students' ability to use information thus improving their problem-solving skills. The findings of this study will inform stakeholders within the education sector on the importance of school libraries and IL in a competency-based environment.

Key words: Information Literacy, School libraries, CBC, Curriculum development, Kenya.

Introduction

In the dynamic landscape of education, Kenya has moved through a various paradigm of education to meet the changing needs of the society and the need to produce students who fit the labor market. Three

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significant milestones have been realized, which are 7-6-3 system, the 8-4-4 system and currently the 2-6-3-3; Competency Based Curriculum system. The government of Kenya introduced the new system (CBC) in 2017 to replace the 8-4-4 system of education which had been in place for 32 years. The 7-6-3 system was introduced in 1963 and replaced with the 8-4-4 system in 1985. As Kenya transitions to the 21st century, education reforms took center stage for adoption of a system that focuses on skills and knowledge and the ability of learners to explore and make use of their talents thus the birth of CBC. This system of education is learner centered that focuses on developing critical thinking, creativity and practical skills. It emphasizes on competency over content, aiming at molding learners to be successful in the ever changing world markets (Ngina, 2024). Rapid global changes necessitate changes in learning to incorporate cross cutting ideas, processes and practical skills at the early stages of learners' life. It is envisioned that CBC will prepare learners fully to thrive in competitive environments. Kenya has a National Qualification Framework (NQF) which recognizes formal, informal and Prior Learning thus making implementation of CBC in Kenya easy (Amutabi, 2019). If implemented well, CBC will yield wholistic learners since it is a flexible and friendly mode of education that accommodates both fast and laggard learners. Changes in the education sector compel all the support systems of education to adopt new ways of operating. Libraries being the main player ought to find new ways to meet the needs of the current learner. This means that resources and services tailored for the CBC learners' need to take the lead.

Understanding the education reforms will inform librarians on tailoring their information literacy programs to reflect the

practical skills needed by learners to navigate the vast information available at their disposal. According to American Library Association (2019), Information literacy is a set of abilities to enable a learner know when information is needed, locate it, evaluate its effectiveness and use it for the intended purpose. Further, Information Literacy is important for lifelong learning for any category of learners. American Library Association (ALA) also indicated that an information literate learner will be able to get access to the content he/she needs, carry out investigations, be self-directed and ultimately take control of the learning processes. With CBC focusing on competency, it is imperative for the learner to know when information is needed and how it can be applied to solve problems. Current school libraries are traditional in nature where only spaces for study are provided together with well-arranged reading books. As the system of education shifts to CBC, also libraries need to transform. The process of transforming these libraries to support CBC is dependent on several factors including.

1. Curriculum integration- librarians need to collaborate with teachers to integrate information literacy programs into all learning subjects.
2. Resource development- librarians need to develop guides that will enable the learner to navigate through the vast resources available in the library.
3. Collaborative spaces- change the spaces within the library to allow flexible learning, this is to allow discussion work, group work and even personal studies without much very strict rules of "silence in the library"

4. Integration of technology- Libraries should avail themselves of computers, internet connection and other modern devices to allow further reading as presented in the core texts.

The state of most school libraries does not support CBC because of insufficient technologies, lack of collaborative spaces, non-availability of well-developed information literacy programs and poorly stocked books which are old and not diverse. These factors do not motivate students to visit the library hence making them rely on the class content ultimately hindering critical thinking through wide reading (Ireru et al., 2022). As the country looks forward to admitting learners to senior secondary schools in one year's time, the study aims to critically analyze the state of school libraries and put forward recommendations that will help librarians and school management to transform their school libraries to meet the needs of CBC and the learners.

Statement of the problem

Competency Based Curriculum, being a competency-oriented program assumes the ability of the learner to identify the needed information and use it wisely. That being the case, the problem lies with the provision of information literacy instructions by libraries. Information literacy is an essential component for learners to effectively use information, however most libraries do not have a well-developed information literacy program, and if available, it has not been integrated into all teaching subjects. Some studies have revealed that some students transition to higher learning institutions without knowledge on searching and retravel, computer skills and even lack of knowledge on the basic use of a library. The problem was attributed to the poor learning environment with poorly managed libraries

and lack of computers. CBC emphasizes developing learners' critical thinking skills, problem solving and creativity. These components require access to diverse information resources and the ability to utilize them effectively. However, many schools in Nandi County are poorly equipped with essential resources to support the curriculum. The insufficiency of the resources has created a gap between the needs of the new curriculum and the ability of the school libraries to facilitate the development of IL skills.

In addition, despite the known importance of IL in school libraries, there is limited research exploring its significant contribution in the implementation of CBC in junior secondary school in Nandi County. Such limited studies create a gap in understanding how IL programs in school libraries can support the implementation of CBC. This makes it difficult for the educators and school policy makers to understand the potential of school libraries in the implementation of CBC. Generally, a change in the education system without change in libraries will affect overall learning and full achievement of the potential provided by the education system. This means that all school managers and librarians need to relook at the state of their libraries and improve them to meet the standards of CBC. The analysis by the Ministry of Sports, Culture & the Arts Ministry of Education, (2018) in its effort to align its services with vision 2030 noted that majority of schools have inadequate infrastructure for the establishment of libraries for effective curriculum delivery. This insufficiency translates to lack of information literacy programs that will help in imparting skills to learners on library usage. This study therefore seeks to systematically review existing studies to assess the contribution of information literacy in school libraries towards the

effective implementation of the Competency-Based Curriculum in junior secondary schools in Nandi County. The review will identify the state of school libraries, challenges, and best practices, with the aim of providing recommendations for improving library services and information literacy programs to better support CBC objectives.

Research Objectives

1. To analyze the current state of school libraries in Nandi County
2. To analyze the Information Literacy integration in school libraries
3. To find out library preparedness to adopt CBC in Secondary schools
4. To recommend best practices for transforming school libraries for effective adoption of CBC in Secondary Schools

Reviewed Literature

The concept of school libraries

The 2010 Constitution guarantees every child the right to free and compulsory education (Article 43.1.f). The 2013 Basic Education Act provides for free and compulsory primary and secondary education and explicitly prohibits tuitions fees. Free compulsory basic education is also guaranteed in the 2001 Children's Act (Article 7) (Kamande, 2021). Both free primary and secondary education were made free with the aim of providing access to education to all as per the policy guidelines on providing 12 years of basic education and meeting the 2010 constitution requirements (Government of

Kenya GoK, 2010). Provision of free education implies making available the necessary learning resources which constitute well equipped libraries. In connection with this, the International Federation of Library Associations and Institutions (IFLA) mandates school libraries and library professionals to provide access to learning resources through welcoming and inclusive learning spaces. Provision of such spaces will enable the school community, especially learners to be critical thinkers, effective readers, evaluators of information and producers of information. Such characteristics are built by focusing on the state of school libraries in order to bring them to higher standards consummate to the caliber of learners to be produced (IFLA, 2021). According to IFLA, a school library is a physical digital space within a public or private school that serves the needs of learners through provision of learning resources and teachers through provision of teaching resources. It is managed by a school librarian who is keen on enhancing cognitive, personal, societal and cultural growth of learners and teachers. They provide resources and services that will meet the teaching, learning and research needs to learners and teachers (IFLA, 2021). School libraries just like academic libraries need to provide instructions to users on the basic use of library through information literacy programs, support educational goals of the school, curate and make available all teaching and learning resources, build critical thinking through encouraging reading culture and influence learners into using libraries all along. Further, school libraries influence learners' ability to understand the world through getting answers to the varied questions they may be having. With well stocked libraries together with qualified managers, learners can develop fully because of access to the

right information and proper guidance from librarians.

In Kenya, little is known about the state of school libraries. As much as the Ministry of Education provided the school library policy and guidance, little has been done to ensure that all primary and secondary school in Kenya have functional libraries. Development of these libraries have therefore been left at the control of school management, such cases bring inconsistencies among schools and widen the gap between haves and have-nots. A study by (Mose, 2020) indicated that many learners in public schools face challenges in literacy to the time they join secondary schools and even higher education. These challenges were attributed to insufficient reading materials and the few available would not match the learners' population. Such issues indicate that those schools do not have libraries and if they are available, then they would be rooms just like storehouses for the class texts. With changes of the Kenyan Education curriculum from 8-4-4 to CBC, a lot is required from the Government to ensure equipping the library facility with the right resources, staffing and technology for the success of learners. All schools without libraries should be facilitated to have one in place and be well equipped too. CBC focuses on skills and competence of learners and therefore learners require diverse resources for reading to widen up their minds and enhance critical thinking. The core competencies emphasized in CBC aim to produce a wholistic learner who can thrive in the competitive labor market. These competencies include problem solving skills, communication, collaboration, digital literacy skills and lifelong learning. The question at the disposal is, will these competencies be imparted without the presence of libraries and librarians? According to (Amutabi,

2019) CBC is a good curriculum because it is holistic in nature, it is one which focus on broad outcomes and takes into account formal, in-formal and non-formal contexts giving emphasize to learning and imparting knowledge. CBC being a new curriculum, the government needs to take keen interest in the implementation process and put in place all the pre-requisites for the success of the curriculum. Adequate resources, including teaching materials and infrastructure, are essential for effective CBC implementation. Resource constraints in many schools can hinder the curriculum's success. A library is one of the infrastructures needed for the success of learners involved in CBC curriculum, similar to classrooms, laboratories and playgrounds (Keter, 2023) and will support the curriculum in the following ways;

- a) Resource Provision: libraries need to provide a vast array of both digital and physical resources such books, periodicals, audiovisual resources, and internet databases.
- b) Digital Literacy: Libraries need to support students in acquiring the fundamental skills necessary for digital literacy, which are an integral part of CBC, by providing programs and courses. They should teach students how to use digital tools and resources for research and learning.
- c) Collaborative Learning Environments: Libraries need to offer areas where students can collaborate on projects, promoting cooperation and collaboration.
- d) Professional Development: Libraries can also help teachers by giving them access to resources for professional development and training on how to include CBC in their lesson plans.

In conclusion, as secondary schools are geared towards receiving CBC learners, their libraries should be transformed into learner-oriented spaces to fully provide the needed resources for all learners and teachers. To meet these needs, school libraries should have a wide range of collections in different formats, genres, readings and subject areas. To fully meet the needs of learners and teachers, the following aspects need to be taken into account as stipulated by (IFLA, 2015);

- i. Proper library location and space.
- ii. Organization of library spaces.
- iii. Access to physical and digital resources.
- iv. Collection standards and
- v. Resource sharing

The IFLA guidelines on school libraries have been used as framework for establishment of school libraries over the years. Even with the desire to transform our school libraries in readiness for adoption of CBC, the same guidelines can be used by the Government of Kenya to evaluate the state of school libraries for purposes of making informed decisions. In the evaluation process IFLA stipulates evaluation of school libraries based on.

- i. Staffing.
- ii. Facilities.
- iii. Technology.
- iv. Collections and
- v. Services.

Integration of Information Literacy within Competency Based Curriculum

Competency is the ability of a learner to use the skills and knowledge obtained through formal or informal learning to solve a problem. It encompasses knowledge, skills, attitudes and behaviors that contribute to an individual's performance. Information Literacy (IL) is a set of abilities that a user of information must possess for the purpose of effective selection, use and evaluation of vast information. IL is also the ability of a user to know when the information is needed, know where to find the information, know the right format in which the information is presented and knowledge on evaluation of information (Njuki & Mukundi, 2023). Integration of IL in the curriculum will help alleviate information retrieval challenges thus enabling the learner to access all the information he/she needs. Competency Based Curriculum is skilled based and therefore much reading is undertaken by the learner so enhance critical thinking, proper communication and mastery of language, creativity and learning how to learn. With CBC learners are given room to explain their responses thus learners will constantly evolve their thinking and adapt in the future. Gardner's Multiple Intelligence Theory postulates that learners possess different kinds of minds and therefore learn, remember, perform and understand in different ways (Morgan, 2021). This theory directs the trainers to use different approaches to learning. Integrating Information Literacy within a competency-based curriculum enables learners to navigate through the vast information available in the school libraries as well as online information.

School libraries are responsible for equipping learners with the skills to

navigate the vast information and hence to achieve this objective, school librarians should constantly train learners and teachers on use and access of information resources both physical and electronic. Integrating IL into the curriculum will be useful because it brings both the learner and the trainer on board, thus making both partners information literate. An information literate learner will be able to do the following.

- i. Be able to make informed decisions by using the skills acquired to determine the relevance of information obtained.
- ii. Improve his/her critical thinking and problem-solving skills, making them valuable both academically and in real-world contexts.
- iii. Be able to use technologies ethically thus understanding their digital footprint.
- iv. Be able to complete assignments and projects successfully and
- v. Be competitive and adaptable in their careers

The five mentioned abilities are in line with the core skills focused on CBC as documented in the Curriculum reforms in Kenya. The reforms emphasize that the 4Cs will be applied in all learning areas. They include, Communication and collaboration, Critical thinking and problem solving, Creativity and imagination and Citizenship (Reforms, 2010).

The information world has become complex because of the vast information and as a result, Information Literacy is becoming a useful tool for the 21st century learner. All stakeholders within the education sector including the Ministry of Education, County Directors in charge of

Education, Schools Heads, School librarians and teacher librarians should place emphasis on the total integration of IL within the curriculum for the success of the learners. Learners need IL to supplement classroom learning to compete favorably in the labor market. The reason for curriculum shift in Kenya from 8-4-4 to CBC is the cognizance of the labor market shifting to knowledge based where critical and problem solving skills and multiple literacies take center stage. Koh et al., (2014) observe that the Ministry of Education of Singapore is placing interest in developing IL program in different grades and subjects. This means that IL will be taught in all grades as planned just like any other subject. Such practices will help learners develop literacy skills in their early stages of learning. The same objective can be borrowed from all countries to impart the necessary IL skills to all learners. This will go a long way in solving problems related to information explosion, use of internet information and inability to synthesize information. (Foo & Majid, 2017) carried out a study on "Assessing information literacy skills among young information age students in Singapore" and they indicated that IL assessment is necessary for the purpose of knowing the extent to which guidance can be provided to learners in order to help formulate pedagogical changes. The study streamed the students into normal (Academics) and normal (technical). This study showed that information evaluation was found to be the weakest area. These results prompted the then Minister for education to advocate for the implementation of IL into the curriculum to help students understand the importance of such skills.

School libraries should be able to support the Curriculum in line with the core skills focused on CBC. To ensure full support to the curriculum, the Ministry of Education-

Kenya should intentionally ensure that all schools have active libraries and trained librarians to manage them. The 2018 draft on National policy and framework for school libraries indicated that 20% of schools in Kenya have libraries. Besides, it was noted that school libraries lack resources for effective establishment of the curriculum and that the ECDE level which is purely focused on CBC lacks the appropriate learning materials both in physical and electronic format. The policy also provided guidelines on information literacy and the importance of this program to learners. It was noted that IL will be useful because it will enhance the building of learning resources as well as evaluate them for currency and relevance (Ministry of Sports, Culture & the Arts Ministry of Education, 2018). Generally, taking a keen look at the previous studies, much is still needed to be done in Kenyan school libraries in pursuit of integrating IL in the school curriculum.

Library preparedness in the implementation of CBC

The Competency Based Curriculum is new in Kenya having been introduced in 2017 to replace the 32-year-old 8-4-4 system. CBC aims to equip learners with the 21st century skills such as communication, critical thinking and creativity among other skills. Since the curriculum was adopted to date, several challenges are still faced. Several studies have been done to find out the state of implementation of CBC and several gaps have been realized that need to be critically analyzed for the purpose of ensuring a successful education system in some counties. Globally, the shift from content-based education to CBC was to give emphasis on practical knowledge to students to prepare them to being problem solvers to real world problems. The success of CBC mainly depends on the availability

of infrastructure such as libraries and laboratories, materials resources such as physical and electronic books, technology and trained staff (Chepkilot et al., 2024). Countries that have invested in improving their educational infrastructure and resources have achieved positive outcomes in the implementation of Competency-Based Curriculum (CBC), according to OECD (2022). This translates to differences in implementation of CBC among countries especially the developing and undeveloped countries.

Library preparedness in the implementation of a Competency-Based Curriculum (CBC) involves ensuring that library resources and services align with the CBC's objectives, which focus on equipping learners with the skills and knowledge necessary for practical application rather than routine memorization. This may include training staff, acquiring relevant materials, and fostering an environment that promotes interactive learning and knowledge creation. Proactive engagement from library personnel can enhance the implementation process, enabling better subject dialogue and resource utilization among learners. This kind of readiness is crucial for the successful implementation of the Competency-Based Curriculum (CBC). Libraries should therefore ensure availability of the necessary resources, such as books, digital content, and learning materials that support skill development and knowledge application. By fostering an environment conducive to inquiry and research, libraries can help learners engage actively with the curriculum rather than relying solely on memorization. This preparatory work enables libraries to facilitate discussions and foster an atmosphere that supports the dynamic learning objectives of the CBC (Kridel, 2012). A study of school libraries and its

impact in United Kingdom (UK) revealed that there no statistics on the total number of school libraries available in the country but it was found out that school libraries play a significant role in the academic achievement of pupils by providing the learning resources and the right atmosphere for learning. Several personal achievements such as self-esteem and feeling of success were found to be contributed by library use among students (Teravainen & Clark, 2018). The components of CBC include critical thinking, creativity, collaboration and communication commonly referred to as the 4Cs. School libraries support its students achieve these skills with the support of educators. Globally, school libraries are keen on providing access to a wide range of resources that cultivate these skills, including materials on information evaluation and critical thinking strategies. Libraries promote autonomous investigation and inquiry by creating an atmosphere where students may interact with a variety of sources, which is crucial for successful learning. Furthermore, workshops and training created especially to foster critical thinking and creativity—two qualities that are essential to the CBC framework and which are frequently included in library programs. Successful implementation of CBC in USA is attributed to a close collaboration between teachers and library staff in promoting a student centered learning with the aim of providing improved learning outcomes for the purpose of creating demand for human capital (Muchira et al., 2023). Such cases provide a guideline to countries like Kenya to borrow ideas on successful implementation of the education system.

Generally, librarians should be trained in the curriculum to adapt to the new changes and get to understand the objectives and the expected outcomes of the curriculum. Whereas libraries may be responsible for

stocking the library resources, it is paramount for them to understand the nature of these resources, plans to redesign the library spaces to allow collaborative learning, nature of technologies to bring on board that will allow interactive learning and how to tailor the library services to meet the changing needs of learners. One major challenge noted in the process of implementation of CBC as per the previous studies was putting the focus on teachers leaving out the support systems such as librarians. Even in Kenya, the Ministry of Education has been focusing on teacher training on CBC, leaving out librarians. In addition, direct interviewing of some librarians in Kenya showed that these librarians are struggling on their own to understand the concept of CBC and how they can change the library environment to support the curriculum. These challenges are therefore making it difficult for librarians to redesign their existing library spaces to fit the current needs of CBC curriculum. A study by Mokoro on Tanzanian perspective of Implementation of CBC also agrees that lack of training to both teachers and support staff affect the successful implementation of the curriculum. Further a study on constraints facing the successful implementation of CBC in Machakos county, Kenya by Muasya revealed that school heads confirmed that their school lacked sufficient resources such as textbooks and the right technologies to support CBC. The study recommended that the Ministry of Education should support all school to access the relevant learning resources to achieve the objectives of the new curriculum (Wambua, 2019). Another study on challenges facing implementation of CBC in Kenya, case of Kajiado county also revealed that lack of infrastructure such as libraries and insufficient teaching and learning resources including textbooks, lack of ICT tools and internet connection has

contributed to the slow adoption and successful implementation of CBC. The study recommended that the government through the Ministry of Education to provide the essential resource support to all schools (Robert O. Opondo, 2023). That way, supportive infrastructure like libraries will be equipped with relevant resources for CBC. The availability of resources translates to the need for information literacy sessions to both teachers and students on how to navigate through the vast resources available in the library.

The summary of reviewed literature shows that a lot needs to be done for libraries and by librarians in the quest to meet the needs of CBC. Collaboration between the teachers and libraries through Information literacy sessions is recommended to ensure that library resources are used adequately. The literature also showed that libraries need to be supported to put in place the right resources that will fulfil the objectives of the curriculum.

Methodology

The study is a systematic review where the researcher analyzed previous studies of similar nature that addressed the current problem done within Kenya and other countries. This method allowed the researcher to draw experiences and recommendations that can be applied within school libraries in Nandi County to better understand the contribution of Information Literacy.

Inclusion and Exclusion Criteria

The inclusion criteria required that any included study must be original studies on contribution of Information Literacy in school libraries, the studies must be in English language and published in the last five years. The researcher used five databases including EBSCO Host research

database, Google Scholar, Emerald and Wiley Online Library and a total of 32 articles were obtained. These databases were chosen because they are multidisciplinary and published articles on Information Literacy. Phrases used for searching were limited to Information Literacy, School Library and Competency Based Curriculum and CBC in Kenya. Any study that didn't meet the criteria mentioned was excluded, for example if the study was not original such as discussion panels, opinions or editorial papers. Further, the study was excluded if it focused on higher education and finally if the study did not focus on Information Literacy in schools and CBC in schools.

After scrutiny of studies that met the inclusion criteria, a total of 15 articles were found relevant to address the current problem. The literature obtained was analyzed through narrative basing on the themes of the objectives.

Findings and results

This section presented the results of the 15 articles reviewed focusing on the state of integration of IL, library preparedness to adopt CBC and recommendations on how best school libraries can be transformed for effective adoption of CBC.

Information Literacy in school libraries

The literature indicated that by the time Kenya adopted the competency-based curriculum in 2017, the significance of incorporating information literacy practices within school libraries was widely recognized. Thus the research emphasized that information literacy encompasses the skills required to effectively identify, access, evaluate, and use information, which are now essential in a competency-based educational framework as presented by

(Prince, 2024). Further exploration into the role of school libraries by Ilavonga & Grace (2023) reveal that school libraries serve not only as repositories of knowledge but also as dynamic learning environments that promote critical thinking and problem-solving skills among students. Through a well-structured library program, students are equipped with the ability to search for, evaluate, and utilize information efficiently, which is essential in a competency-based learning environment (Kitur, 2024). Research indicates that students who engage with information literacy resources are more adept at developing innovative solutions to real-world challenges, thus enhancing their competencies (Ilavonga & Grace, 2023); (Prince, 2024). Based on the findings of these studies, it was found that schools with robust information literacy programs in their libraries demonstrated significant improvements in student research skills, critical thinking, and overall academic performance. This enhancement was particularly evident in the context of competency-based curricula, where students were required to engage in more autonomous and self-directed learning. The data indicated that students who participated in information literacy programs were better equipped to locate, evaluate, and use information effectively, which is a crucial competence in the current educational landscape. Moreover, teachers who received training in information literacy were found to be more experienced at integrating these skills into their teaching practices, leading to more effective curriculum implementation. This combined effect between teacher training and student competencies highlighted the pivotal role of school libraries and IL in fostering an environment conducive to competency-based learning.

Level of school library preparedness to adopt CBC

The findings revealed that much is still needed within the school libraries to effectively support the CBC curriculum. A study by Wambua (2019) showed that the curriculum has not been effectively implemented because supportive infrastructure such as libraries have not been well equipped with the relevant resources. That these libraries do not have the right technological tools and learning materials to support the curriculum. This is in agreement with the findings of a study undertaken by (Cheruiyot, 2024) which indicated that many school within the country face shortage of books, technological devices and internet connection which affect the practical application of CBC and also hinder students' engagement. The study recommended equipping the school library with the right tools that will support learners' engagement.

Further, the literature revealed that the few schools with libraries did not have trained librarians but rather managed by teacher librarians. This contributed to the slow adoption of CBC within the school libraries because teacher librarians are loaded with other teaching responsibilities, hence may not get additional time to focus on redesigning the library to match the modern CBC environment. As outlined by Cheruiyot (2024) school libraries are affected by limited funding which hinders their ability to redesign the available spaces, stock the library with the various learning materials, put in place relevant technologies and challenges of maintaining the infrastructure. Such challenges are also realized in the state of school libraries within Nandi County. The effective implementation of CBC is linked to availability of human and capital resources

thus emphasizing presence of trained personnel and good funding. The findings of a study on implementation of CBC in Nairobi county showed that many public school lack the appropriate infrastructure to support teaching and learning hence affecting the implementation of CBC (Kuria, 2022). Webala, (2019) pointed out that challenges of library resources and insufficient information literacy among educators affect the curriculum outcomes. These studies therefore recommend that for effective adoption of CBC, school libraries should be well equipped with relevant learning materials, appropriate technologies should be in place, the right caliber of staff should man the libraries, and the spaces must be sufficient to allow collaborative learning.

Applicable lessons

The literature reviewed has indicated that there are gaps that need to be filled for school libraries to effectively support the new curriculum in Kenya. Management of Schools within Nandi County may benefit immensely from this research since it will shed light on way forward and present possible recommendations for school libraries and the concept of Information Literacy.

From the literature, school libraries should provide personalized instructional programs that will prepare students and equip them with skills for independent lifelong learning and mastery of competencies. In this regard, libraries should support effective use of library resources and tools through digital literacy sessions.

In addition, for effective implementation of CBC, teachers and library staff should collaborate. This will help teachers improve their teaching methodologies and integrate IL into the curriculum. Successful

collaboration translates to shared planning, resource development and professional development opportunities allowing both teachers and librarians to enhance student learning outcomes effectively. Further, the Ministry of Education should provide clear policies on school libraries and include in the policy standardization of IL guidelines so that all schools will be compelled to integrate IL into their curriculum.

Scholars also highlighted that without appropriate training and resources, the advantages of information literacy will not be realized in practice (Yang & Nie, 2024). Therefore, it is essential to address these barriers to ensure that information literacy contributes effectively to the curriculum's implementation, thereby enhancing students' overall competency in using information as a tool for lifelong learning. This literature therefore emphasizes the significance of information literacy as a cornerstone for achieving successful educational practices within Nandi County's junior secondary schools.

Conclusion

The reviewed literature has enabled the researcher to conclude that libraries are important infrastructure in current curriculum since it is not merely a repository of information but a space that allows collaboration which enhances critical thinking and problem-solving competencies. These libraries should then focus on IL programs through collaboration with teachers to integrate into the curriculum. Moreover, the integration of technology in the library together with availing variety of reading materials boosts learners' motivation to read and engage one another, something that has impact in their overall performance. Finally, by elevating the status of information literacy initiatives within school libraries, educators and

policymakers can create an educational environment that promotes informed and skillful learners, equipped to navigate the

complexities of the 21st-century information landscape.

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Dimensions of Knowledge Sharing Behavior, Motivational Factors and Employee Performance of Selected New Generation Banks, Lagos, Nigeria

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Abstract

Employee performance plays a pivotal role in determining organizational success. However, due to the incessant job turnover in the Nigerian banking industry, the influence of critical factors such as knowledge sharing behavior and motivation cannot be underplayed. In view of this, this study investigated the influence of the dimensions of knowledge sharing behavior and motivational factors on employee performance of selected new-generation banks, in Lagos, Nigeria. A survey research design was adopted using a structured and validated questionnaire to collect data for the study. A stratified sampling technique was used to select 1,628 employees from Six new-generation banks that are listed on the Nigerian Stock Exchange (NSE). Data was analyzed using descriptive and inferential (multiple regression) statistics. Findings revealed that the dimensions of knowledge sharing behavior and motivational factors influenced employee performance positively in the selected new-generation banks in Lagos, Nigeria. Personal interaction had the most significant influence on employee performance, followed by written contributions and organizational communication; while community of practice had the least considerable influence on employee performance. In terms of motivational factors, intrinsic motivation made the most significant contribution to employee performance compared to extrinsic motivation. This study recommends that the management of new-generation banks should sustain and improve the channels of sharing knowledge and equally motivate employees appropriately to enhance their performance.

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Key words: Banking industry, Employee performance, Knowledge sharing behaviour, Motivation, New generation banks

Introduction

Employee performance has attracted scholarly attention from researchers across the globe, especially in the banking sector, due to its high level of competitiveness and dynamism. This has led to the enactment of various policies and strategies by the management of banks for the continuous improvement of employees' performance. This is essentially important because employee performance contributes to organizational success in all its ramifications. Employee performance has been defined in several ways by different authors. For instance, it has been defined as the assessment of an employee's specific action in determining his/her extent of contributions to meeting the organization's set out goals (Iqbal, Ijaz., Latif & Mushtaq, 2015). In another perspective, employee performance can be viewed as the quantitative and qualitative measurement of employees' efforts toward achieving organizational goals and objectives (Haidoura, 2020). These definitions depict that employee performance is a construct that can be measured based on specific criteria or standards spelled out by an organization.

Employee performance can be seen as consisting of two main components namely: task and contextual performance. Task performance covers specific activities performed by an employee towards organizational performance. Such activities are spelled out in the job description of every employee, whereas, contextual performance involves activities that do not contribute directly to organizational performance; but rather support the organization's work environment. On the other hand, contextual performance includes activities that are undertaken by

employees that are beyond their formal job requirements. Examples of contextual performance include discretionary behavior such as altruism, conscientiousness, and courtesy among others (Decu, 2023)

According to the literature, there are critical elements that can influence employee performance in organizations, one of which is Knowledge Sharing Behaviour (KSB). Knowledge sharing behavior of employees has been examined by researchers from varying perspectives across organizations both within and outside Nigeria. It can be viewed as the ability to achieve goals that involve the exchange of knowledge, skills, and expertise between employees across departments or organizations (Rohman, Eliyana, Purwana & Hamidah, 2020). It can be viewed as the extent to which an employee shares his or her knowledge with other employees in the same organization using specific information channels (Yi, 2009). Knowledge sharing behavior of employees can be rewarded through appropriate employee motivation. For instance, when employees exhibit the right knowledge sharing behavior, they can be motivated through appropriate rewards which makes sharing an easy task to accomplish. On the other hand, if employees fail to exhibit the right knowledge sharing behavior, they can be encouraged to meet the expected sharing behaviour.

Yi (2009) identified four dimensions of KSB which include written contributions, organizational communication, personal interaction, and communities of practice respectively. These dimensions are channels that are often used by banking organizations to transfer information or knowledge to employees. KSB is personally driven, however, it can be

influenced by several other factors such as organizational factors, social factors, and motivational factors as identified in the literature (Abbasi, Abbasi, Pradana, Al-Shammari, Zaman & Nawaz, 2021). It can also be preceded by essential elements such as attitudes, intentions, and perceived behavioral control (Al-Qeisi & Al-Zagheer, 2015).

Another critical element that can influence employee performance is employee motivation. Motivation can also be described as a drive that propels an employee towards a particular behavior, task, or action that is beneficial (Makki & Abid, 2017). Employee motivation plays an important role in the attainment of specific organizational goals and objectives (Varma, 2018). It has been widely researched due to its role in the lifespan of any organization. It can be defined as the level of commitment, persistence, and energy demonstrated by employees in the course of carrying out their assigned duties in an organization (Jouany & Martic, 2023). Employee motivation enables employees to show a willingness to work irrespective of the challenges faced in their various jobs. For instance, motivated employees can be more oriented towards autonomy, self-driven activities, and discretionary behavior than less motivated employees, and are also willing to take up responsibilities without much complaint (Tenney, 2024).

Employee motivation benefits employees and the organization at large in several ways. For instance, employees benefit in areas such as low employee turnover, job satisfaction, and improved performance. Motivation can be in the form of intrinsic and extrinsic dimensions in organizations. Intrinsic motivation can be described as an inner desire that propels an employee to get his or her work accomplished.

Examples include recognition, challenging work, ability to solve organizational problems with little or no assistance; while, extrinsic motivation comes as a result of external gratification by management in the form of salary, bonuses, promotion, and others (Nickerson, 2023). However, in today's banking organizations, extrinsic motivation may no longer be sustained due to several economic challenges that employees are grappling with. Therefore, the availability of intrinsic and extrinsic motivators can considerably improve the job performance of employees.

The role of these critical practices in improving employee performance cannot be overemphasized especially in the banking industry. For instance, in the banking environment, there are diverse challenges faced by employees in discharging their job roles such as long working hours, time constraints, ethical dilemmas, regulatory bottlenecks, and difficult customers among others (Zwal, Abubakar & Abba, 2015). Due to these recurring challenges, knowledge sharing practices and employee motivation have not been given adequate attention by the management of banks. On this account, it is imperative to determine the extent to which these dimensions of knowledge sharing behavior and motivational factors impact employee performance. Therefore, this research work is significant to banking organizations in Nigeria because the findings of this study would help to determine the extent to which the dimensions of knowledge sharing behavior and motivational factors contribute to employee performance; thereby enabling the management of banks in Nigeria to improve and sustain these practices over time.

In view of the above, this study intends to investigate the extent of influence of the

dimensions of knowledge sharing behavior and motivational factors on employee performance in selected new-generation banks, in Lagos, Nigeria.

Research Questions

The study is guided by the following research questions:

- i. What is the level of employee performance of selected new-generation banks in Lagos, Nigeria?
- ii. To what extent do the dimensions of knowledge sharing behavior influence employee performance of selected new-generation banks in Lagos, Nigeria?
- iii. To what extent do motivational factors influence employee performance of selected new-generation banks in Lagos, Nigeria?
- iv. To determine the joint influence of knowledge sharing behaviour and motivational factors on employee performance in selected new-generation banks in Lagos, Nigeria, and;
- v. To determine the relative contribution of knowledge sharing behavior and motivational factors on employee performance in selected new-generation banks in Lagos, Nigeria

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

- i. H1: Dimensions of knowledge sharing behavior do not influence employee performance in the selected new generation banks in Lagos, Nigeria.
- ii. H2: Motivational factors do not influence employee performance in the selected new-generation banks in Lagos, Nigeria.
- iii. H3: Knowledge sharing behavior and motivational factors do not jointly influence employee Performance in

selected New Generation Banks in Lagos, Nigeria.

- iv. H4: Knowledge sharing behavior and motivational factors do not contribute relatively to employee performance in the selected new generation banks in Lagos, Nigeria.

A service is any act or performance offered to another that is essentially intangible and does not result in the possession of anything. The production of a service may or may not involve physical products (Kotler & Keller, 2012). On the

Literature Review

Determinants of Employee Performance in Organizations

Several studies in the literature have identified factors that determine employee performance within and outside the Nigerian environment (Diamantidis and Chatzoglou, 2019; Dahkoul, 2018; Suflin, 2016; Alalade & Oguntodu, 2015). These factors can contribute to either low or high performance depending on their level of impact whether positive or negative. For instance, Diamantidis and Chatzoglou (2019) investigated the factors influencing the employee performance of workers in some selected manufacturing companies in Indonesia using the structural equation approach. Four Hundred and Eighty employees were sampled for this study. Results of this study indicated that job environment and management support had the strongest impact on employee performance; while adaptability and intrinsic rewards also impacted employee performance. In the same vein, Dahkoul (2018) also examined the determinants of employee performance in the Jordanian industrial sector. The study sampled 100 Executive administrators from the

industrial sector using the convenience sampling method. Findings revealed that employee satisfaction, management standards, and training had a significant impact on employee performance; while employee engagement moderated between each of those variables and employee performance. The study concluded that the management of organizations should improve employee satisfaction and training as a means of improving employee engagement, which ultimately leads to improved employee performance.

Sufilin (2016) investigated incentive schemes and personnel performance in the Nigerian banking sector: A case study of Union Bank Plc. 120 copies of the questionnaire were distributed to respondents from four branches of Union Bank which are: Okokomaiko, Alaba, Agbara, and Aspanda respectively. Descriptive statistics was employed in analyzing field data. Results revealed a positive relationship between monetary and non-monetary incentive schemes provided by the bank and employee performance. The result of this study supports Alalade and Oguntodu (2015) on the positive impact of various incentive schemes on employee performance. Alalade and Oguntodu (2015) investigated the relationship between motivation and employees' performance in the Nigerian banking industry. This study was based on five (5) banks in Lagos, Island, Nigeria. 80 employees represented the sample size of this study. The findings of this study revealed that bank employees were often motivated based on several incentives. It also revealed that employees performed well in their jobs. Due to the small sample size of this study, it cannot be generalized to Nigerian banks, rather, the study can be replicated to involve a larger sample size. Overall, these independent studies have

shown that employee performance is propelled by organizational and social factors such as employee satisfaction, monetary and non-monetary awards, training, and employee engagement among others. Specifically, this study intends to investigate the extent of influence of the dimensions of KSB and motivational factors on employee performance in the selected new-generation banks in Lagos, Nigeria.

Dimensions of Knowledge Sharing Behavior

Yi (2009) identified four dimensions of knowledge sharing behavior in the literature. These are written contributions, organizational communication, personal interactions, and community of Practice respectively. Each of these dimensions can be seen as channels that employees can explore to share their knowledge in organizations. These dimensions are discussed briefly in the context of banking organizations.

Written Contributions: These are specific documents that employees access to share knowledge in organizations. In the context of banking organizations, these documents are used to relay information to employees on operational procedures, policy formulation, and changes as the need arises. Examples of these documents are memos, circulars, and manuals of procedures among others.

Organizational Communication: This refers to specific channels that are initiated within the organization to share knowledge. In this era of Information Communication Technologies (ICTs), specific mediums can be used to facilitate communication within the organization. Examples are electronic mail, social networking media, and intranet among others.

Personal Interaction: This is the most frequently used channel in organizations due to the face-to-face approach to sharing knowledge. Employees meet one-on-one to share information on work procedures and other related areas. One of the advantages of this approach is that encourages cordial relationships and collaboration among employees within the organization (Jouany & Martic, 2023).

Community of Practices (COPs): COP comprises of network of professionals that are connected to share knowledge continually to pursue the same interest. In the context of banking organizations, there are several COPs in which employees are involved for the sake of sharing professional knowledge. These are professional bodies that are related to banking and other allied professions. Examples of these professional groups are the Chartered Institute of Bankers of Nigeria (CIBN), the Chartered Institute of Personnel Management of Nigeria (CIPMN) among others. Members in these Communities of Practice share knowledge continually via recognized channels such as face-to-face and electronic platforms. Some of the benefits of Cops include: allowing crosscutting discussion; allowing the testing of new ideas; generating new knowledge in response to specific problems and issues; sharing specialized and expertise knowledge; allows for social networking of people in the same field (Goncalves, 2024).

These dimensions as discussed above have not been given attention in the literature to ascertain the extent of influence on employee performance in banking organizations in Nigeria.

Knowledge Sharing Behaviour and Employee Performance in Selected Organizations

Few researchers in the literature have examined the impact of knowledge sharing behavior on employee performance either directly or indirectly from diverse angles. Some of these studies are discussed briefly. For instance, Abdullahi, Rahman, Solarin, Ahmed & Shehu, (2023) investigated knowledge sharing behaviour on employee performance among teaching staff of Malaysian Private universities. Findings revealed that knowledge sharing behavior had a significant effect on employee performance. This depicts that the knowledge sharing behavior exhibited by the employees in the surveyed organizations translated into improved performance on the job. In the same vein, Nurrachman, Hermanto & Chan (2019) examined the effect of knowledge sharing on employee performance at PT Tama Cokelat Indonesia. A survey research design was adopted using descriptive and inferential statistics to analyze data. A total of 69 employees served as the sample size for this study. Findings revealed that knowledge sharing had a significant and positive effect on employee performance in the surveyed organization.

Anwar, Rehman, Wang & Salleh (2018) investigated knowledge sharing behavior and job performance of employees in Global Software Development Organizations. This study further examined the impact of attitude, subjective norms, and perceived behavioral control on knowledge sharing intention. The impact of knowledge sharing on job performance was also explored. Findings revealed that attitude, subjective norm, and perceived behavioral control had a positive impact on knowledge sharing intention; while knowledge sharing

behavior was found to have the strongest impact on job performance.

In line with the reviewed studies it has shown that knowledge sharing behavior significantly influences employee performance, however, there is a dearth of studies on the dimensions of KSB and the extent of its influence on employee performance, therefore this study will ascertain the extent of influence of the dimensions of KSB (Written contributions, Organizational communication, Personal interaction and Communities of Practice) on employee performance of selected new generation banks in Lagos, Nigeria.

Motivational Factors and Employee Performance in Organizations

Motivational factors and employee performance have been researched extensively in the literature from diverse organizations, however, there is a dearth of studies on the relationship between motivational factors and employee performance of New generation banks in Nigeria. For instance, Akingbade, Adeoye, Johnson, and Adeosun (2022) examined the effect of motivation on employees' performance in the Lagos State Employment Trust Fund (2016- 2020). A survey design approach was adopted using a structured questionnaire to elicit information from the employees in the surveyed organization. A total of 36 respondents served as the sample size for this study. Findings revealed that intrinsic and extrinsic motivation were the major ways of motivating employees in the surveyed organization. This study equally identified factors that can hinder motivation such as bad leadership style, lack of cordial relationships among

workers, and lack of resources among others.

Akhtar, Aziz, Hussain, Ali, and Salman (2014) investigated the relationship between personal-work factors and employee motivation in the banking sector of Pakistan. These factors include personal traits, financial rewards, high salary plans, job design, and supervision respectively. Data was collected from 150 employees selected from some banks in Pakistan. Results revealed a positive relationship between the personal-work factors and motivation. The findings of these studies confirm that employees are motivated based on financial and non-financial incentives. In the same vein, Abasilim and Ubani (2014) investigated employees' perceived relationship between motivation and job performance in Abia State Civil Service, Nigeria. It employed a survey research method in collecting data. A total of two hundred and fourteen (214) employees were sampled. Findings revealed that employee motivation had a significantly weak positive relationship with job performance; however, intrinsic motivation had a significantly moderate positive relationship with job performance; while extrinsic motivation had a significantly weak positive relationship with job performance. On a general note, these empirical studies have shown that motivational factors (intrinsic and extrinsic) cannot be undermined in the successful management of employees' performance in organizations. However, this study intends to determine the extent of influence of motivational factors (intrinsic and extrinsic) on employee performance of selected new generation banks in Lagos, Nigeria.

Theoretical Framework Organizations

Past studies have dwelt extensively and independently on theories relating to knowledge sharing behavior, motivational factors, and employee performance in organizations. These theories include the Theory of Reasoned Action, Herzberg's Two Factor Motivational Theory, and the Heuristic Framework of Employee Performance. These three theories apply to this research work due to their relevance in banking organizations

Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was propounded by Fishbein and Ajzen (1967; 1975) to explain the underlying reasons behind a particular form of behavior. This theory emphasizes that the intention to perform a particular behavior always precedes the actual behavior. In this case, it is known as behavioral intention. Behavioral intention is a product of attitudes and subjective norms. Human behaviour generally, is determined by three elements namely: (i) Attitude towards the behaviour, (ii) Subjective norms (iii) Behavioural intentions. Each of these elements has been defined in the following ways according to Sus (2023): Firstly, attitude is a person's belief about a particular behavior or situation. For instance, if a person perceives that the outcome of a particular behavior would be positive, he or she develops a positive attitude toward performing that behavior. On the other hand, if the person perceives a negative outcome in performing a particular behavior, the person develops a negative attitude towards performing that behavior.

Secondly, subjective norm involves the opinion of people in a person's environment concerning a particular

behavior. Lastly, behavioral intention is a combination of attitude and subjective opinion. Behavioral intention is based on the belief that performing the behavior may lead to the expected outcome. The theory of reasoned action proposes that stronger intentions lead to increased effort to perform the behavior, which also may increase the chances of the behavior being performed.

The theory of reasoned action is applicable in determining the knowledge sharing behavior of employees in banking organizations. The three elements that predict human behavior which are: attitude, subjective norm, and behavioral intentions can determine the extent of knowledge shared by employees (Eletter, Ramaiah, Kaba & El-Refae, 2023). This depicts that knowledge sharing cannot be enforced on employees in any organization, but rather employees can be motivated to share knowledge based on a combination of essential factors in the workplace.

Herzberg's Two Factor Motivational Theory

Herzberg's two-factor motivational theory is one of the earliest theories of motivation in the workplace. It was propounded by Fredrick Herzberg (1959) to determine what motivates employees in the workplace. Herzberg defined employee motivation as performing a work-related action at a given time. According to him, he distinguished between two categories of motivational factors: motivators and hygiene factors. Motivators are classified as intrinsic motivational factors such as recognition, responsibility, and challenging work, among others. On the other hand, Hygiene factors are so-called because employees in the workplace may at times find themselves in a psychologically

unhealthy environment. Therefore, hygiene factors will help to palliate employees' negative feelings or disposition towards work. However, the presence of these factors does not result in total satisfaction but will simply reduce dissatisfaction. Examples of hygiene factors include company policy and administration, supervision, salary, relationship with co-workers, personal life, status, and security. If provided, hygiene factors are not a strong motivator because their motivation effect does not last long, however, if not provided or if wrongly provided can be a major cause of dissatisfaction (Herzberg, Mausner, & Snyderman, 2009). Based on Herzberg's categorization, the presence of hygiene factors in the workplace will lead to satisfaction, while the absence of motivators will lead to dissatisfaction. In relation to banking organizations, Herzberg's two-factor theory applies to this study, in the sense that hygiene factors and motivators are required to ensure a satisfied and productive workforce.

Heuristic Framework of Employee Performance

The heuristic framework of employee performance was developed by Koopmans, Bernards, Hilderbrandt, Schaifeli, Henrica, and Allard in 2011. This framework combines four different dimensions of work performance namely task performance, contextual performance, adaptive performance, and counterproductive performance. According to this model, task performance focuses on the various activities performed by employees in different cadres as reflected in their job description manual. Examples of task performance include completing job tasks, work quality, work quantity, and job knowledge among

others. Contextual performance, on the other hand, refers to discretionary behaviors of employees that support the social, and psychological environment. Examples of contextual performance include extra tasks, initiative, resourcefulness, and dedication among others. The third dimension, adaptive performance emphasizes the ability of employees to adapt to changes in a workplace at any given time. Examples include generating new and innovative ideas and learning new tasks and technologies. The fourth dimension, counterproductive work behavior, refers to behavior that is invariant with the well-being of the organization. Most times these forms of behavior are frowned upon by the organization because it does not contribute directly to organizational performance; rather it is counterproductive in nature. Examples include accidents, complaining, and absenteeism among others. This framework is relevant because it captures employee performance in organizations generally and specifically in the banking industry. However, two out of the four components of employee performance, task, and contextual performance were examined in the context of selected new generation banks in Lagos.

Methodology Research Design

A survey research design was adopted for this study. Data was analyzed using descriptive and inferential (multiple regression) statistics.

Method of Data Collection

The researcher visited the head offices of the selected six banks in Lagos along with a research assistant to collect field data. Copies of the questionnaire were

distributed to the employees in the head offices of the selected banks. Due to the tight schedule of the bank employees, the researcher handed copies of the questionnaire to contact persons in each of the banks for further distribution to their employees. The researcher was contacted by officers in each of the selected banks to pick up the filled copies of the questionnaire. 1,310 copies of the questionnaire were recovered from the six banks, and a total of 1,296 were found usable and valid for data extraction and analysis. This gave a rate of return of 80%.

Instrumentation

A structured questionnaire was designed to elicit data from the respondents in the study area. The questionnaire comprised five sections: Section A comprised of items that collected data on the personal profiles of the respondents. Section B consists of a Knowledge Sharing Behaviour (KSB) scale comprising 12 items adapted from Yi (2009). Section C of the questionnaire consisted of the Work Extrinsic and Intrinsic Motivation scale comprising 10 items adapted from Tremblay, Blanchard, Taylor, Pelletier & Villeneuve (2009). Section D consisted of the Employee Performance scale comprising 12 items adapted from Goodman and Svyantek (1999). The adapted scales used the Likert scale type on a four-point scale constituting: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) respectively.

Population of the Study

The population of this study comprised ten new generation banks listed on the Nigerian Stock Exchange (NSE). New generation banks were targeted because they tend to adopt dynamic and aggressive approaches in the demand for and

motivation of employees' performance, and also they compete favorably in the same markets with the older and mostly larger banks. These banks are First City Monument Bank, Sterling Bank, Ecobank Plc, Fidelity Bank, Diamond Bank, Access Bank, Guaranty Trust Bank, Skye Bank, Zenith Bank, and Stanbic IBTC respectively.

Sample Size and Sampling Technique

The researcher employed a simple random sampling technique using the balloting method in the selection of six banks (60 percent) out of the ten new generation banks that are listed on the NSE. Sixty percent selection is justified based on the fact it gave the researcher wider coverage in the selection process. The six banks are First City Monument Bank, Sterling Bank, Ecobank Plc, Access Bank, Guaranty Trust Bank, Skye Bank. The total population of the six banks was established as 8,334 employees. In determining the sample size for each of the six banks, the researcher utilized the proportionate stratified sampling technique using the Krejcie and Morgan (1970) sample size determination table. The sample size for each of the selected banks was determined proportionately based on the population of employees in the head offices of the six banks. The total sample size for this study was established as 1628 employees (See Table 1). In selecting the respondents across the six banks, a proportionate stratified sampling technique was employed by the researcher.

Validation and Reliability of Research Instrument

The researcher established the face and content validity for each of the adapted scales namely: the knowledge sharing

Behaviour (KSB) scale, Work Extrinsic and Intrinsic Motivation (WEIM) scale, and employee performance scale respectively. This was done to ensure internal consistency, exactness, simplicity, and comprehensibility of the different items that made up each of the sub-scales. The Cronbach Alpha coefficient for the adapted scales revealed a high level of reliability which ranged from 0.76 to 0.89 as shown in Table 2.

Table 3 shows the demographic attributes of the bank employees in the study area. Under the gender category, 792 (61.1%) were males and females were 504(38.9). This depicts that the majority of the respondents that participated in this research work were males. Under the age category, the majority of respondents

(49.4%) were between 20- 30 years, followed by those in the age category of 31- 40 years (48.1%). In terms of educational qualification, the majority of the respondents (66.1%) were first-degree holders, while in terms of professional qualification, majority of the respondents while in terms of professional qualification, majority of the respondents (61.1%) had no professional qualifications. This may be due to the nature of the banking job which allows for little or no time for employees to get additional qualifications. Lastly, the majority of the respondents (50.8%) had less than five years working experience.

Table 1: Population and Proportionate Sample Sizes of Employees in the Head Offices of the Six Selected Banks, Lagos

Bank	No. of Employees in Lagos	Proportionate Sample Size
First City Monument Bank	340	66
Sterling Bank	725	142
Ecobank Plc	469	92
Guaranty Trust Bank	3000	586
Skye Bank	1850	361
Access Bank	1950	381
Total	8334	1628

Table 2: Showing the Cronbach's Alpha Reliability Scores for the Adapted Scales

Adapted Scales	Number of Items	Cronbach Alpha	Source
KSB Scale	12	0.83	Yi (2009)
WEIM Scale	10	0.76	Tremblay et al. (2009)
Employee Performance Scale	12	0.89	Goodman & Svyantek (1999)

Table 3: Demographic Profile of the Respondents

Demographic Information	Frequency	Percentage(%)
Gender		
Male	792	61.1
Female	504	38.9
Age		
20-30 yrs	640	49.4
31-40 yrs	624	48.1
41- 50 yrs	32	2.5
Level of Education		
OND	36	10.5
BA/B.Sc	956	66.1
MA/M.Sc	304	23.5
Work Experience		
Less than 5 years	648	50.8
5-10 years	456	35.2
11- 15 years	160	12.3
16-20 years	24	1.9
Over 20 years	8	.6
Professional Qualification		
CIBN	112	8.6
ANAN	40	3.1
ICAN	152	11.7
CITN	32	2.5
Others	168	13.0
None	792	61.1

The results in Table 4 reveal a high level of employee performance in the selected commercial banks with a grand mean of 3.41 on a 4-point scale. The results show that contextual performance had a greater mean score (3.42) than task performance mean=3.39). This result implies that the majority of the bank employees had higher contextual performance than task performance. This implies that bank employees exhibited discretionary behavior with little assistance. This might be due to the high level of commitment expected by the management of the bank, and most importantly, employees were well motivated. However, if employees are

not motivated adequately, their contextual performance may probably be reduced. In essence, all the statements under employee performance had a high mean score of > 3, showing that employees performed well on their assigned tasks.

Presentation of Results

Research Question: What is the level of employee performance of selected New Generation Banks, Lagos.

Table 4: Level of Employee Performance of Selected New Generation Banks, Lagos

Employee Performance Scale	VH (%)	H (%)	L (%)	V L (%)	Mean	Std.
Task performance						
I demonstrate skillfulness on my job.	648(50.0)	608(46.9)	24(1.9)	16(1.2)	3.46	.600
I plan and organize my work to achieve objectives of my job.	672(51.9)	616(47.5)	-	8(.6)	3.46	.535
I always perform well in my overall job assessment.	664(51.2)	592(45.7)	24(1.9)	16(1.2)	3.41	.595
I can manage more responsibility Than assigned by my boss.	640(49.4)	592(45.7)	56(4.3)	8(.6)	3.40	.603
I am competent in all areas of my job.	664(51.2)	552(42.6)	72(5.6)	8(.6)	3.36	.615
I work overtime to meet deadlines that are stipulated by my boss.	656(50.6)	488(37.7)	104(8.0)	48(3.7)	3.22	.746
Group Mean: 3.39						
Contextual performance						
I do not take unnecessary time off work without the permission of my boss.	880(67.9)	392(30.2)	24(1.9)	-	3.66	.511
I exhibit punctuality by arriving at work on time in the morning.	824(63.6)	464(35.8)	8(.6)	-	3.63	.496
I give advance notice if unable to come to work.	784 (60.5)	496(38.3)	16(1.2)	-	3.59	.516
I help other employees with their work when they are absent from work.	688(53.1)	472(36.4)	104(8.0)	32(2.5)	3.23	.699
I help others when their workload increases, that is assisting others until they get over the hurdles	664(51.2)	456(35.2)	160(12.3)	16(1.2)	3.20	.695
I take initiative to Orient new employees to the the department even though it is not part of my job description.,	728(56.2)	408(31.5)	152(11.7)	8(.6)	3.19	.650
Group Mean: 3.42						
Grand Mean: 3.41						

Testing of Hypotheses

Hypothesis 1: Dimensions of knowledge sharing behavior do not influence employee performance in the selected new generation banks in Lagos, Nigeria.

Table 5 reveals that written contributions accounted for 16% of the variance in employee performance ($R^2=.16$, $F(1,1294)=242.351$, $p<.05$). Written contributions had significant influence on employee performance ($\beta=.397$, $t=15.568$, $p<.05$). Organizational communication accounted for 16% of the variance in employee performance ($R^2=.16$, $F(1,1294)=241.728$, $p<.05$). Organizational communication had a significant influence on employee performance ($\beta=.397$, $t=15.548$, $p<.05$). Again, personal interaction accounted for 24% of the

variance in employee performance ($R^2=.24$, $F(1,1294)=403.653$, $p<.05$). This shows that Personal interaction had a significant influence on employee performance ($\beta=.488$, $t=20.091$, $p<.05$). Community of practice accounted for 13% of the variance in employee performance ($R^2=.13$, $F(1,1294)=195.030$, $p<.05$). Community of practice also had a significant influence on employee performance ($\beta=.362$, $t=13.965$, $p<.05$). On the whole, personal interaction had the highest contribution to employee performance, while community of practice had the lowest contribution.

Hypothesis 2: Motivational factors do not influence employee performance in the selected new-generation banks in Lagos, Nigeria.

Table 5: Influence of the Dimensions of Knowledge sharing behavior on Employee Performance in Selected New Generation Banks in Lagos, Nigeria

Model	B	Beta	R2	T	F	Sig
Constant						
Written contribution	1.138	.397	.157	15.568	242.351	.000
Organizational Communication	1.164	.397	.157	15.548	241.728	.000
Personal Interaction	1.361	.488	.237	20.091	403.653	.000
Community of Practice	.794	.362	.130	13.965	195.030	.000

Table 6: Influence of Motivational Factors on Employee Performance of Selected New Generation Banks in Lagos, Nigeria

Model	B	Beta	R2	T	F	Sig
Constant						
Intrinsic Motivation	1.572	.649	.420	30.652	939.532	.000
Extrinsic Motivation	.539	.412	.169	16.247	263.966	.000

Table 6 shows the influence of each of the motivational factors on employee performance. Results reveal that intrinsic motivation accounted for 42% of the variance in employee performance ($R^2=.42$, $F(1,1294)=939.532$, $p<.05$). This implies that intrinsic motivation had a significant influence on employee performance ($\beta=.649$, $t=30.652$, $p<.05$); while extrinsic motivation accounted for 17% of the variance in employee performance ($R^2=.17$, $F(1,1294)=263.966$, $p<.05$). Therefore, revealing that extrinsic motivation had significant influence on employee performance ($\beta=.412$, $t=16.247$, $p<.05$). On the whole, this result shows that intrinsic motivation contributed more to employee performance than extrinsic motivation.

Hypothesis 3: Knowledge sharing behaviour and motivational factors do not jointly influence employee performance in

selected New Generation Banks in Lagos, Nigeria.

The result of regression analysis as shown in Table 7 reveals a positive and significant relationship between the two independent variables (knowledge sharing behavior and motivation) and employee performance of bank employees ($R=0.619$, $P<.05$). The R-square value of .382 implies that 38.2% of the total variance of employee performance of bank employees is accounted for by these two factors. The remaining 61.7% is due to other external factors. Therefore, the null hypothesis was rejected.

Hypothesis 4: Knowledge sharing behavior and motivational factors do not contribute relatively to employee performance in the selected new-generation banks in Lagos, Nigeria.

Table 7: Regression Analysis Showing the Influence of Knowledge Sharing Behaviour and Employee Motivation on Employee Performance of Selected New Generation Banks, Lagos

Model	DF	R	AdjR2	F	Sig
Regression	3	0.619	0.382	267.742	$p<.05$
Residual	1292				
Total	1295				

Table 8: Relative Contribution of Knowledge Sharing Behaviour and Motivational Factors to Employee Performance

Model	B	Beta	AdjustedR2	t	Sig
(Constant)	18.557	23.205			
KSB	.214	.252	0.382	8.505	.000
Motivational factors	.434	.430	0.382	14.509	.002

Table 8 shows the relative contribution of each of the independent variables to employee performance. Results revealed the relative contribution of each of the independent variables: KSB ($\beta=.252$, $t=8.505$, $P<.05$), Employee motivation ($\beta=.430$, $t=14.509$, $P<.05$). This result implies that motivation made the strongest contribution in explaining employee performance, followed by knowledge sharing behavior. This result has shown that motivation and knowledge sharing behavior are capable of improving the performance of bank employees.

Discussion of Findings

The findings of this study are discussed in line with the stated research questions and hypotheses. The first research question was to determine the level of employee performance in selected commercial banks in Lagos. Findings revealed a high level of task and contextual performance of bank employees. Perhaps, the high level of motivation observed among the respondents accounted for the high employee performance. This finding is also in line with Tenney (2024) who noted that motivated employees often engage in self-driven activities and discretionary behavior.

The second research question hypothesized that the dimensions of knowledge sharing behavior do not influence employee performance in selected new-generation banks in Lagos, Nigeria. Results further revealed that each of the dimensions of knowledge sharing behavior had a significant influence on employee performance. The null hypothesis was rejected. Results of the regression analysis revealed that written contribution, organizational communication, personal interaction, and

community of practice had significant joint effects on employee performance. This finding is in line with Opeke and Opele (2014) who reported that knowledge sharing behavior of postgraduate students in selected Nigerian Universities was propelled through face-to-face interaction rather than other channels of communication.

The third research question hypothesized that motivational factors do not influence employee performance in selected new-generation banks in Lagos, Nigeria. Findings revealed that employees were motivated by the two dimensions of motivation, more by intrinsic than extrinsic factors in the surveyed banks. However, the intrinsic factor was higher than the extrinsic factors. Findings revealed that intrinsic and extrinsic factors had a significant influence on employee performance. Therefore, the null hypothesis was rejected. This finding is in support of Alalade and Oguntodu (2015) who found that bank employees are well-motivated both intrinsically and extrinsically. Again, this finding conforms to past studies that revealed that employees in organizations are intrinsically and extrinsically motivated (Abasilim & Ubani 2014; Akhtar et al., 2014)

The fourth research question hypothesized that knowledge sharing and Motivational factors do not jointly influence employee performance in the selected new-generation banks in Lagos, Nigeria. The results of regression analysis revealed a positive and significant relationship between the two independent variables (knowledge sharing behaviour and motivation) and the employee performance of the bank employees. Therefore the null hypothesis was rejected. This depicts that knowledge sharing

behavior and motivation jointly contribute positively to employee performance. The fifth research question hypothesized that knowledge sharing behavior and motivational factors do not contribute relatively to employee performance in the selected new-generation banks in Lagos, Nigeria. The result revealed that knowledge sharing and motivational factors contributed relatively and significantly to employee performance. Therefore, the null hypothesis was rejected. This finding suggests that an increase in knowledge sharing behavior will result in an improvement in employee performance. This finding is in line with Abdullahi et al. (2023) who found that knowledge sharing behavior of employees in organizations contributed to job performance and the quality of knowledge shared. On the other hand, motivational factors significantly influenced employee performance, therefore the null hypothesis was rejected. This finding supports Alalade

and Oguntodu (2015) who reported that bank employees who were well-motivated performed well on the job.

Conclusion and Recommendations

This study has demonstrated that the dimensions of knowledge sharing behavior and motivational factors significantly influenced employee performance of bank employees. Based on the findings of this study, it recommends that the management of new-generation banks should ensure that employees share knowledge continually through the identified channels such as written contribution, organizational communication, personal interaction, and communities of practice. Also, the current level of motivation of employees should be sustained and improved from time to time to enhance their performance.

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R&D, Innovation and Competitiveness: Global Evidences on Conceptual and Practical Connectedness

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Abstract

Analyzing the role of research and development (R&D) innovation and competitiveness in economic development is important for determining country's entrepreneurial stance, global economic and business positioning and competitiveness. The empirical synthesis of the connective relationship of R&D, innovation and competitiveness confirms their significance and indispensable role for entrepreneurial and sustainable developmental outcomes. This study isolates other development influencing factors such as good governance, effective public administration, law enforcement, protection of intellectual rights and other contextual-factors and only considers the outcomes of R&D, innovation and competitiveness in the analysis. The study aligns the outcome of investment in R&D, innovation activities and competitiveness of countries. Based on literature and examples from developed and developing economies, international benchmark statistics on GERD and GERD percentage of GDP, innovation (GII) and competitiveness (GCI) are used for comparison between countries. The findings show that countries that invest more in R&D tend to be more innovative and competitive in both regional and global phenomena. Increased investment in R&D is recommended as policy and strategic priority for enhancing innovation and subsequently competitiveness of the national economy in a global playground. The implication is that countries that invest more in R&D can develop faster, have speedier promotion of prioritized sectors, tend to attract partnerships globally, and can enable public private partnership (PPP) and improve people's standard of living. The outcomes are enabled by the accessible to research based depository resources and references.

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Key words: R&D, Innovation, Competitiveness, GERD, GDP.

Introduction

Globalization and regionalization have expanded markets and dictated actors' entrepreneurial performance for accelerating value delivery and improving standard of living to mankind (Wu, Thomas, & Wright, 2020; Schwab & Sala-i-Martin, 2013; WIPO, 2013; Link & Scott, 2013). Policymakers and corporate leaders found to adjust direction, speed and priorities for enhancing development of their countries and the private sector to cope with globalization potentials (Chepurensko, 2015). For exploiting these potentials, countries compete to outperform each other by being more entrepreneurial, innovative and competitive (Misala & Siek, 2012; Lorca & Andres, 2018; Siudek & Zawojnska, 2014). Johnson and Lundval (2003) and further massive support succeeded by Hung & Lu (2010) and WIPO (2013) analyzed the role of R&D in system of innovation and economic development and proposed that, R&D is important for determining country's global economic positioning and competitiveness. The connection of R&D, innovation and competitiveness can explore their significance and confirm their outcome and return on investment (Oviatt and McDougall, 2005). It is linear in a sense that other influencing factors such as good governance, effective public administration, law enforcement, protection of intellectual property rights and others are isolated and only R&D, innovation and competitiveness are considered in the analysis.

The base is the 40 top spenders on R&D and their position in the top 30 countries in innovations and competitiveness. The main question is, how many countries who are top R&D spenders are also top innovators and top global competitive? The objective of this paper is to elevate the role of R&D for enhancing innovation and subsequently

competitiveness in the economy. There are gaps this paper contributes in bridging: (1) there are no explicit efforts of explaining differences in national development from R&D perspective; (2) R&D, innovation and competitiveness indices are developed by different institutions and using different criteria, so much theoretically, they have been largely addressed separately and the connections between this trinity are rarely explicitly documented especially for developing countries; (3) explanations of causal-effect relationships of important developmental factors has been much done in sophisticated mathematical and econometrical modeling denying the access, exploration, comprehension and utilization by ordinary men and women and sidelining other professions (Lorca & Andres, 2018; Rabiei, 2011; Samimi & Alerasoul, 2009). This paper attempted to explain the same in a friendlier and consumable style so as to enlarge involvement and participation of common people in comparative development dialogue and policies.

Literature Review

The Global Position: R&D, Innovation and Competitiveness

Studies show that long term economic growth is largely based on innovation (Aghion et al., 2015), which, among others, is dependent on research and development (R&D), skills, as well as on expansion to new markets, which enables to gain specific advantages. Evolutionary economics research on economic growth emphasizes also the importance of institutions in the growth process. This is reflected in the evolution of technology and production structure (Nelson, Winter, 2002). Competitiveness is shaped not only by technological changes, but also by institutional innovations, such as new regulations, as well as improvements of

existing law (Freeman, 1996). This is also confirmed by an analysis of the technological gap and its change over time (Gomulka, 1998; Kubiela, 2009). The transfer of innovation and organizational progress from countries with a higher technological level may promote the acceleration of economic growth, but the use of new technology requires investing in human and physical capital, as well as introducing necessary institutional changes (Gomulka, 1998; Romer, 2010). Competitiveness is not, however, limited to economic growth, but is also determined by a given country's position on the international market. Furthermore, the concept of sustainable competitiveness adds environmental protection and social sustainability issues to this economic dimension of competitiveness (Corrigan et al., 2014; Weresa, 2016). Theory, as well as empirical studies theory confirm that a nation's competitive advantages arise from implementing innovation (Peneder, 2017; Dole, Perez-Alaniz, 2017).

OECD (2012) argues that substantial R&D efforts are determinant to providing innovative, sustainable and competitive developmental solutions. Some authors declare that R&D especially in terms of the country's GERD is a major determinant for innovation (Edquist, 2005; Brahim & Abdelaziz, 2019). Edquist (2005) argues that the differences in social and economic development, participation in global economy and enterprise competitiveness between countries have been mainly a result of whether there is a functional innovation system and investment in R&D. The determination of levels of innovation and competitiveness are comparatively gauged between countries and regions based on selected benchmark depending on the purpose of comparison (Lundvall, 2005; DBIS, 2014). The global budget on R&D increased by 56% in 2014. The actual

spending on R&D in 2014 amounted to US \$ 105,757.0 billion (PPP); where 87% of global R&D investment were spend by top 40 countries. The rest of the world (155 countries) spends 13% of the global spending (ibid.). The global R&D statistics of 2016 through 2023 show that in top 40 countries only two African countries namely, South Africa (ranking 33) and Egypt (ranking 38) are included in the list though having low percentage share of GERD in their country's GDP (IRI, 2016; IRI, 2023). It is also observed that there is lack of R&D statistics in many least developed countries (LDCs). In terms of innovation, in the regional context, the sub-Saharan African countries take low ranks globally (global/Africa rank in blankets); Mauritius (53/1), South Africa (54/2), Kenya (80/3), Rwanda (83/4), and Mozambique (84/5) (GII, 2016). On the side of competitiveness, those countries spending less or negligible on R&D and innovation activities tended to be uncompetitive. Based on the GCI (2016), African countries rank in global competitiveness were (global/Africa rank in blankets); Mauritius (46/1), South Africa (49/2), Rwanda (58/3), and Kenya (99/4). Tanzania was ranked 120, and Uganda 115.

Research and Development (R&D)

R&D is a systematic activity, where R (Research) is combining both basic and applied research, and D (Development) aims at drawing on research results and discovering solutions to problems or creating new goods, services and knowledge (Cohen and Levinthal, 1990; Fiol, 1996). R&D may result in ownership of intellectual property such as patents and copyrights (OECD, 2003; Wu, et al., 2020; Greeve, 2003). According to OECD (2003), more than two-thirds of R&D spending by firms or countries is directed to development rather than research. While

in most developing countries there is insignificant spending on R&D, its intensities in developed countries show that basic research is less than one fifth of total R&D spending (OECD Scoreboard, 2003). Hall (2006) noted that: “...total spending on R&D activities is also one of the most widely used indicators of the innovative performance of firms, industries and countries”.

R&D incorporates investigative activities conducted to improve existing products and procedures or to lead to the development of new products and procedures. Frascati Manual of OECD (2002) defines R&D as “creative work undertaken on a systematic basis in order to increase the stock of knowledge of man, culture and society, and the use of this stock of knowledge to device new applications”. According to IRI (2016), R&D is defined as “the process of creating new products, processes and technologies that can be used and marketed for mankind’s benefit in the future”.

R&D theoretical models such as the Development Theory (Fiol, 1996; Nonaka and Takeuchi, 1995) and the Decision-Making Theory (Tabak and Barr, 1998; Dougherty and Hardy, 1996) are used in this paper. While the former informs how the acquisition and management of knowledge, innovative people and infrastructure affect innovativeness and innovation processes in terms of R&D, the later, examines how organizations handle opposition between new thinking of innovations in terms of R&D off-springs and organization stability, legitimacy and risk bearing as a departure ground to commercialization circles (Greeve, 2003). The theoretical spheres of R&D choices and investment are mostly leaning on Arrow-Debreu general equilibrium model (Arrow, 1962) backed by massive literature

such as Griliches (1979, 1992), Aghion & Howitt (1998) and Hall (2002, 2006). Arrow argues that;

“because the R&D output can be imitated at the cost lower than the original cost of making them, the incentives for undertaking R&D are inevitably weaker than society would like. The performance of R&D therefore generates positive externalities or spillovers that benefit others”

Arrow-Debreu general equilibrium model (ADGEM) informs that the allocation of resources for R&D was non-optimal because the created information about R&D results failed the three model assumptions required for perfect competition in achieving Pareto Optimum namely, (1) information be infinitely divisible; (2) be tradable on the market for fully appropriable returns to the true owner; and (3) there be no associated uncertainty. These assumptions according to Arrow and other theorists like Reinganum (1989) are commendable for decisions on R&D investment. Hence R&D can bear results in the environment that provides protection of their information and deliverables.

Empirical studies show that R&D has been associated to variables such as firms’ growth, investment in R&D, Cooperation in R&D, R&D expenditure, economic growth, firm productivity growth, R&D intensity, patenting, technological progress, number of professionals and employees in R&D (Wu, et al., 2020; Rabiei, 2011; Bayarcelik & Tasel, 2012 Table 1 shows empirical evidences from various studies.).

Investment in R&D

IRI (2016) indicates that investment in R&D budgets have been taking incremental stance since 2012 globally. More than 75% of the researchers indicated budgets

Table 1: Empirical studies on R&D and related Variables

Source	Study Variables	Study Description and Empirical Conclusion
Aghion & Howitt (1998)	Firms' Growth and investment in R&D	Investment in R&D is positively correlated with firms' productivity and also produces a relatively high private rate of return.
Sadraoui & Zina (2009)	Cooperation in R&D and economic growth	Sample from 23 countries between 1992 and 2004. There is a positive and significant relation between R&D cooperation and economic growth.
Griffin <i>et al.</i> (2004)	R&D, Innovation and imitation	Study in 12 OECD countries. R&D stimulates innovation and imitation. Is statistically and economically vital in technological catch up and innovation.
Wakelin (2001) Brahim & Abdelaziz (2019)	Firm Productivity growth and R&D costs	Sampled 170 firms quoted on the UK Stock Market. A firm's R&D spending has a positive and significant role in influencing its productivity growth.
Samimi & Aler a- soul (2009)	R&D and economic growth (developing countries)	Sampled 30 developing countries for 2000 to 2006. Low R&D expenditures of developing countries have no significant effect on economic growth.
Zachariadis (2003)	R&D intensity, patenting, Productivity.	Done in developed countries. There is a positive impact between R&D expenditure, patenting and productivity
Griffin <i>et al.</i> (2004)	# of R&D employees, growth rate.	There is a positive correlation between the number of employees in R&D and the growth rate of output in most developed countries.
Ulku (2004)	Innovation effects on per capita outputs in non- OECD and OECD	Analysis of patent and R&D data for 10 non- OECD and 20 OECD countries for a period of 16 years. There is positive relationship between per capita GDP and innovation in both countries and the effect of R&D on innovation is significant only in OECD countries with large markets.

Source: Author compiled and Bayarcelik & Tasel (2012)

improvement over the years. The global budget on R&D increased by 56% in 2014. The global statistics show that R&D investments increased by 3.5% in 2016 to a total of \$1.948 trillion in PPP values for more than 110 countries having significant R&D investments (ibid.). The Asian countries led by China, Japan, India and South Korea account for more than 40% of the global R&D investments. North America including USA account for more

than 28%, Europe account for more than 21%. The rest of the world (155 countries) including, Russia, Africa, South America and the Middle East countries account for a combined 8.8% of the global R&D investments with combined average growth of 1.5% per year (ibid.).

Drivers for Investment on R&D

The drivers for investment on R&D are also debatable. These includes the country's economic growth, maintaining competitive position in the global markets, filling seen demand gaps by producing new products, political intent and security and protection (Chepurensko, 2015; Hessels, 2008; Oviatt and McDougall, 2005). On the economic growth determined by country's GDP growth, has been rather controversial though recommended strongly in literature as a major driving factor of R&D (Samimi & Alerasoul, 2009; Ebru & Fulya, 2012; Wakelin, 2001; Sadraoui & Zina, 2009). In contrary, it is observed that countries with low GDP growth having high engagement in R&D in terms of GERD percentage and vice versa experience more innovations (R&D Magazine, 2016). For example, Japan's GDP growth is 1.2% but having 3.4% GERD share of GDP, India with GDP growth of 7.5% though ranked sixth in global R&D absolute spending; its GERD share of GDP is only 0.85%

(OECD, 2003; R&D Magazine, 2016). Other many developing countries such as Bangladesh have GDP growth of 6.7%, has 0.7% GERD share of GDP. R&D's investment trends show that striving developing countries tend to have high GDP growth but less involvement in R&D, whereas, developed economies invest much in R&D to protect their global market positions and competitiveness (Misala and Siek, 2012; Siudek and Zawojnska, 2014). The global data show that Israel is the global leader in spending the biggest share of its GDP in R&D despite the fact that its GDP growth rate is always as small as 3.2%. In 2014, Israel spent 4.15% of GDP on R&D, in 2015 and 2016 spent 3.93% of GDP respectively. This triggers more discussion on the results of such investments. In fact, Israel being ranked 22nd in the world in terms of GERD, it is ranked 1st innovator in Western Asia, 21st innovator and 26th competitive economy globally in 2016.

Table 2: Share of Total Global R&D Spending

COUNTRY/ REGION	2014	2015	2016	2016 (by Block)
North America	29.1%	28.5%	28.4%	28.5%
U.S.	26.9%	26.4%	26.4%	
Caribbean	0.1%	0.1%	0.1%	
All North America	29.2%	28.5%	28.5%	
Asia	40.2%	41.2%	41.8%	41.8%
China	19.1%	19.8%	20.4%	
Europe	21.5% %	21.3%	21.0%	21%
Russia	3.1%	2.9%	2.8%	8.8%
South America	2.8%	2.6%	2.6%	
Middle East	2.2%	2.3%	2.3%	
Africa (all countries)	1.0%	1.1%	1.1%	

Source: Global R&D Magazine, 2016

The R&D processes and their costs vary depending on number of factors such as (1)

the level of regional or national development or economic growth, where

the tendency has shown that developed economies spend more on R&D than developing economies. Though, this has been the tendency over years, today emerging economies such as China, Estonia, India and South Korea are protruding highly in R&D investment (R&D Magazine, 2016). (2) Political intent and commitment in facilitating the spending of significant part of GDP for R&D, and (3) stakeholders' collective efforts towards providing infrastructure for cultural and socio- economic solutions (Karol, 2013).

Innovation

Innovation is defined differently depending on the background, industry orientation and author's experience (Karol, 2013). According to Ernst *et al.*, (1998), innovation is the process by which firms master and implement the design and production of goods and services that are new to them, irrespective of whether or not they are new to their competitors' domestic or foreign markets. Kaplinsky & Readman (2000) define innovation as "an introduction of improvements and upgrading, when innovation is faster than competition". Further Kaplinsky & Morris (2000) urge that if the rate of innovation is lower than that of competition; will result in declining value added and firms' market share. Thus, both definitions show that innovation has to be placed in a relative term; how fast compared to competitions. Innovation as explained by Kaplinsky *et al.*, (2000) goes in line with Schumpeterian concept that corporate profit in long run cannot be sustained by control over the market but through the development of dynamic capabilities as a result of "learning and innovation" as furthered by Kaplan and Norton (1992). Furrer *et al* (2008) asserted

that the main feature of an innovation is being market driven, having the ability to accrue competitive advantages

The definitions and typologies or classifications of innovation have been naturally multidimensional due to the inherent complexities of the concept. Such dimensions are: (1) multi-type classifications (EOCD, 2005; Bethant & Tidd, 2007); (2) degree of strength and power of innovation or innovation intensity (Garcia & Calantone, 2002); (3) multilayer classification (Jones & Johnson, 1957; Zawislak; 2011); (4) dichotomical and dually-dichotomical classification (Abernathy & Clark, 1985; Brahim & Abdelaziz, 2019); and (5) classification linked to the innovation process (Moore, 2005). Table 3 presents sources, definitions and classification of innovation.

Innovation produces various innovator's perceived benefits to the organizations and the market such as improved method, re-organization of production, improved internal functions, improved distribution arrangements, improved support to users, substitution of cheaper material, new process of production, new product/service (Thompson, 2004; Salavou *et al.*, 2004; Zawislak, 2011). The aggregation of government institutions and firms' innovations in a country account for the country's innovations (GII, 2012; 2013, 2014). Table 4 presents countries which are top 5 innovations performers by region.

Table 3: Sources, Definitions and classification of Innovation

Source of Definition	Definition	Innovation Typology Placement	Sources of aligned Typology/ Class.
Schumpeter, J. (1930)	Introducing a new product or modifications to an existing product, A discovery of new process, new market, new source of raw materials and other changes in the organization.	Process, Product, Organizational, paradigm & Incremental, transaction, technological, marketization innovation	Zawislak (2011), Walker, Avellaneda & Berry (2011)
Howard & Sheth(1969)	Any new element brought to the buyer, whether or not new to the organization.	Incremental innovation	Leonard & Rayport (1997), EOCD (2005)
Mohr (1969) Eur. Comm. Green(1999)	The degree to which specific new changes are implemented in an organization Successful production, assimilation and exploitation of novelty.	Creative and radical innovation	Tushman & Nadler (1986), Kimberly & Evanisko (1981),
Damanpour & Evan (1984)	utility concept defined in various ways to reflect a specific requirement and characteristic of a study	Radical & Position innovation, Marketing, transaction innovation	Markides (1998), Bethan & Tidd (2007)
Kenneth (1986)	New ideas that consist of: new products and services, new uses, new markets or new marketing methods.	Creative, Position Innovation, Marketing, transaction innovation	Utterback & Abernathy (1975) Thompson (2004),
Damanpour (1991)	Development and adoption of new ideas by a firm	Adoptive innovation	Thompson (2004)
Davenport (1991)	Complete task development in a radically new way	Radical innovation	Tushman & Nadler (1986)
Evans (1991) Boer & During (2001) Drucker (1954)	-The ability to discover new relationships, of seeing things in different perspectives and to form new combinations from existing concepts. -Creating a new association (combination): product-market- technology-organization. -One of the basic functions of an organization	Organizational & Management innovation, operational innovation, administrative and architectural innovation	Salavou et al., (2004), Wolfe (1994), Kim (1980), Zawislak (2011)
Knox (2002)	A process that provides a degree of novelty to the organization, suppliers and customers, new procedure, solutions, products and services and marketing ways.	Process, Product, Organizational innovation	Salavou et al (2004), Damanpour & Evan (1984)
Bus. Council Australia (1993)	Adoption of new or significantly improved elements to create added value to the firm directly or indirectly.	Incremental, administrative innovation,	Knight (1967), Leonard & Rayport (1997)
Rogers (1998)	Involves both knowledge creation and diffusion of existing knowledge.	Technical, technological and radical innovation	Damanpour and Evan (1984), Knight (1967)

Source: Author compiled from Popa et al (2014) and Kotsemir & Abroskin (2013) and others

Table 4: Top Innovations Performers by Region

Rank	America	Europe	Sub-Saharan Africa (Global)	Central And Southern Asia	South East Asia	Western Asia
1	USA	Switzerland	Mauritius (53)	India	S. Korea	Israel
2	Canada	Sweden	S. Africa (54)	Kazakhstan	Japan	Cyprus
3	Chile	Finland	Kenya (80)	Iran	Singapore	UAE
4	Costa Rica	Germany	Rwanda (83)	Tajikistan	Hong Kong	Turkey
5	Mexico	UK	Mozambique (84)	Sri Lanka	China	Armenia

Source: The Global Innovation Index 2016, WIPO

Table 5: Focus of Competitiveness Definitions and Sources

Determinants	Source	Definitions of Competitiveness
Productivity, growth of GDP per capita, high employment	Swab, Sala-i-Martin (2013), Scott & Lodge (1985), Krugman (1994)	- The ability of a country to achieve sustained high rates of growth in GDP per capita. - The set of institutions, policies, and factors that determine the level of productivity of a country. - Is a country's ability to create, produce, distribute products and/or service in international trade while earning rising returns on its resources.
Designing, producing, promote and selling at price, superior quality and benefits	Frejterski (1984) Chao & Chang (2010), Buckley et al. (1988), Scott & Lodge (1985)	The firm's economic strength against its rivals in international marketplace where products, services, people and innovations move freely despite the geographical boundaries.
		Is the capacity of the sector, industry or branch to design, and sell its goods at prices, quality, and others more attractive than competitors.
Free and fair market conditions	Barker & Koehler (1998), Porter et al. (2008), Chao & Chang (2010)	The degree to which it can, under free and fair market conditions, produce goods or services meeting the test of international markets, while simultaneously maintaining and expanding the real incomes of its population over the longer term.
Market share	Porter et al. (2008)	- Competitiveness of a firm is its share in a competitive market. - A country's share of world markets for its products. This makes competitiveness a zero- sum game because one country's gain comes at the expense of others.

Source: Adapted from Siudek and Zawojka (2014)

Competitiveness

There are actually a number of definitions of competitiveness. Some definitions concur in terms of focus and determinants covering the spectrum of competitiveness multi-dimensions as indicated in table 5. Porter and Rivkin (2012) noted that: *“... the wide misunderstanding of the concept of competitiveness has dangerous consequences for political discourse as well as policy and corporate choices that are all also evident today...”* pp. 58.

One of the common definitions of competitiveness is the “ability of a firm or a nation to offer products and services that meet the quality standards of the local and world markets at prices that are competitive and provide adequate returns on the resources employed or consumed in producing them” (Scott & Lodge, 1985). The World Economic Forum (1979) defined it as “the set of institutions, policies and factors that determine the level of productivity of a country”. Globally, competitiveness includes basic requirements for factor driven economies, efficiency enhancers for efficiency driven economies and innovation and sophistication factors for innovation driven economies (GCI, 2016). Therefore, competitiveness is the favourable market position as a result of perceived benefits of market innovation offers by the service or product provider to the customer. It is displayed by the presence of competitive advantages, which are obtained when an organization develops or acquires a set of attributes (or executes actions) that allow it to outperform its competitors.

From table 5, this paper suggests a comprehensive definition of competitiveness that covers (1) Productivity, growth of GDP per capita, high employment; (2) Designing, producing, promote and selling at price, superior quality and benefits; (3) Free and fair market conditions; and (4) Market

share. Theoretical explanation of competitiveness has tended to be multi-dimensional and circumventing the market mechanism. The classical theories include the concept of invisible hand (Smith, 1776), comparative advantage (Ricardo, 1817) and natural resources abundance theory (Heckscher, 1919); these old theories inform about absolute advantage, comparative advantage and locally abundance factors of production respectively as factors of competitiveness. The neo-classical theories such as the theory of effective competition (Clark, 1961), and the theory of entrepreneurship and innovation (Schumpeter, 1950); these theories inform about the sources of competitive advantage being innovation and six market related factors namely, supply, demand, threat of new entrants, threat of substitutes, bargaining power of customers, bargaining power of suppliers, industry rivalry. Firms through innovation seek competitive advantages by reducing costs, improving quality and/or branding their products. The contemporary theories are mostly leaning on Krugman (1996) and Porter (1998); they portray competitiveness in terms of productivity, improved standard of living, growth of GDP per capita and high employment.

The metrics of competitiveness has been studied on different levels such as macro and mega, meso and micro levels. At macro and mega level, national, regional and global competitiveness is addressed; where the policy issues tend to be prominent for measuring competitiveness such as productivity, economic growth, exchange rates, R&D, GCI, productive efficiency and technological innovation (Barrell et al., 2005; Easty & Porter, 2002;). At meso level, sector competitiveness metrics include R&D, varied environmental assessments, sector policies and regulations for creation of free and fair market conditions (Misala

& Siek, 2012; Leiter et al., 2011; Copeland & Taylor, 2004). At micro level, firm competitiveness measures related to marketization innovations (Altomonte et al, 2012; Helleiner, 1991). Conclusively, competitiveness is the offspring of innovation and R&D at all levels. Factors enabling competitiveness depend on how developed is the economy (Armbruster *et al.*, 2008). First, for the *factor-driven* economies, competitiveness can be observed in the set institutional arrangements, availability of infrastructure, macroeconomic environment, health and primary education. According to Armbruster et al (2008), these factors can be enabled through organizational innovation that can demand restructuring and reforms. Moreover, they can be possible by the use of increment innovation. The procedural innovation and structural innovation are key for enabling intra-organizational and inter-organizational relations and innovation diffusion (Gamba. 2017; Oishi, 2013). Second, in the *efficiency-driven* economies, competitiveness is manifested by efficiency in goods and services in markets, higher education and training, labour and financial market development, technology and market size. Countries striving for the *efficiency-driven* economy need to choose the right form of innovation. Suchanek, Spalek & Sedlacek (2011) underscores incremental and transformational innovation as useful for the situation. Transformation innovation, for example, is done when there is uncertainty of the problem and usefulness new initiatives (Zawislak, 2011); innovations of this type are mostly undertaken in collaboration with other actors such as universities because of the risks involved. Third, the innovation driven economies are engaging much in radical innovations where problem are well defined, but the path to the solution is missing (ibid.). This involves intensive

research and technological deepening. In a whole, any level of competitiveness required, the kind of relevant innovation is important to get to the desired competitive destination. Such innovation needs to provide a better solution than others or the past. The literature shows that at any level and scale of competitiveness aspired in a developed or developing country, the enablers of such competitiveness is the right set of innovation mix (Gamba, 2017; Oishi, 2013).

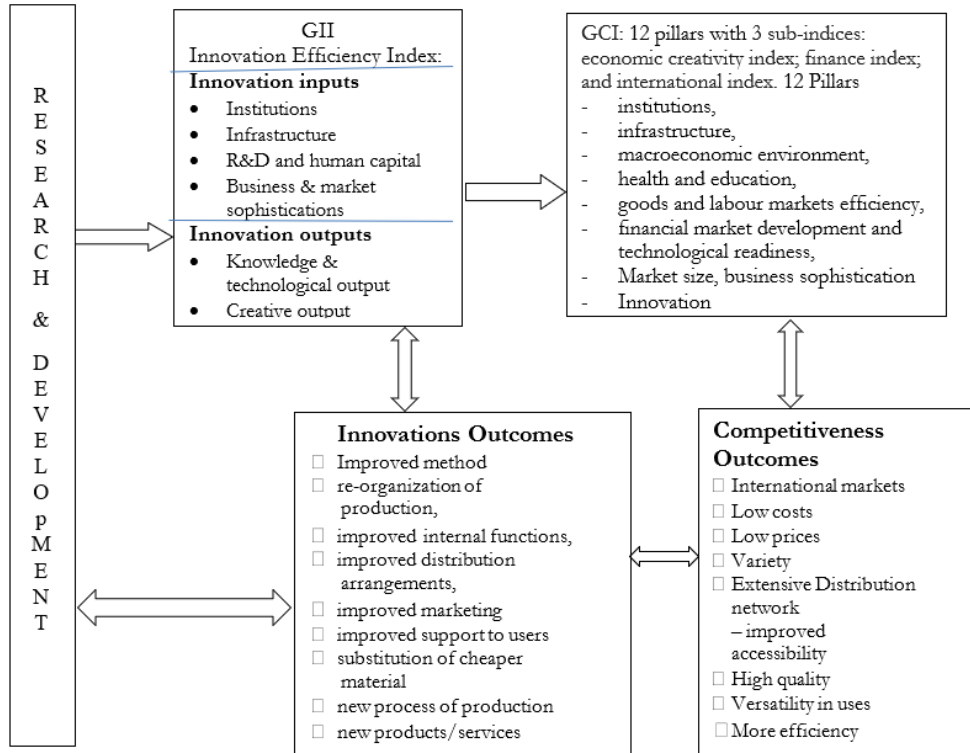
Conceptual Framework

Fargerberg (1988) asserts that the relationship between R&D, innovation and competitiveness is vicious, cross-cutting and multi-dimensional in conceptualization, operationalization and strategization. GII (2016) as well as EOCD (2012), Mwamila (2004) and Mytelka (2004) assert that though there are many enhancers for innovation such as social capital, effective system of innovation, collective system of knowledge and learning and macro-economic policies: R&D play a major role. The protrusion of R&D is also in line with the arguments of Oyeyinka (2004), Wang (2014) and Cornel University et al., (2019). Further, Lall and Pietrobelli (2003) argue that there are many pillars for national, regional or global competitiveness but innovation plays a prominent role and also influences other factors at all levels. Indeed, competitiveness in all states of economy depends on varied elements of innovation (GCI, 2016; Wang, 2014). Competitiveness being an outcome from strategic investment manifests itself in institutional performance and financial productivity which allows more R&D and consequently massive and quality innovations. It is noted that output of R&D is the input of innovation and the output of innovation is the competitiveness: this causes varied time

span of variables. It is seen that some variables have spans over seven (7) years while the other is over four (4) years. Figure

1 shows the conceptual framework of this study.

Figure 1: Conceptual Framework



Source: Author conceptualization based on Cornel University et al., (2019), Oyeyinka (2004) and Wang (2014)

Methodology

The desk study was conducted by reviewing various documents on R&D, innovation and competitiveness using secondary data from both developing and developed countries. Authenticated global statistics and data from International comparative benchmarks such as Global Competitiveness Indices (GCI) and Global Innovation Indices (GII) are used and referred to for comparison purposes. The base is the 40 top spenders on R&D and their position in the top 30 countries in innovations and competitiveness. Global documents from benchmarking institutions dealing with publishing and dissemination of R&D results, innovation activities and competitiveness comparative figures were explored including International Research & Development Institute (IRI), (GII and GCI). Further the criteria used for comparison were also looked at. Statistics on global spending on R&D from 2011 through 2017 were categorically analyzed covering how much is spent in R&D between countries: such as spending on natural against applied research; in research opposed to development; how is the acquisition and management of knowledge, human capital and infrastructure; new thinking of R&D off-springs; and organization stability, legitimacy and risk bearing for commercialization circles. Statistics on global innovation and competitiveness indices from 2015 to 2018 were analyzed. The developed, emerging economies and developing countries, particularly sub-Saharan African countries were involved in the comparative analysis by accounting for R&D budgets, innovation efficiency, innovation outcomes and competitiveness outcomes (Cornel University et al., 2019; Oyeyinka, 2004 and Wang, 2014). Then comparison was done using criteria such as regional and global ranking of R&D spending, innovators and

those who were ranked more competitive to determine if they are the same actors or there were positional intrusions: meaning the tendency of actors to shift from one position to another and enabling unexpected and new entrants of innovation and competitiveness in the top global ranks. The global innovation index (GII) considers the innovation efficiency which is composed of the innovation inputs and innovation outputs. Both have the same weight in calculating the overall GII scores for countries (Dutta et al., 2020). The former consist of institutions, human capital and research, infrastructure and market and business sophistications. Whereas, the later consists of knowledge, technological and creative outputs (Iqbar & Rahman, 2020; WIPO, 2016).

The computation of competitiveness integrates a set of 12 pillars with three sub-indices making up GCI: the economic creativity index, the finance index and the international index. (EOCD, 2005). The creativity index consists of variables for current technological effort and technology imports. The finance index has variables for financial market sophistication and accessibility, interest rates, financial supervision and the current state of the capital market. The international index measures import barriers, exchange rate issues. 1st pillar is institutions to portray that the institutional environment of a country depends on the efficiency and the behavior of both public and private sectors. The second pillar is infrastructure for ensuring the effective functioning of the economy. The third pillar is macroeconomic environment for economic stability. Fourth and fifth pillars are on health and education. The sixth and seventh pillars are goods and labour markets efficiency which are necessary for supply-and-demand conditions in the economy. The eighth and ninth pillars are

financial market development and technological readiness respectively. Market size is the 10th pillar as it affects productivity since large markets allow firms to exploit economies of scale while business sophistication (11th pillar) embodies the quality of a country's overall business networks and the quality of individual firms' operations and strategies. The 12th pillar is innovation (mainly the output side) being important for economies as they approach the frontiers of knowledge, and the possibility of generating more value by merely integrating and adapting exogenous technologies (Iqbar & Rahman, 2020).

Synthesis of the Findings

The synthesized findings presented are observations from the authenticated institutions and statistics and general trend of development politics and economics related to R&D, innovation and competitiveness. This synthesis would instigate some explicit efforts of explaining differences in national development from R&D-innovation-competitiveness perspective for all stakeholders rather than addressing biased development partners skewed issues of interest such as reforms, governance, environment etc. The synthesis gives a thorough snapshot for development thought and policy concerns especially for developing countries. The participation of countries in the GII over years has been 132 (in 2023), 130 (in 2020), 129 (in 2019), 126 (in 2018), 127 (in 2017) and 128 (in 2016).

Based on the alignment of recent and historical GCI and GII tables and global R&D results from 2015 to 2023 it is portrayed that: first, the findings show that 70% of 40 top R&D spending countries (in terms of GERD) are also top innovators and competitive regionally and globally. This displays that the GERD value is an

indicator that R&D activities are going on and show that the innovation activities are possible. On the other hand, the percentage of GDP spent on R&D depending on country's GDP value, can give indicative impact on innovation and subsequently competitiveness. It informs about the pivot role of political will and corporate strategic intent on competitiveness value chain for revolutionizing sustainable national development and sovereignty upgrading in countries. This confirms that competitiveness begins with intentional efforts on research and development and is embedded in national political processes and corporate strategies. Second, it has been revealed that many developing countries have higher GDP growth rate than developed countries. This study shows that in developing countries there is no relationship between high GDP growth rate and high level of development. This concurs with Samimi & Alerasoul (2009) whose analysis indicated that the low R&D expenditures of developing countries have no significant effect on economic growth. The developing countries' figures on economic growth have little to address on private sector prosperity and people-centred development in terms of choices, income per capita, standard of living and competitiveness from grass-root to global level (Sala-i-Martin, 2013; Porter *et al.*, 2008).

Fourth, according to OECD (2003), more than two-thirds of R&D spending by firms or countries is directed to development rather than research. While in most developing countries there is insignificant spending on R&D, its intensities in developed countries show that basic research is less than one fifth of total R&D spending (OECD Scoreboard, 2003). Researchers in developing countries engage much more on basic research for the consumption by international development

and cooperation agencies sponsored by developed countries. There is insignificant work on development in developing countries, thus it can be miraculous to improve innovativeness and competitiveness (OECD, 2012; OECD, 2003; Ulku, 2004; Samimi & Alerasoul, 2009). Fifth, the developing countries spending relatively high in R&D in both GERD and GERD percentage of GDP are hardly appearing in the top global innovative and competitive countries but they take a good regional ranking. The examples are Mauritius, Bangladesh, Kenya, India, and Rwanda. India for instance, GII (2016) indicates that it was the top innovator in the Central and Southern Asia region, followed by Kazakhstan. Though it cannot protrude as one of the competitive and innovative country, India is within 40 top R&D spending countries globally. The same apply to Mauritius, Kenya and Rwanda in sub-Saharan Africa, who spend relatively more on R&D as compared to other countries are holding good innovation and competitiveness rank regionally.

Sixth, the findings show that 98% of 40 top R&D spending countries (in terms of GERD percentage of GDP) are also top innovators and competitive regionally and globally. the top R&D spenders were established based on absolute spending of GERD. When the R&D percentage of GDP was considered, the findings indicate that those with high R&D percentage of GDP made more innovations than those spent small R&D percentage of GDP. The findings further reveal that countries such as Switzerland, Sweden, UK, USA, Finland, Denmark, Germany, Singapore, South Korea, Ireland and others led by Israel had high percentage of GDP spent on R&D. Despite the fact that their creation of innovations was significant, these countries were also maintaining with consistent and

sustainable high global competitiveness (GII,2016; GCI, 2016; R&D Magazine, 2016). Seventh, some countries ranking high in the top GERD spenders were not good innovators as their R&D percentage of GDP was low. For example (R&D % of GDP in blanket), Turkey (0.88%), India (0.85%), Poland (0.80%), Egypt (0.24%), Indonesia (0.22%), Mexico (0.45%), Bangladesh (0.70%), Argentina (0.62%) and Saudi Arabia (0.32%), had spent small R&D as percentage of GDP and therefore did not innovate much though they are among 40 R&D top spenders in terms of absolute GERD. All African countries fall in this category due to negligible R&D spending both in GERD and R&D percentage of GDP, though South Africa, Mauritius, Kenya and Rwanda are far beyond others in terms of both innovation and competitiveness.

Eighth, it was further found that 100% of top innovators are also competitive regionally and globally. This indicates and justifies the interwoven connection between innovation and competitiveness; the former being researched and developed offering or product for strategization, operationalization and/or commercialization, and the later explains the market judgment and acceptance about the offering in the market playground. This concurs with Wang (2014) arguments that competitive advantages are by-products of innovations and deployment of resources and dynamic capabilities. The results are also in line with EOCED (2012) argument that substantial R&D efforts are determinants to providing innovative, sustainable and competitive socio-economic developmental solutions. The results negate the assertion that R&D especially in terms of the country's GERD is a major determinant for innovation (OECD, 2012), conversely, it is confirming that the major factor is the GERD

percentage of the country's GDP and not GERD itself. Ninth, from year 2014 to 2018 All Countries in the top 40 R&D Spending in terms of both GERD percentage of the country's GDP and not GERD itself are the ones that are top innovators and with the highest competitiveness globally (GII, 2015-2018; GCI, 2015-2018).

Conclusion and Implication

The need to invest more in R&D is fundamental, crucial and critical especially in developing countries. The shortage of research staff, lack research and development funding, lack of innovations and experience of countries' inadequate competitiveness, need to be proactively addressed and positively enhanced. Regardless of the country's level of development, innovation and competitiveness need to be enhanced and investment in R&D is the major and most impacting and enhancing tool. The understanding that innovation is market triggered, and that, it can be tailored and contextualized depending on country's level of development; whether the country economy is factor-driven, efficiency-driven or innovation-driven, is of policy and economic relevance. Indeed, innovation amplifies strategic focus by analyzing the

country GDP growth, identifying and filling market gaps timely, determining and sustaining desired market position and upholding competitiveness. Interestingly, investing in R&D requires political will and strategic intent. That is why some countries with low GDP growth have been allocating a big percentage for R&D while those with high GDP growth providing less for R&D.

The implication is that the countries allocating small budgets to R&D will develop slowly. Developing countries, especially sub-Saharan African countries, should not ignore the preconditions for sustainable socio-economic performance by not embracing R&D. Many countries instead are embracing sure poverty enhancing and liability embodied initiatives. This paper throws silent questions to policy makers and resource allocators particularly in developing countries on what are the optimal factors they usually consider when allocating resources for development? Conclusively, it is historically revealed, theoretically propounded and empirically proven that R&D, innovation and competitiveness are interwoven inputs for developmental outcomes in firms, sectors and countries: recommended and worth for policy and strategic considerations and practice.

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Understanding Stakeholders' Perceptions and Meaning of Corporate Social Responsibility in Uganda: A Cross-Sectional Study

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Abstract

Multinational corporations (MNCs) have a role to play in an African renaissance. One of the vehicles through which this can be accomplished is Corporate Social Responsibility (CSR). A key feature of effective and sustainable CSR is the need to integrate stakeholders' concerns into the thinking and activities of business operations. A good starting point is to understand the CSR perceptions and meaning of the different stakeholders in each culture. To contribute to this understanding, I undertook this study among Ugandan stakeholders of the multinational corporation, Sheraton Uganda Limited, employing Carroll's (1991) four dimensions of CSR. The two categories of stakeholders interviewed for this study included internal stakeholders (employees of Sheraton Uganda, majority of whom were local nationals) and external stakeholders (student interns from local tertiary institutions undertaking industrial training attachment at Sheraton Uganda, and members of the public resting in the Kampala City Council Authority (KCCA) gardens whose maintenance is supported by Sheraton Uganda). The overwhelming perception of CSR was in line with Carroll's philanthropic responsibilities, followed by ethical responsibilities and then economic responsibilities, legal responsibilities were given least consideration. In this Ugandan communalistic society, socio-cultural views and beliefs remain the main drivers of CSR perceptions. The lesson from this case study is that MNCs seeking to undertake CSR initiative in cultures outside their parent culture should invest time and resources in understanding the perceptions and meanings of CSR held by the different local stakeholders who seemingly are of low power compared to internal stakeholders, hold the keys to institutional legitimacy.

Key words: Corporate Social Responsibility, meaning, perceptions, Africa, Uganda

Introduction

Sub-Saharan Africa (SSA) continues to face many developmental challenges. Africa continues to be a marginal player in global trade, while SSA accounts for 17.1% of the global population, its contribution to global trade is only 2.8% and its uptake of global Foreign Direct Investment (FDI) is only 3.5% (UNCTAD, 2021, 2024). Its estimated that 490 million people in SSA (34% of the continent's population) continue to live under the poverty line of USD1.9 purchasing power parity, 40 million people from 16 African countries are displaced as a result of war conflict, 216 million children in Africa suffer from stunting and malnutrition and more than 110 million people on the continent are directly affected by weather, climate and water-related hazards causing more than USD \$ 8.5 billion in economic damage (UNCTAD, 2021, 2024; Africa Center for Strategic Studies, 2023; van Schalkwyk et al. 2024; African Development Bank, 2023; World Meteorological Organization, 2023). It is no wonder therefore that Africa has the lowest life expectancy in the world at 61 years for men and 65 years for women compared to the global average of 70 years and 75 years respectively (Dyvik, 2024).

In 2014, the Executive Secretary of Economic Commission for Africa called on the private sector including Multinational Corporations (MNC) operating in Africa to adopt Corporate Social Responsibility (CSR) and advance the continent's development. The African Union's Agenda 2063, a long-term vision for Africa, also emphasises the need for businesses to manage their resources responsibly to benefit the continent's people and promote economic growth. According to the Corporate Finance Institute-CFI (2025), a multinational corporation (MNC) is *'a company that operates in its home country, as well as in other countries around the world. It maintains*

a central office located in one country, which coordinates the management of all of its other offices, such as administrative branches or factories. The multinational needs to maintain actual business operations in other countries and must make a foreign direct investment there'.

Corporate Social Responsibility (CSR) is one of the vehicles through which MNCs could contribute to sustainable development in Africa. The World Business Council for Sustainable Development (WBCSD) (2002) defines Corporate Social Responsibility (CSR) as, *'a continuing commitment by businesses to act ethically, contributing to economic development while improving the quality of life of their workforce, their families, the local community, and society at large'.* This definition emphasizes the importance of ethical behavior, economic contribution, and improvements in the quality of life for various stakeholders. In 2010, African leaders and opinion leaders developed the Monrovia Principles, a made-in-Africa set of CSR guidelines that emphasises CSR as a growth partnership between business, government, civil society aimed at encouraging entrepreneurship and inclusive economic growth (Brenthurst Foundation, 2010). The Monrovia Principles called on business to contribute at least 0.7% of their profits to CSR activities paralleling the donor Official Development Assistance (ODA) target and suggested a view of CSR that remains concentrated on philanthropy rather than core business practices (Brenthurst Foundation, 2010).

When well-crafted and implemented CSR actions will attract positive outcomes to the business and host community (Huber and Schormair, 2021). On the other hand, when a CSR program is poorly implemented as we have seen with the experience of Shell in Nigeria's Niger-Delta region, it can lead to business frustration and dissatisfaction

of host communities (Adeyeye & Adekeye, 2022). One of the reasons for the failed CSR initiative of Shell in Nigeria was poor methods of engaging stakeholders particularly the host communities. A key feature of effective and sustainable CSR is the need to make stakeholders' interests paramount in corporate management (Clark & Bahson, 2012; Bahaudin & Frank, 2013). According to Freeman (1984), a stakeholder can be defined as *'any group or individual who can affect or is affected by the achievement of the organisation's objectives'*. The theoretical framework that will guide this paper is based on both the institutional and stakeholder theories (Martínez et al, 2016). According to this framework, for organisational survival, corporations operate and keep their actions and behaviour consistent with the demands of both their internal stakeholders (employees, managers, and shareholders) and external stakeholders (customers, local communities, governments, NGOs, suppliers, and the environment). According to this framework, I postulate that powerful internal stakeholders such as the management of a corporation have to listen to the seemingly low power external stakeholders such as the community because the latter hold the keys to institutional legitimacy. Legitimacy can be defined as a set of norms, beliefs, values and principles accepted by society and the community that allows the organisation to achieve the support and backing for their activities. Legitimacy according to Martinez et al (2016) is important to a corporation because it allows the corporation more efficient access to resources from various stakeholders including investor funds, support from government, increased sales and customer loyalty, access to the negotiation of contracts with different suppliers and distributors, obtaining respect and commitment of employees among others. All this helps to improve the

organisations economic and financial performance hence ensuring the corporations survival.

Based on the above theoretical framework, stakeholders' interests, both internal and external must be incorporated and accommodated through getting them involved. This entails voluntary integration of social, education, environmental and other related concerns of stakeholders into the thinking and activities of business operations (Adeyeye & Adekeye, 2022). Stakeholder involvement focuses on joint initiatives to deal with problems in a sustainable way, where both parties (business and concerned stakeholders) are made to jointly diagnose stakeholders' problems, provide acceptable solutions, and collectively work to actualise the solution (Adeyeye & Adekeye, 2022). A good starting point to sustainable CSR is that MNCs should understand the diverse perceptions and meaning of CSR held by its different stakeholders across cultures. One of the most widely employed frameworks for understanding CSR is Carroll's (1991) four dimensional pyramid where CSR encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of the organisations at any given point in time. Economic responsibility- represents a business's first responsibility, which is to be profitable. Without profit, the corporation will not be able to pay their workers, employees will lose their jobs even before the company starts CSR activities. Legal responsibility- the second level of the pyramid is the business's legal obligation to obey the law. Ethical responsibility- the ethical layer of the pyramid is described as doing the right thing, being fair in all situations and also avoiding harm. A company should not only be obeying the law, but it should also do their business ethically. Philanthropic responsibility-

corporations should “give back” to the community they take from.

Various authors from Africa using Carroll's CSR framework (1991) as a point of reference have repeatedly demonstrated differences in the perception of CSR between western countries and SSA countries. Carroll's (1991) original formulation of the CSR pyramid had economic responsibilities at the base and Philanthropic responsibilities at the top of the pyramid with legal and ethical components in between. Visser (2006) observes that the ordering of the CSR pyramid in Africa was different from that seen in Carroll's native USA citing differences in socio-economic development and other underlying drivers of CSR. Indeed, subsequent studies by various African authors have noted differences in the prioritisation of Carroll's four dimensions: with philanthropy given priority in Kenya (Muthuri and Gilbert, 2011), South Sudan (Ives and Buchner, 2011), Angola (Luiz Cortes et al, 2014), and Somalia (Ahmednoor, 2021), while in Ethiopia legal responsibilities took precedence (Kusakai and Bushera, 2022). Additionally, differences in motives underlying CSR practice have been cited between local and foreign businesses in Ghana, with local businesses guided by philanthropic considerations while their foreign counterparts were mainly guided by legal prescriptions (Kuada and Hinson, 2012).

To contribute to a better understanding of the perceptions and meaning of CSR by different stakeholder in the SSA situation of Uganda, I undertake a study on CSR perceptions among stakeholders of the multinational corporation, Sheraton Uganda Limited, employing Carroll's (1991) four dimensions of CSR. The three categories of stakeholders interviewed for

this study included employees of Sheraton, students from local tertiary institutions (universities and colleges) undertaking industrial training attachments in various departments of Sheraton and members of the public using (resting) in the Kampala City Council Authority (KCCA) gardens whose maintenance is supported by Sheraton. I approached the analyses of data with two *a priori* hypotheses: 1) that the perceptions and meaning of CSR held by Ugandan study participants will predominantly reflect philanthropic responsibilities in line with findings from many previous African authors who have observed a preponderance of the philanthropic view of CSR (Muthuri and Gilbert, 2011; Ives and Buchner, 2011; Luiz Cortes et al, 2014; Ahmednoor, 2021); 2) Based on the observations by both Karabasevic et al (2016) in Serbia and Pal and Sarker (2022) in Bangladesh that educational attainment and knowledge had considerable impact on the conceptualisation of CSR, I hypothesised that the perceptions and meaning of CSR held by student respondents in this study (whose perceptions on CSR are in flux due to education and training exposure) should lie between those held by Sheraton employees (Sheraton employee's perceptions should be the most inclined to Carroll's original formulation of CSR given that their mother corporation originates from the same sociocultural background as Carroll (1991), that is the United States of America) and those held by community members recruited from the KCCA gardens (inclined towards the normative perceptions of a communalistic African society).

Study Context

This study was undertaken in Uganda, a landlocked country in East Africa. According to the Uganda Bureau of Statistics, Uganda's population stands at

46.5 million (Uganda Bureau of Statistics, 2024). Despite three decades of sustained economic growth, poverty remains a serious social problem in Uganda. Uganda remains one of the poorest countries in the world with 16.9 million people (41.1%) live below the poverty line (USD1.9 per person per day) (Uganda Bureau of Statistics, 2021). The country has registered mixed progress in reducing the proportion of the population living below the poverty line from 63.8% in 1992/93 to 35.6% in 2012/13, then an increase to 41.7% in 2016/17 which decreased in 2019/20 to 41.2% (Ministry of Finance, Planning and Economic Development, 2023). The country continues to prioritise the fight against poverty through among others the framework of public-private partnership that seeks greater participation of the private sector including MNCs in poverty alleviation (Ministry of Finance, Planning and Economic Development, Uganda, 2023).

Growth of CSR in Uganda

Despite Uganda's Foreign Direct Investment (FDI) having grown over the last 30 years from \$787 million in 2008 to \$1.5 billion in 2023, this is still below the averages of 5.4% and 5.5% for low-income countries and the sub-Saharan Africa respectively (Economic Policy Research Centre, 2023). Foreign businesses which traditionally came from the west have been joined by investors from emerging economies especially China and India. Awareness of CSR varies greatly among corporate actors in Uganda with no organisation formally monitoring compliance with CSR standards. There is no legal requirement to engage in CSR for corporations that want to set up operations in Uganda unlike in African countries such as South Africa where it is a requirement to be listed on the Johannesburg Stock Exchange (Ackers and Eccles, 2015). While

Uganda government officials make statements encouraging CSR, there is no formal government program to monitor, require, or encourage CSR. In practice, endemic corruption often enables companies to engage in harmful or illegal practices with impunity. Regulations on human and labor rights, and consumer and environmental protection, are seldom and inconsistently enforced (United States Department of State, 2023). The United States Department of State 2014 report observed that while consumer buying habits are rarely based on CSR, some large corporations, including foreign oil companies, have experienced community pressure and social unrest when residents do not see any direct benefit from their presence. Such larger enterprises have therefore been involved in building schools and hospitals, improving roads and other social services in areas where they operate, mainly in rural areas. Other CSR activities that have been undertaken by big corporations in Uganda include setting up low-cost housing for the destitute, scholarship schemes for disadvantaged children, providing farm inputs such as fertilisers, improved seed, agricultural extension services, provision of microcredit, improving health services including providing HIV awareness at the workplace. So, although there are no formal government laws regulating CSR activities in Uganda, corporations are increasingly expected to give back to society through CSR activities (United States Department of State, 2014).

Recognition of CSR in Uganda

While there is fairly good information on some government anti-poverty initiatives such as the microfinance sector in Uganda, there is hardly any systematic information on the contribution of CSR to the economy of the country. Part of the problem is due

to the lack of formal recognition by the Uganda government of the contribution this sector to the economic life of the country (Katamba and Gisch-Boie, 2008). CSR as a priority item does not appear anywhere among the government priority issues. There are however several laws and institutions in place which indirectly concern CSR, these include: Employment Act 2006, Occupational Health and Safety Act 2006, Labour Disputes Act 2006 and the Labour Union Act 2006, Mining Act, National Forestry and Tree Planting Act, Water Act, National Environment Act, and Noise Standards and Control Regulations (Royal Norwegian Embassy in Kampala, 2009). These laws are not always adhered to and enforced, it is up to institutions and organisations such as the Institute of Corporate Governance Uganda, the National Environmental Management Authority, the Directorate of Ethics and Integrity, the Federation of Ugandan Employers and the Uganda Manufacturers Association to ensure enforcement.

Local perceptions of CSR in Uganda

Reviewing the literature on CSR in Uganda, Katamba and Gisch-Boie (2008) in study involving senior managers of 50 local companies observed that the sampled managers defined CSR in terms of giving back to the community and stakeholder management and that they were convinced of the relevancy of CSR to the development of Uganda. Katamba and Gisch-Boie (2008) further observed that while many of the companies interviewed had not

community aspects of CSR such as 'improving the quality of life of the communities' which agrees with the predominant local definition of CSR of giving back to the community. According to Katamba and Gisch-Boie (2008) financial profitability and increased competitiveness were not directly cited as motivators /drivers of CSR in their study. On challenges experienced when implementing CSR, Katamba and Gisch-Boie (2008) reported that many companies lacked a CSR strategy. As a result, many engaged in CSR on a trial-and-error basis often overwhelmed by requests from communities and NGOs. Companies also reported facing difficulties accessing technical support and expertise related to CSR implementation, monitoring, and evaluation. Another challenge facing CSR in Uganda is that although small and medium enterprises (SMEs) employ 70% of the Ugandan workforce, most of them lack skills and resources to engage in CSR activities, there is need for training and technical support to the SME sector to address this. Lastly, the Government of Uganda has not come out with formal guidance on the practice of CSR in the country, hence its implementation and monitoring has not been incorporated into the formal monitoring of the economy.

Ddungu and Edopu (2016) in study of CSR activities of public and private universities in Uganda observed that CSR activities in both categories of universities were still

low, much lower in public universities than private universities. Mutesi (2015) in study involving two banks in Uganda observed that CSR contributed to a positive public image of the bank and was a form of advertising. Wabasa (2024) in a study at a bank in Uganda comparing the association between financial performance and implementation of three of Carroll's

"branded" their activities as CSR, when disclosed to and briefed about the broader issues involved with CSR, these companies were able to realise that they were already practicing CSR. On drivers of CSR, Katamba and Gisch-Boie (2008) reported that these were majorly related to

categories of CSR observed that while philanthropic activities were significantly and positively associated with financial performance, ethical and economic activities were not. Lastly, Asaba (2014) in a study on the impact of CSR on the business performance of a telecom multinational (MTN) in Uganda observed that CSR practices enhanced stakeholder commitment towards the company through better staff morale, customer approval, and customer loyalty.

Study Setting

The study was undertaken at both the Sheraton Kampala Hotel and the adjacent Kampala City Council Authority (KCCA) public gardens in Uganda. The choice of Sheraton Kampala Hotel was guided by the fact that Sheraton is one of the multinational corporations that has been operating in Uganda for over 30 years and has a well publicised CSR program including supporting the maintenance of one of the few public gardens in the capital city of Kampala. Secondly the Kampala City Council Authority (KCCA) public gardens are open to all members of the public at no cost and hence would provide an ideal setting for members of the general public to discuss CSR in the Ugandan context.

Choice of Study Sample

The study was conducted among a convenience sample that included both internal and external stakeholders of the multinational corporation, Sheraton Uganda Limited. The internal stakeholders included Sheraton employees while external stakeholders included members of the public who were exposed to the CSR activities of Sheraton Uganda (members of the public who were found taking a rest in the KCCA public gardens whose maintenance was supported by Sheraton) and student trainees from tertiary

institutions in the country who were exposed to the CSR activities of Sheraton (student trainees who were doing industrial training at various departments of Sheraton). Data collection was undertaken in 2008.

Research Methodology

The same questionnaire was administered to Sheraton employees, members of the public (resting in the KCCA public gardens) and student trainees. The same questionnaire was administered to Sheraton employees, members of the public (resting in the KCCA public gardens) and student trainees. The questionnaire included two sections i) a multiple choice section, and ii) a semi-structured questions section that was open ended. The multiple choice section that was relevant to this paper included: a) ***Socio-demographic characteristics of the respondent***-gender, marital status, highest level of education, employment status, duration of employment; b) ***Questions about CSR***- a module consisting of 12 questions derived from a questionnaire used in the World Bank's CSR study by Fox et al. (2002). The module has questions that inquire about the expected characteristics of a model CSR program from the western perspective. It has statements such as, '*a socially responsible business complies with the law*' with the study respondent required to indicate how much they are agreed/disagreed with each of these statements using a 5-point Likert response: 1=strongly agree, 2=agree, 3=not sure, 4=disagree and 5=strongly disagree). The ***semi-structured question*** that is relevant to this paper was, '*what do you understand by the term a socially responsible business?*' These questionnaires were available in both English and Luganda (the local language spoken in the capital city of Kampala where this study was carried out). For the semi-structured questions, the respondent answers were recorded

verbatim. The interview took about 40 minutes.

Data Analysis

Data from the questionnaires (both quantitative and the semi-structured responses) were all entered using SPSS version 16.0. A total of 239 respondents participated in this study, this included Sheraton employees (39), members of the public utilising the public gardens (134), and student trainees (66). While all the Sheraton employees and trainees approached, returned filled out questionnaires, 67% (134/200) of the questionnaires given to members of the public utilising the public gardens were returned. A description of the characteristics of study participants using frequencies was made. I employed principal component analysis to derive dimensions of CSR from responses to the 12-item CSR questionnaire used in the World Bank CSR Study by Fox et al. (2002). I coded the responses from the semi-structured question, *'what do understand by the term a socially responsible business?'* in order to undertake a differentiated analysis of CSR themes by stakeholder category.

Principal Component Analysis (PCA)

To derive the main factors/components of CSR from responses to the 12-item questionnaire used in the World Bank CSR Study by Fox et al. (2002), I employed principal component analysis (PCA). The analysis plan used in this study followed the

recommendations of Pallant (2007) who suggested the following steps:

Step 1: To check the stability of the data, the sample of 239 was split into two equal subsamples (1st sub-sample running from ID no. 1-120; 2nd subsample running from ID No. 121-239) and the PCA analysis was

run separately on each of these subsamples. To undertake this analysis, we used the statistical software SPSS version 16.0.

Step 2: To check the suitability of the data for factor analysis, each of the subsample data sets was subject to a number of tests which included: i) inspection of the correlation matrix for a predominance of correlation coefficients of 0.3 and above; ii) determination of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO; which should have a value of 0.6 and above); iii) determination of the Barlett's Test of Sphericity (whose value should be statistically significant at a value of 0.05 or smaller).

Step 3: 'Factor extraction' was then undertaken to determine the smallest number of factors that can be used to best represent the interrelations among variables for a given quantitative questionnaire representing a construct.

Step 4: After undertaking principal component analysis, I used both the Kaiser's criterion and the Scree test to assist in the decision concerning the number of factors to retain in a given subsample. According to Kaiser's criterion only factors with an eigenvalue of 1.0 or more should be retained for further investigation with the eigenvalue representing the amount of the total variance explained by that factor (Pallant, 2007).

According to Pallant (2007), the Kaiser criterion often extracts too many components hence the recommendation to also look at the Scree plot provided by the Catell's scree test (Catell, 1966). This involves plotting each of the eigenvalues of the factors (SPSS does this for you) and inspecting the plot to find a point at which the shape of the curve changes direction and becomes horizontal. Catell

recommends retaining all the factors above the elbow as these factors contribute the most to explain the variance in the data set.

Step 5: To facilitate the interpretation of the factor structure obtained, the factors were subjected to 'rotation'. Factor rotation does not change the underlying solution, but rather presents the pattern of loadings in a manner that is easier to interpret. The factor rotation technique used in this study is the Direct Oblimin technique.

Differentiated analysis of CSR themes by respondent category

A differentiated analysis of generated themes from the semi-structured question, '*what do understand by the term a socially responsible business?*' was undertaken by respondent category. To undertake this, a two-step approach was employed. Firstly, themes were generated from the semi-structured question, '*what do understand by the term a socially responsible business?*' using the thematic approach of Boyatzis (1998). To

gain a sense of the data I first read through all the responses to this question. This was followed by carefully reading each response and noting down initial thoughts. I then attempted to generate relevant themes within each respondent's text. After this, these themes were compared across all the data and then themes which were relevant to the research question noted. There were seven main emergent themes, '*giving back to the community*', '*treats employees fairly*', '*undertakes profitable business*', '*provides local employment*', '*is fair to its customers*', '*does not discriminate persons*', and '*engages in legitimate business*', which could be represented into Carroll's four dimensions of philanthropic responsibilities (giving back to the community), economic responsibilities (undertakes profitable business, provides local employment and treats employees fairly), ethical responsibilities (is fair to its customers and does not discriminate against persons) and legal responsibilities (engages in legitimate business).

Table 1: Emergent themes from the analysis of semi-structured question of, 'what is a socially responsible business?'

Emergent themes from the semi-structured responses	
Giving back to the community.	<i>Philanthropic Responsibilities</i>
Undertakes profitable business.	<i>Economic Responsibilities</i>
Provides local employment.	
Treats employees fairly.	<i>Ethical Responsibilities</i>
Is fair to its customers.	
Does not discriminate against persons.	
Engages in legitimate business.	<i>Legal Responsibilities</i>

Secondly, to code for these themes in the quantitative data, I employed the following procedure. I created columns for derived variables in the SPSS data set based on the generated themes. The following derived variables were created: 'givcom' representing the theme '*giving back to the community*'; 'tretemp' representing the theme '*treats employees fairly*'; 'underp' representing the theme '*undertakes profitable business*'; 'locemp' representing the theme '*provides local employment*'; 'faircu' representing the theme '*is fair to its customers*'; 'discri' representing the theme '*does not discriminate against persons*'; and 'engage' representing the theme '*engages in legitimate business*'. These derived variables were created next to the qualitative text. To populate the columns of each derived variable, I examined the qualitative text of each respondent looking for text relevant to the themes. If in each respondent's text a specified theme was implied, then this was indicated in the

appropriate column with the number 1=present, if a specified theme was not present in the qualitative text, then the number 0= 'not present' was written in the column. After completing all the entries, cross tabulations between the themes and stakeholder category was undertaken. Some of the respondent's text contained more than one theme, these were all indicated in the relevant columns. Since the generated frequencies of the different themes were not independent of each other, I could not employ statistical tests at comparison, instead I simply reported frequencies.

Ethical Considerations

The study was granted permission by the Uganda National Council of Science and Technology, Reference Number: SS 2141, dated 06.10.2008. Study respondents were required to give informed written consent to be interviewed after the study objectives and methods had been explained to them.

Results

Characteristics of study participants.

Table 2: Characteristics of study participants

Characteristics	Sheraton Employees (N=39) n (%)	Members of the Public (N=134) n (%)	Sheraton trainees (N=66) n (%)
<i>Gender</i>			
Male	26 (66.7%)	94 (70.1%)	22 (33.3%)
Female	13 (33.3%)	40 (29.9%)	44 (66.7%)
<i>Age structure</i>			
20-24 years	2 (5.1%)	1 (0.7%)	66 (100%)
25-29 years	9 (23.1%)	30 (22.4%)	-
30-34 years	9 (23.1%)	58 (43.3%)	-

Table 2 shows the characteristics of the study participants. Majority of Sheraton employees and members of the public were male, while the majority of trainees were females. While all the trainees were less than 25 years of age, the majority of Sheraton employees and members of the public were over the age of 25 years. All the study participants had attained some form of formal education. Only 37% of members of the public were employed.

Carroll's CSR domains in the Ugandan data

The data derived from the questions in the 12-item CSR structured questionnaire used in the World Bank Study by Fox et al. (2002) was subjected to principal component analysis (PCA). In order to check the stability of the data, the sample of 239 respondents was split into two equal subsamples (1st subsample running from

ID no. 1-120; 2nd subsample running from ID No. 121-239) and the PCA analysis was run separately for each of these subsamples. To check the suitability of the data for factor analysis, we undertook the following tests, firstly, we inspected the correlation matrices of the two samples, subsample 1 and subsample 2 which revealed the presence of many coefficients of 0.3 and above (presence of many coefficients that are 0.3 and above indicates suitability for factor analysis). Secondly, we examined the Kaiser-Meyer-Olkin and Barlett's Test of Sphericity values of the two subsamples. The Kaiser-Meyer-Olkin values of both subsamples were 0.82 and 0.74 respectively (values that exceeded the recommended value of 0.6) (Kaiser, 1970 and 1974). The Barlett's Test of Sphericity of both subsamples reached statistical significance, supporting the factorability of the correlation matrices of both subsamples.

Table 3: Principal component analysis of sub-samples 1 and 2

Component	Sub-sample 1			Sub-sample 2		
	Eigenvalues	% of Variance	Cumulative %	Eigenvalues	% of Variance	Cumulative %
1	4.552	37.936	37.936	4.070	33.916	33.916
2	2.188	18.234	56.170	2.125	17.705	51.621
3	1.012	8.433	64.603	1.068	8.897	60.518
4	.801	6.679	71.282	.870	7.249	67.767
5	.672	5.604	76.886	.812	6.766	74.533
6	.562	4.681	81.567	.683	5.688	80.221
7	.525	4.377	85.944	.610	5.087	85.308
8	.431	3.588	89.532	.522	4.351	89.659
9	.385	3.207	92.739	.467	3.893	93.552
10	.379	3.161	95.900	.325	2.705	96.257
11	.324	2.698	98.599	.255	2.123	98.380
12	.168	1.401	100.000	.194	1.620	100.000

Note: Extraction Method: Principal Component Analysis.

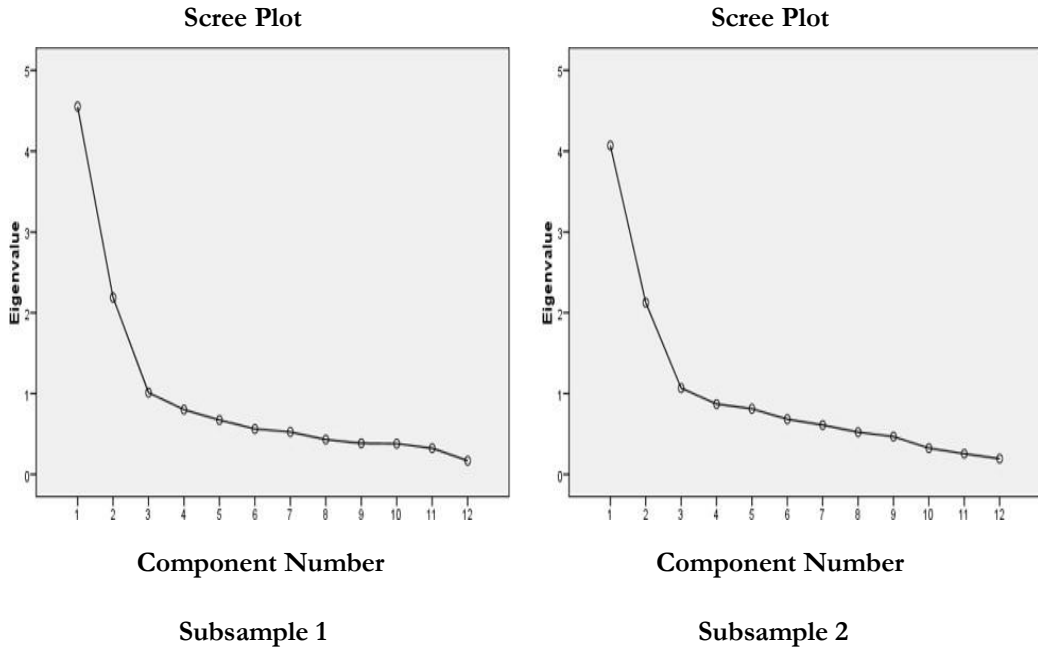
Factor extraction was used to determine the smallest number of factors that can be used

to best represent the interrelations among the set of variables. Principal component

analysis revealed the presence of three components with eigenvalues exceeding 1 (Table 3). In subsample 1 these components explained 37.9%, 18.2% and 8.4% of the variance respectively and in subsample 2 these components explained

33.9%, 17.7% and 8.9% of the variance respectively. That the results from the two subsamples gave a three-component structure with each component explaining similar levels of variance points to the stability of this data.

Figure 1: Scree plot of eigenvalues by number of components in subsample 1 and 2



To confirm the decision concerning the right number of factor components we undertook the Catell's scree test (Catell, 1966). Catell recommends retaining all the factors above the elbow as these factors contribute the most to explain the variance in the data set. Looking at Figure 1, there is quite a clear break between the 3rd and 4th

component. Components 1-3 in both subsamples explained more variance than the remaining components, hence the decision to retain only these three components. These three components explained a total variance in subsample 1 of 64.6% and a total variance in subsample 2 of 60.5%, very similar figures.

Table 4: Pattern matrix for principal component analysis with Oblimin Rotation of the three-factor solution for subsamples 1 and 2

Item	Pattern coefficients of subsample 1			Pattern coefficients of subsample 2		
	<i>Comp. 1</i>	<i>Comp. 2</i>	<i>Comp. 3</i>	<i>Comp. 1</i>	<i>Comp. 2</i>	<i>Comp. 3</i>
11. Helps to improve the health and social situation of the disadvantaged	0.935			0.751		
12. Undertakes projects to eradicate poverty among the disadvantaged	0.882			0.866		
10. Supports projects with long term social effect	0.681			0.826		
9. Is active in environment protection	0.616			0.648		
7. Promotes the development of civil society	0.403	0.515		0.690		
3. Has a successful business	-0.307	0.335	0.621			0.752
1. Cares about staff		0.714				0.667
2. Is committed to social activities that benefit the community		0.705	-0.343			0.757
8. Is fair in dealing with clients		0.683				0.381
4. Complies with the law		0.677			0.573	0.302
6. Is fair and loyal to competitors			0.840		0.882	
5. Is fair and loyal to partners			0.685		0.826	

Note: Comp.1: Stands for component 1, Comp.2: Stands for component 2, Comp.3: Stands for component 3

To facilitate interpretation of the component structure, a process of 'factor rotation' was undertaken using the Direct Oblimin technique. Reported in Table 4 is the pattern matrix of both subsample 1 and

2. I looked at the highest loading items on each component in order to identify and label the components. Looking at the results from subsample 1, the main loadings on Component 1 were items 11, 12, 10, 9

and 7 which corresponds to Carroll's (1991) CSR category of philanthropic responsibilities. Component 2, where the main loading items were 7, 3, 1, 2, 8, and 4 correspond largely to Carroll's (1991) CSR category of economic responsibilities. There was a slight overlap (of 2 items) with Carroll's (1991) categories of philanthropic responsibilities (1 item) and Ethical responsibilities (1 item). Component 3, where the main loading items were 3, 6, and 5 corresponded with Carroll's (1991) CSR category of ethical responsibilities.

Looking at the results from subsample 2, the main loadings on Component 1 just like in subsample 1, were items 11, 12, 10, 9 and

7 which corresponds to Carroll's (1991) CSR category of philanthropic responsibilities. Component 2 had as main loading items 4, 6, and 5 which corresponds to Carroll's (1991) CSR category of ethical responsibilities. Component 3, mainly loaded on items 3, 1, 2, 8, and 4 which corresponds to Carroll's (1991) CSR categories of economic responsibilities. In subsample 2 there was one item ('complies with the law') which loaded onto 2 Components (Component 2 and 3). In summary, both subsamples loaded in order of decreasing variance onto the following Carroll's dimensions of 'philanthropic responsibilities', 'ethical responsibilities' and 'economic responsibilities'.

CSR Themes differentiated by respondent category.

Table 5: Definition of 'socially responsible business' by stakeholder category

Themes	Stakeholder category		
	Internal stakeholder	External stakeholder	
	Sheraton Employees	Members of the Public	Student trainees
<i>Philanthropic Responsibilities</i>			
Giving back to the community.	46.1%	42.5%	37.9%
<i>Economic Responsibilities</i>			
Undertakes profitable business.	5.1%	9.0%	15.2%
Provides local employment.	12.8%	4.5%	15.2%
<i>Ethical Responsibilities</i>			
Treats employees fairly.	0.0%	11.2%	10.6%
Is fair to its customers.	2.6%	3.7%	0.0%
Does not discriminate against persons.	2.6%	3.0%	1.5%
<i>Legal Responsibilities</i>			
Engages in legitimate business.	0.0%	3.4%	1.5%

Cross-tabulation of the coded emergent themes from the the semi-structured question, 'What do you understand by the term socially responsible business?' by respondent category generated the frequencies in Table 5. Looking at the definition of 'a socially responsible business' by stakeholder category (Table 5), nearly equal proportions of Sheraton employees (46.1%) and members of the public (42.5%) and slightly less student trainees (37.9%) defined it as 'giving back to the community'. All categories of stakeholders mentioned economic and ethical responsibilities but at a lesser frequency than philanthropic responsibilities. While both members of the public and student trainees mentioned legal responsibilities, Sheraton employees did not mention this domain of CSR.

Discussion

While there is an abundance of literature on CSR, most of this work has been undertaken in the western context of Europe, USA and Australia. Where there has been some work undertaken in developing country settings, this has mainly been focused on a handful of countries namely South Africa, Indonesia, India and Nigeria. Despite this, multiple authors have underlined the importance of context and culture in the understanding of the definition of CSR and its practice. Scholars such as Visser (2008) have suggested that factors such as the level of socio-economic development, culture, political reforms, religion, investment incentives, governance gaps, stakeholder activism influence the way CSR is perceived and practiced. To contribute to a greater understanding of CSR in diverse cultural settings, I undertook this study in the sub-Saharan African setting of Uganda.

In this study, I undertook to investigate the perceptions and meaning of CSR among

three categories of stakeholders of the multinational corporation, Sheraton Uganda Limited, employing Carroll's (1991) four-dimensional framework of CSR. The three categories of stakeholders interviewed for this study included employees of Sheraton, students from local tertiary institutions (universities and colleges) undertaking industrial training attachments in various departments of Sheraton and members of the public using the Kampala City Council Authority (KCCA) gardens whose maintenance is supported by Sheraton. I undertook to investigate the perceptions and meaning of CSR by interrogating two hypotheses:

Hypothesis 1: *That the perceptions and meaning of CSR held by Ugandan study participants will predominantly reflect philanthropic responsibilities in line with findings from many previous African authors who have observed a preponderance of the philanthropic view of CSR (Muthuri and Gilbert, 2011; Ives and Buchner, 2011; Luiz Cortes et al, 2014; Ahmednoor, 2021).*

In conformity to the above hypothesis, the results from the principal component analysis of data from responses to the 12-item CSR questionnaire by Fox et al. (2002) showed that the Ugandan study participants overwhelming perceived CSR as Carroll's philanthropic responsibilities this was followed by ethical responsibilities and then economic responsibilities. Legal responsibilities did not attain statistical significance in the principal component analysis. However, in the differentiated analysis of semi-structured responses, the theme 'engages in legitimate business' emerged in support for the legal responsibilities dimension. That philanthropic responsibility was given highest priority in the Ugandan setting agrees with many other African authors

such as Muthuri and Gilbert (2011) in Kenya, Ives and Buchner (2011) in South Sudan, Luiz Cortes et al (2014) in Angola and Ahmednoor (2021) in Somalia. Visser (2006) in explaining this preponderance of philanthropic responsibilities in the SSA setting gave three reasons. Firstly, that the socio-economic challenges faced by most African communities are so great that philanthropic CSR seems to the most appropriate. Secondly, because of the reliance on foreign aid, there is an ingrained culture of philanthropy in Africa. Thirdly, that the CSR concept is still underdeveloped in Africa and because of the lack of a strategic integrative approach to CSR, there is greater tendency to equate CSR to philanthropy. Indeed, some authors such as Helg (2007) in a study in Nigeria observed that very few respondents understood the business implications and benefit of CSR, to them CSR was a duty undertaken to alleviate pressing socioeconomic needs. While the predominance of philanthropy in SSA could be explained as a response to the harsh socio-economic reality of communities, this explanation does not seem sufficient enough to explain its overwhelming endorsement. Amaeshi et al (2006) and Hamidu et al (2016) have suggested that the traditional socio-cultural heritage and religious influences may play a part in this endorsement. Religion and cultural influences affect the norms, values, beliefs and way people behave within a particular societal set up. African societies are collectivistic in nature and uphold religious beliefs and cultural practices that exhort philanthropic activities like charitable assistance, donations, organising and participating in cultural activities, promoting widely accepted cultural practices and show of belongingness to communal values (Amaeshi et al., 2006; Hamidu et al., 2016). The role of culture

and religion could also be seen in the endorsement of ethical responsibilities by study participants, where the notion that we are accountable to a supernatural authority who will ultimately judge our motives and behaviour could have been a fact in this (Ahmednoor, 2021). Traditional African society is very conscious of the social dimension of morality where the observance of customs, prohibitions or taboos and other normative values ensures social order and stability. In other words, traditional African society maintains social order through the observance of traditional ethical principles and customs and any violation and disregard of these principles could result in disorder and social dislocation. It is therefore no wonder that study participants ranked ethical responsibilities even higher than economic responsibilities because from an African's perspective, it is important to have community order and wellbeing before one can even contemplate on engaging in economic activities. That legal responsibilities received the least mention by this Ugandan sample is not surprising given that there is no legal requirement to practice CSR in Uganda, however, complying with the socially prescribed moral and ethical codes will give a business legitimacy in the community.

Hypothesis 2: Based on the observations by both Karabasevic et al (2016) in Serbia and Pal and Sarker (2022) in Bangladesh that educational attainment and knowledge had considerable impact on the conceptualisation of CSR, I hypothesised that the perceptions and meaning of CSR held by student respondents in this study (whose perceptions on CSR are in flux due to education and training exposure) should lie between those held by Sheraton employees (Sheraton employee's perceptions should be the most inclined to Carroll's original formulation of CSR given that their mother corporation originates from the same sociocultural

background as Carroll (1991), that is the United States of America) and those held by community members recruited from the KCCA gardens (inclined towards the normative perceptions of a communalistic African society).

This hypothesis makes a number of assumptions, namely: i) that Sheraton employees will have views and perceptions of CSR that are closest to Carroll's original ordering of the four dimensions of CSR; ii) that members of the public will have CSR views that are closest to the predominant African perspective of philanthropy; and iii) that the views of the students will be in between the views of Sheraton employees and those of members of the public, with similarities to Sheraton employee views because of their western education and the fact that they were attending training attachment at a western based MNC, and with similarities to the views of members of the public because these students have been nurtured and brought up in the African socio-cultural setting. Looking at the themes emerging from data from responses to the semi-structured question on the definition of a socially responsible business (Table 5), contrary to my hypothesis, all the three categories of respondents predominantly endorsed philanthropic views of CSR. The philanthropic view was endorsed in equal measure by both Sheraton employees interviewed for this study (who were all indigenous African Ugandans) and members of the public interviewed from the KCCA public gardens and to a lesser extent by student respondents. These results point to the fact that in all categories of respondents, philanthropy remained the predominant view of CSR, highlighting the importance of the socio-cultural context in the development of perceptions and meaning of CSR.

Uganda makes an interesting case study on CSR, not only does it provide a socio-cultural context outside the West where most of the research in this area has been undertaken, it remains one of the poorest countries in the world. To address this, the country continues to prioritise the fight against poverty through among others the framework of public-private partnership that includes attracting foreign direct investment through encouraging MNCs to invest in the country. Probably to keep investment hurdles at a minimum and in keeping with the locally held perception that CSR should be discretionary, the country has no legislation on CSR. Although the country has regulations on human and labor rights, and consumer and environmental protection, these are seldom and inconsistently enforced. Against this picture, MNCs entering such a country would be forgiven to think that they can do away without engaging in CSR, but as we have seen in above discussion, the inherent communalistic culture held by the Ugandan society will not look kindly to a business that is not sensitive to the pressing socio-economic challenges facing the community. It is therefore important that businesses engage in CSR, especially philanthropy to obtain legitimacy in such a society.

In conclusion, the lesson from this case study is that MNCs seeking to undertake CSR initiative in cultures outside their parent culture should invest time and resources in understanding the perceptions and meanings of CSR held by the different local stakeholders as a first step to developing a locally appropriate CSR program that will be appreciated by the host community.

Limitations of this study include that it was carried out on only small sub-sample of residents of Kampala city and may not

reflect the over role views of the city residents. Secondly, that the data for study was collected in 2008 and perceptions may have changed since then. The latter may however not be the case as socio-cultural

views and beliefs that seem to have been the main drivers of CSR perceptions may not have changed much between when the study was undertaken and today.

DECLARATIONS

Availability of data and materials

The datasets generated and/or analysed during the current study are not publicly available due to confidentiality reasons but are available from the corresponding author on reasonable request.

Competing interests

The author declares that she has no competing interests.

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Authors' contributions

All the aspects of this study were undertaken by TJ.

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Optimizing Governance in Sub-Saharan Africa: Decoupling Board Chair and AGM Leadership Roles

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Abstract

This study critically examines the implications of separating the roles of Board Chair and Annual General Meeting (AGM) Chair in listed firms across Sub-Saharan Africa, addressing governance challenges rooted in role duality and embedded bias. Employing a qualitative design, the study integrates thematic analysis of 20 semi-structured interviews with a document review of statutory, institutional, and corporate governance (GC) sources. The research adopts an interpretivist lens to explore how role segregation enhances governance outcomes. Findings reveal that separating the Board Chair from AGM leadership significantly strengthens governance integrity, fosters impartial decision-making, and enhances transparency and accountability. Role segregation also mitigates internal conflicts and aligns governance practices with global benchmarks such as King IV and OECD standards. Respondents advocate for regulatory embedding, shareholder participation in AGM Chair selection, and context-sensitive implementation. The study offers actionable recommendations, including the institutionalisation of role segregation, development of accredited AGM Chair registries, and reform of listing rules to ensure sustained accountability and ethical board conduct. This study advances governance scholarship by positioning role segregation as a transformative mechanism for ethical leadership in African GC, contributing to an emerging body of contextually grounded governance reform literature.

Key words: Corporate Governance, Governance Reforms, Board Role Segregation, Annual General Meetings, Accountability.

Introduction

Corporate governance (CG) has long served as a foundational framework for examining the underlying dynamics of organizational control, accountability, and strategic decision-making (Berle & Means, 1932;

<https://dx.doi.org/10.4314/ajmr.v32i1.8>

Jensen & Meckling, 1976; cited in Menz, Kunisch, Birkinshaw, Collis, Foss, Hoskisson & Prescott, 2021). While the core concerns of CG, particularly the separation of ownership and control remain salient, they are increasingly complicated by globalisation, digital disruptions, and the proliferation of diverse stakeholder expectations (Islam, 2022). In this context, growing scholarly and regulatory scrutiny has been directed at the structural and functional integrity of boards, with particular focus on the complex and often conflicted role of the board chair (Blomkvist & Redor, 2023; Dorsey, 2024).

Contemporary CG discourse has begun to challenge traditional governance arrangements, calling for mechanisms that promote greater transparency, ethical stewardship, and social accountability (Uygun, 2020; Aluoch, 2023). With the elevation of Environmental, Social and Governance (ESG) imperatives, the impartiality of board-level strategic decisions has come under intensified examination (Menz et al., 2021). One emerging response is the strategic decoupling of the board chair from the leadership of Annual General Meetings (AGMs), a reformative approach that addresses concerns of role entanglement and perceived bias while reaffirming the board's commitment to stakeholder-aligned governance (Blomkvist & Redor, 2023).

This separation is not a procedural nuance but represents a fundamental reconfiguration of governance logic. It shifts the architecture of board leadership from concentration to distributed authority, opening space for independent scrutiny, improved transparency, and clarified fiduciary obligations. As such, this

study engages with contemporary debates on structural governance reform by examining the practical and normative implications of role separation in Sub-Saharan Africa, an environment often shaped by legacy institutional frameworks, legal fragmentation, and opaque regulatory enforcement (Aboagye & Ofori-Artey, 2018).

Boardroom biases, we contend, are the product of a complex interplay of cognitive and structural constraints on judgment (Adams & Lorsch, 2015). Factors such as institutional path dependency, dominant coalitions, and status quo inertia have long constrained board efficacy and objectivity. In this regard, the study positions role separation not merely as a procedural intervention, but as a transformation that disrupts entrenched power dynamics and reinforces ethical resilience.

Accordingly, the study aims to (1) examine the impact of board-AGM role separation on governance integrity and board effectiveness; (2) evaluate how role segregation contributes to impartiality, decision quality, and the reduction of conflicts of interest; and (3) provide policy-relevant guidance for the development of ethically resilient governance frameworks. The inquiry also considers how reforms may support accountability and transparency within corporate structures, particularly through the mitigation of bias and role conflict.

This paper therefore interrogates the governance implications of role separation, analyses strategies to contain bias and institutional inefficiency, and proposes reform models that may inform ethically anchored governance practices in Sub-Saharan Africa.

The Role of Board Chairs in AGMs

The role of the board chair in AGMs constitutes a critical node in the architecture of CG, exerting considerable influence over procedural integrity, shareholder engagement, and perceptions of transparency (Arslan & Alqatan, 2020; Yeboah, 2022; Cossin, 2020). As the primary facilitator of AGM proceedings, the board chair is entrusted with the responsibility of ensuring equitable deliberations, articulating corporate performance, and upholding the fiduciary obligation to represent shareholder interests. However, concerns intensify when the board chair concurrently holds executive authority or maintains significant equity stakes, thereby introducing structural tensions that may blur the boundaries between oversight and managerial control (Olufemi, Matthew & Motunrayo, 2023; Choudhury & Petrin, 2023).

This duality not only risks undermining impartial oversight but also amplifies cognitive and agency-related biases—particularly in AGMs, where decisions concerning leadership accountability and strategic direction are subject to shareholder scrutiny (Ho, Huang & Karuna, 2020; Sievinen, Ikäheimonen & Pihkala, 2022). In response to such concerns, several jurisdictional frameworks in Sub-Saharan Africa have formalised role separation within their CG codes. South Africa's King IV Report (2016) and Kenya's Code of Corporate Governance for Issuers (2015) mandate a clear distinction between the roles of board chair and chief executive, promoting procedural clarity and independence. Similarly, Nigeria's Corporate Governance Code (2018) and Ghana's Companies Act, 2019 (Act 992), although divergent in regulatory strength, converge in advocating role clarity to prevent excessive concentration of power.

The perception or reality of bias has tangible governance implications, eroding shareholder trust and delegitimising board actions (Pernelet & Brennan, 2023). The fusion of strategic oversight with executive control compromises both the objectivity and the credibility of the AGM process. Accordingly, structural reforms advocating for the segregation of roles are increasingly championed across emerging markets as a means of restoring trust and reinforcing ethical accountability (Shortland & Perkins, 2023; Jerzemowska & Koyama, 2020).

Biases in Corporate Governance

The exploration of biases within CG is indispensable for unpacking the complex psychological and institutional dynamics that shape boardroom conduct and strategic decision-making. Both cognitive and structural biases are intricately embedded in governance practices, often operating imperceptibly yet profoundly to distort oversight quality, dilute accountability, and compromise fiduciary standards. As such, this literature segment foregrounds governance biases as a critical lens through which the effectiveness of board processes may be examined.

Cognitive biases manifest in various forms and are particularly pervasive within the interpersonal and interpretive dynamics of board deliberations. Confirmation bias, as articulated by Smith-Meyer (2022), leads decision-makers to privilege information that aligns with existing beliefs, thereby narrowing the interpretive frame and impairing objectivity. In governance settings, this bias compromises the integrity of deliberation, enabling directors to selectively attend to evidence that validates entrenched perspectives (Hristov, Camilli & Mechelli, 2022). Similarly, other cognitive distortions including availability bias, hindsight bias, status quo bias, self-

serving bias, and the sunk cost fallacy, further erode board judgment and weaken the structural safeguards intended to protect shareholder interests (Rouwette & Franco, 2024).

Among these, overconfidence bias remains especially salient in CG contexts. Leaders occupying positions of authority, such as CEOs or board chairs, often overestimate the accuracy of their judgments or foresight. This miscalibration can lead to under-scrutinized decisions and elevated strategic risk exposure. Hainguerlot, Gajdos, Vergnaud and de Gardelle (2023) highlight how overconfidence hinders critical reflection, while Miao, Coombs, Qian and Oh (2023), Osei Bonsu, Liu and Yawson (2024), and Quigley, Wowak and Crossland (2020) collectively affirm its detrimental effects on firm performance, particularly when strategic errors go unchecked due to inflated self-assurance. Another pervasive cognitive distortion is anchoring bias, in which initial information disproportionately shapes subsequent judgments. Aren and Hamamci (2021) contend that directors may become fixated on early data points, thereby undervaluing later or contradictory evidence. Cooper et al. (2022) extend this concern by illustrating how anchoring bias infiltrates corporate decision-making environments, subtly altering group consensus and limiting adaptive thinking.

Structural biases rooted in systemic power asymmetries—compound these challenges. Regulatory capture, as defined by Rex (2020), arises when oversight institutions develop undue allegiance to the entities they are meant to regulate, thereby compromising enforcement integrity (Mahboob et al., 2021). Meanwhile, conflict of interest bias, especially prominent when board chairs hold executive roles or

significant equity, blurs the boundary between fiduciary oversight and personal interest. Smith (2020) and Banerjee, Nordqvist and Hellerstedt (2020) caution against such duality, which threatens governance impartiality and ethical accountability. Amis, Barney, Mahoney and Wang (2020) reinforce this critique, arguing that institutionalised conflicts of interest systematically erode shareholder value and diminish public trust in governance institutions.

Previous Studies on Decoupling Board Chairs from Leading AGMs

This study is anchored in an evolving body of scholarly work that critically interrogates the decoupling of the board chair from presiding over AGMs, a governance reform increasingly viewed as both a structural and normative shift in corporate leadership dynamics. The literature reflects a growing consensus that this separation enhances impartiality, procedural integrity, and accountability within boardroom governance.

Langa and Langa (2022) offer a nuanced account of the overlapping responsibilities assumed by board chairs during AGMs, highlighting how the concentration of power in a single individual may precipitate conflicts of interest and activate cognitive biases. Their findings underscore the urgent need to re-evaluate this dual role in order to reinforce procedural neutrality and safeguard deliberative fairness. This concern is echoed in Johnson et al. (2017), whose foundational research later contextualized by Arslan and Alqatan (2020), traced the evolution of global CG reforms that prioritize structural clarity and role delineation as prerequisites for governance legitimacy.

Regulatory frameworks across Sub-Saharan

Africa reflect varying degrees of engagement with these reforms. South Africa's King IV Report and Nigeria's 2018 Corporate Governance Code explicitly mandate independent chairmanship and advocate disaggregated AGM leadership to uphold transparency and board independence. Kenya's 2015 Code of Corporate Governance for Issuers goes further to prescribe neutral AGM facilitation, while Ghana's Companies Act, 2019 (Act 992) takes a more flexible approach, allowing discretion in implementation. Although these approaches differ in rigidity and enforcement, they collectively signal a shared normative convergence toward role segregation as a governance imperative.

Empirical contributions further substantiate the rationale for reform. Guan, Gao, Tan, Sun and Shi (2021) empirically demonstrate a positive association between role decoupling and improved firm valuation, suggesting that governance restructuring enhances strategic coherence and financial performance. Kimani, Ullah, Kodwani and Akhtar (2021) advance this argument by focusing on board chair independence during AGMs, revealing that greater autonomy promotes stakeholder trust and enhances transparency in shareholder communication.

In addition, Arslan and Alqatan (2020) explore the regulatory pathways through which mandatory role separation has influenced corporate behaviour, compliance norms, and board accountability across jurisdictions. Aguilera (2023) offers a comparative lens, mapping governance adaptations globally and illustrating how role decoupling enhances alignment between leadership structures and evolving shareholder expectations, particularly under heightened ESG scrutiny.

Synthesis of the Literature

The role of the board chair in AGMs is widely recognized as pivotal to the effectiveness of GC, as it encompasses responsibilities including guiding deliberations, ensuring procedural fairness, facilitating shareholder engagement, and elucidating complex corporate matters (Alshaikh, 2019). However, the duality of roles, wherein board chairs simultaneously hold executive positions within the same corporation, poses a substantial risk to objective governance. This convergence of power may compromise impartiality, giving rise to conflicts of interest that undermine the fiduciary responsibility owed to shareholders (Puni & Anlesinya, 2020). Managing the intersection between authority and neutrality is, therefore, essential to maintaining governance legitimacy and averting biased decision-making (Passador, 2024).

Emerging literature on boardroom dynamics has increasingly highlighted the influence of cognitive and behavioural biases, particularly confirmation bias, overconfidence bias, and conflict of interest bias, as significant distortions in governance judgment. These biases can erode the quality, transparency, and accountability of decisions made at the board level (Huang & Wang, 2021). In response, scholars advocate for institutional reforms aimed at mitigating these biases, with one of the most prominent propositions being the decoupling of board chair and AGM leadership roles. This structural reconfiguration is posited as a mechanism to enhance accountability and restore investor trust (Singh, Esser, & MacNeil, 2023; Anidjar, 2024).

Collectively, extant studies have enriched our understanding of GC by unpacking the

intricate interplay between board leadership and the psychological dispositions that shape strategic decision-making. Within this discourse, the dual roles of board chairs in AGMs and the institutional mechanisms for mitigating bias have emerged as critical nodes of inquiry that warrant continued scholarly engagement. These issues remain central to advancing transparency, legitimacy, and institutional trust in corporate governance frameworks (Puni & Anlesinya, 2020).

Nevertheless, a discernible gap endures in the literature with respect to the contextual challenges and pragmatic advantages of implementing role separation across varied organizational and jurisdictional contexts. This study seeks to address that lacuna by offering an in-depth, context-sensitive analysis of the governance implications arising from the decoupling of board chair and AGM leadership roles. Through a comparative examination of governance practices in Ghana, Nigeria, Kenya, and South Africa, this research contributes a regionally grounded perspective to the evolving global discourse on board governance reform, thereby advancing both theory and practice.

Research Methodology

The research adopts a qualitative, interpretivist methodology to explore the meaning and purpose of the segregation of chair and AGM leadership roles. We opt for this methodology because it is consonant with the epistemological and methodological orientations espoused by Yin (2018), Creswell and Poth (2018) and Stake (1995).

Research Design

Anchored in an interpretivist paradigm, the study employs a qualitative research design that prioritizes the subjective meanings and

institutional dynamics underpinning governance practices. The primary method of inquiry involves thematic analysis of semi-structured interview data, complemented by systematic document analysis. This dual-method approach enables a critical examination of how the decoupling of board chair and AGM roles may function as a mechanism for mitigating cognitive and structural biases within corporate governance frameworks.

Semi-structured interviews are employed to elicit rich, contextually grounded narratives from key informants, including board members, governance experts, and regulatory stakeholders. This method facilitates the exploration of diverse perspectives and experiential insights into the motivations, challenges, and perceived benefits of role segregation. The flexibility inherent in semi-structured interviewing also allows for probing emergent themes, ensuring analytical depth and conceptual richness.

To strengthen the validity and contextual grounding of the findings, the interview data are triangulated with a comprehensive desk review. This includes policy documents, governance reports, scholarly literature, and regulatory frameworks relevant to board leadership practices. The integration of document analysis enhances the robustness of the study by situating lived experiences within broader institutional, historical, and normative discourses (Scribbr, 2022).

Sample Selection

This study employs purposive sampling, drawing twenty interviewees from listed companies across stock exchanges in Ghana, Kenya, Nigeria, and South Africa, alongside key stakeholder institutions such as the Securities and Exchange

Commissions (SECs), the African Development Bank (AfDB), the Southern African Institute of Directors (SAIoD), and the East African Institute (EAI). These countries were selected for their mature capital markets and progressive GC regimes. Companies were chosen from key sectors—finance, energy, telecommunications, and consumer goods—due to their systemic importance, high regulatory visibility, and exposure to complex governance challenges. Sectorial diversity ensures a broader representation of boardroom dynamics, enhancing comparative insight into how board chair-AGM role separation is interpreted and implemented. The inclusion of both corporate actors and governance institutions strengthens the study's analytical depth, enabling a multi-perspective exploration of the interplay between leadership roles and bias mitigation within evolving GC frameworks in sub-Saharan Africa.

Data Collection

This study employed a triangulated qualitative data collection strategy involving semi-structured interviews, documentary analysis, and AGM minute reviews. Interviews with governance professionals elicited in-depth insights on board leadership and AGM dynamics. Twelve key documents (Table 1), including statutes, governance codes, and institutional manuals—were reviewed to frame the regulatory landscape across Sub-Saharan Africa. Relevant academic literature was sourced from Scopus, JSTOR, SAGE, and related databases. Additionally, twenty AGM minutes (2022–2023) were purposively obtained through formal requests to company secretariats and some board members, with ethical clearance and confidentiality agreements secured. These minutes, drawn from listed firms across six countries and five key sectors, offered direct evidence of boardroom practices, decision-making, and stakeholder engagement. This triangulation ensured a robust, context-rich understanding of governance systems.

Table 1: Documents Reviewed

Category	Document/ Article Title	Author(s)/P ublisher	Source/Links
Statutory/Regulatory Frameworks	Companies Act 2019, Act 992 (Ghana)	Parliament of Ghana	https://ir.parliament.gh/handle/123456789/1783
	Corporate Governance Code for Nigeria (2018)	Financial Reporting Council of Nigeria	https://corpgovnigeria.org/wp-content/uploads/2022/03/Federal-Republic-of-Nig.-official-Gazette.pdf
	Kenya's Code of Corporate Governance Practices for Issuers of Securities (2015)	Capital Markets Authority (Kenya)	https://www.cma.or.ke/download/35/guidelines/4323/code-of-corporate-governance-practices-for-issuers-of-securities-to-the-public-2015-code.pdf
	South Africa's King IV Report on Corporate Governance (2016)	Institute of Directors in Southern Africa (IoDSA)	https://www.iodsa.co.za/page/king_iv_report
Sectorial Guidelines	Corporate Governance Manual for the Central Bank of Nigeria (2019)	Central Bank of Nigeria	https://www.cbn.gov.ng/out/2018/fprd/fc.pdf
	Corporate Governance Directives for Banks (2018)	Bank of Ghana	https://www.bog.gov.gh/wp-content/uploads/2019/09/CGD-Corporate-Governance-Directive-2018-Final-For-PublicationV1.1.pdf
	Corporate Governance Directives for Rural and Community Banks in Ghana (2019)	Bank of Ghana	https://www.bog.gov.gh/wp-content/uploads/2021/05/BOG-Notice-No-9-CORPORATE-GOVERNANCE-DIRECTIVE-FOR-RCBs-FINAL.pdf

Category	Document/ Article Title	Author(s)/ Publisher	Source/Links
Regional Reference Code	Corporate Governance Code for Mauritius (2016)	National Committee on Corporate Governance	https://nccg.mu/sites/default/files/2021-01/the-national-code-of-corporate-governance-for-mauritius_2016.pdf
Institutional Guidelines	Corporate Governance Manual for Governing Boards (2022)	Public Services Commission Ghana	https://psc.gov.gh/wp-content/uploads/2022/01/Corporate-Governance-27.02.15.pdf
Practitioner Guide	CGISA Best Practice Guide: Shareholder Activism and the Role of the Company Secretary (2020)	Chartered Governance Institute of Southern Africa (CGISA)	https://www.chartgov.co.za/documents/members/CGISA-Best-Practice-Guide-Shareholder-Activism.pdf
Regulatory Report	Annual Report of the National Bank of Ethiopia (2020)	National Bank of Ethiopia	https://nbe.gov.et/wp-content/uploads/2024/09/Annual-Report-2020-2021.pdf
Continental Framework	Corporate Governance: Africa Peer Review Mechanism (2024)	African Union/APR M Secretariat	https://aprm.au.int/en/focus/corporate-governance
Empirical Source	AGM Minutes	Selected Listed Companies (2022–2023)	Field Data (Confidential, ethically sourced)
Academic Articles	As cited in Literature and Methodology Sections	Various Scholars	As referenced in-text

Source: Authors Construct

Thematic Analysis

Qualitative data were subjected to rigorous thematic analysis using NVivo software to support systematic coding and pattern recognition. The analysis was anchored in the five core objectives of the study, which guided the exploration of board chair roles at AGMs within listed firms across Sub-Saharan Africa. An inductive–deductive approach was adopted, beginning with open coding to capture recurrent ideas and emergent concepts from interview transcripts, documents, and AGM minutes. Axial coding followed, enabling the identification of relationships and linkages among initial codes. Finally, selective coding was employed to refine and integrate categories into coherent, overarching themes aligned with the study's objectives. This structured, iterative process ensured analytical depth, internal consistency, and theoretical relevance in deriving the final thematic framework.

Ethical Considerations

The study applied a triangulated data collection strategy, enhancing credibility through cross-validation of evidence from interviews, documents, and AGM minutes. Triangulation minimized the biases and limitations associated with single-source data, strengthening the reliability and depth of the findings (Alamassi et al., 2023; Farquhar, Michels, & Robson, 2020). Integrating diverse perspectives ensured a rigorous and balanced analysis, offering a robust account of GC practices across Sub-Saharan Africa.

Analysis and Discussions

Results of the Analysis

Semi-Structured Interview Thematic Analysis

This section distills insights from twenty semi-structured interviews with governance actors across Sub-Saharan Africa (SSA), offering a theoretically grounded and empirically substantiated examination of role segregation between the Board Chair and AGM Chairperson. Respondents were categorised into four groups, Board Chairs, Company Secretaries/Governance Officers, Independent Directors/Audit Committee Members, and Regulators/GC Experts, selected for their relevance and depth of experience (Table 2).

Interview Participants Demographics

The study engaged 20 seasoned governance professionals from Ghana, Kenya, Nigeria, South Africa, and key pan-African institutions. Participants included Board Chairs, Company Secretaries, Independent Directors, and Regulators (see table 2), ensuring a balanced representation of strategic, operational, and oversight perspectives. All respondents possessed over 11 years of relevant experience, enhancing the depth and reliability of insights. The geographic and institutional diversity, spanning national and continental bodies such as the African Union, AfDB, and regional securities commissions, enables robust comparative analysis of GC across jurisdictions. This expert-driven and contextually layered sample strengthens the analytical rigour of the study and grounds its findings in practice-based knowledge from both firm-level governance and meta-regulatory domains.

Demographics	Details	Freq
Number of Respondents (N)		20
Board Chairs		6
	Ghana	2
	Kenya	2
	Nigeria	1
	South Africa	1
Company Secretaries / Governance Officers		4
	Ghana	1
	Nigeria	2
	South Africa	1
Independent Directors / Audit Committee Members		4
	Ghana	1
	Kenya	2
	Nigeria	1
Regulators / Corporate Governance Experts		6
	African Union	1
	Securities and Exchange Commissions (SECs)	2
	Corporate Governance Bodies (AfDB, SAIoD, EAI)	3
Years of relevant Experience	1–5 years	0
	6–10 years	0
	11+ years	20

Source: Authors Construct

Semi-Structured Interview Results

Theme 1: Governance Integrity and Role Separation

Evidence overwhelmingly supports the theme that role separation strengthens governance integrity. Participants across jurisdictions identified the decoupling of roles as a structural mechanism for counterbalancing executive dominance, enhancing procedural fairness, and safeguarding AGM legitimacy. Company Secretaries and Independent Directors cited observable improvements in compliance among firms practicing role separation. Regulators viewed the practice as a constraint on executive overreach and a symbol of reform, particularly in East

African jurisdictions where exchanges are championing governance transparency.

Theme 2: Impartial Decision-Making and Governance Effectiveness

The results substantiate the theme that role segregation is associated with enhanced impartiality and effective governance. Board Chairs commented that an independent AGM Chair helps to facilitate deliberative debate and neutralises board agenda manipulation. Company Secretaries noted that having separate roles provides procedural clarity and protects against board interference. Independent Directors positively associated enhanced audit and

risk governance with the role-segregation approach. Regulators linked the use of separate director roles to overall alignment to OECD and King IV standards.

Theme 3: Transparency and Accountability in Corporate Governance

The theme of transparency and accountability emerged consistently. Company Secretaries reported more accurate AGM documentation, greater shareholder participation, and improved responsiveness to stakeholder concerns under independent AGM leadership. Board Chairs observed enhanced stakeholder trust, especially from institutional investors. Regulators underscored that mandated role segregation influences cross-border investment decisions and correlates with robust disclosure regimes. These perspectives reinforce the association between role separation and ethical accountability.

Theme 4: Conflict Mitigation and Governance Reform

The findings reveal that role segregation can be an effective conflict mitigation mechanism. Independent of their gender, interviewees saw duality as a risk factor for internal dissent. Company Secretaries saw role segregation and co-existence as a matter of institutional safeguard, and called for the existence of neutral facilitators and protections for whistle-blowers. Regulators see role segregation as part of a broader suite of governance reforms needed to lend the practice real anchoring within exchanges and stock markets.

Theme 5: Policy Recommendations and Ethical Governance

Interview findings validated policy-oriented themes. Respondents advocated tenure limits, accredited registries of independent

AGM Chairs, and shareholder participation in AGM chair selection. Regulators recommended embedding segregation into listing requirements and ESG metrics. Role separation was widely regarded not only as procedural refinement but as a normative pillar of ethical governance aligned with international benchmarks.

Document Review Thematic Analysis

The review of statutory, sectorial, institutional, and empirical documents reveals robust support for the principle of role segregation, particularly the separation between Board Chair and AGM leadership, as a mechanism to strengthen governance integrity and promote ethical accountability.

Theme 1: Governance Integrity and Role Separation

The Companies Act 992 (Act 28 of 2019) does not prescribe the separation of the two roles. However, it is in line with international principles on GC which emphasize the need to put in place mechanisms that can ensure that the roles are separated. The King IV Report on South African Governance (2016) strongly recommends that the roles of Board Chairperson and Chief Executive Officer be separated. The King IV Report states that having the two roles held by the same person concentrates power and diminishes independent oversight. Going a step further, the Corporate Governance Code for Nigeria (2018) institutionalizes the separation of the two roles.

Theme 2: Impartial Decision-Making and Governance Effectiveness

Empirical evidence from AGM minutes of selected listed companies (2022–2023), although confidential, reflected patterns where combined leadership roles correlated

with reduced stakeholder engagement and perceived bias in decision outcomes. In contrast, firms that adhered to Bank of Ghana's Corporate Governance Directives (2018, 2019) exhibited stronger compliance practices and independent review mechanisms. These directives explicitly require a clear delineation of duties, thereby supporting the sub-theme that role segregation fosters impartiality and bolsters checks and balances.

Theme 3: Transparency and Accountability in Corporate Governance

The Corporate Governance Manual for the Central Bank of Nigeria (2019) and Ghana's Public Services Commission Governance Manual (2022) highlight the importance of disaggregated roles in order to effect proper oversight. It is interesting to note that both institutional manuals recommend that roles be disaggregated in order to ensure transparency. It is noteworthy that the African Peer Review Mechanism (APRM) Corporate Governance Framework (2024) has taken it a step further to explicitly recommend role separation as an expected standard for harmonisation across the pan-African space.

Theme 4: Conflict Mitigation and Governance Reform

The analysis of CGISA's Best Practice Guide (2020) emphasizes the practical implications of role conflicts. The guide outlines scenarios where Board Chairs who also lead AGMs may suppress shareholder activism or manipulate procedural flow. Such biases are structurally mitigated by frameworks like Kenya's Code of Corporate Governance for Issuers (2015), which outlines protocols for independent board committees, reinforcing ethical

accountability and limiting structural inefficiencies.

Theme 5: Policy Recommendations and Ethical Governance

Policy-oriented sources, including the Annual Report of the National Bank of Ethiopia (2020) and Mauritius' Corporate Governance Code (2016), emphasize the necessity of transparent policies, disclosure regimes, and independent directorship as mechanisms for long-term sustainability. These documents offer a regulatory foundation for recommendations on policy reform that promotes integrity-driven leadership.

Summary of Thematic Results

The summary of findings from semi-structured interviews and documentary analysis illustrates a coherent and compelling case for the institutionalisation of role separation in GC across African jurisdictions. This structural reform, particularly the decoupling of the Board Chair and AGM leadership, emerges as both a procedural safeguard and a normative pillar of ethical governance.

Theme 1: Governance Integrity and Role Separation

Role separation was widely cited as enhancing the integrity of corporate governance structures. Interviewees—especially Company Secretaries and Independent Directors—noted improved compliance, legitimacy of AGMs, and procedural fairness in firms that practiced role decoupling. Regulators described the reform as a necessary constraint on executive overreach, with increasing adoption observed in East and Southern African markets. Supporting documents, such as the King IV Report (2016) and Nigeria's Corporate Governance Code (2018), institutionalise this practice to

prevent the concentration of power and preserve independent oversight.

Theme 2: Impartial Decision-Making and Governance Effectiveness

An independent AGM Chair was linked to enhanced board impartiality and effective governance. Board Chairs and Company Secretaries emphasized that role segregation curtails board manipulation and enables deliberative neutrality. This is corroborated by AGM documentation and directives from the Bank of Ghana, which reveal that clear role delineation correlates with improved stakeholder engagement and robust internal controls. Regulatory frameworks explicitly endorse this separation to align with OECD and King IV standards.

Theme 3: Transparency and Accountability in Corporate Governance

Disaggregated roles were strongly associated with improved transparency and stakeholder accountability. Respondents observed better AGM documentation, heightened shareholder trust, particularly among institutional investors, and responsiveness to stakeholder concerns. Institutional manuals from the Central Bank of Nigeria and the African Peer Review Mechanism (2024) endorse role separation as a regional best practice and integral to harmonised governance standards.

Theme 4: Conflict Mitigation and Governance Reform

Role duality was consistently identified as a risk factor for conflict and procedural bias. Interviewees cited the importance of institutional safeguards such as whistleblower protections and independent facilitators. The CGISA Best Practice Guide (2020) and Kenya's governance

codes offer structural models that mitigate internal dissent, ensuring procedural integrity and ethical governance conduct.

Theme 5: Policy Recommendations and Ethical Governance

Policy insights emerging from both interviews and documentary review underscore the need for reform. Recommendations included tenure limits, accredited registers for AGM Chairs, and shareholder involvement in selection processes. Regulators advocated embedding role segregation into listing requirements and ESG benchmarks. Documents from Ethiopia and Mauritius further emphasise independent directorship and disclosure as essential to long-term governance sustainability.

Discussion of the Results

This study contributes meaningfully to CG literature through a critical examination of role segregation between Board Chairs and AGM leaders within Sub-Saharan Africa's evolving governance frameworks. The findings reinforce scholarly assertions (Zahoor & Tian, 2023; Spitzer & Kreca, 2021) that structural decoupling enhances governance integrity through the dilution of executive dominance, promotion of procedural fairness, and legitimisation of AGM processes. Ozdemir and Kilincarslan (2021) and Bansal (2020) similarly argue that this segregation fosters board oversight, mitigates conflict, and strengthens accountability—aligning well with the empirical data presented in this study.

Evidence from the field consistently associates role segregation with enhanced impartiality in board decision-making. Board Chairs and Company Secretaries confirmed that such structural differentiation facilitates deliberative

neutrality. These insights align with Tai's (2024) findings that role clarity mitigates agency risks, and Li, Magnan, and Shi (2022), who emphasize that role delineation enhances legitimacy and stakeholder trust. Independent directors were identified as instrumental in embedding transparency within decoupled leadership structures (Bukari, Agyemang & Bawuah, 2024). However, Eskandarany (2021) and Zahoor & Tian (2023) caution that the efficacy of role separation is mediated by contextual factors such as firm size and governance maturity. The data supports this conditionality, suggesting that role segregation must be interpreted through a contextual lens rather than as a universal remedy.

Respondents further associated role decoupling with ethical governance and conflict mitigation. Karsono (2023) stresses the importance of reform efforts that reduce internal bias and support stakeholder-centred accountability. Di Miceli da Silveira (2022) and Najeh & Benarbi (2023) argue that meaningful reform demands institutional realignment beyond structural adjustments. Additional caution from Wang and Zhang (2022) and Ali, Adegbite, and Nguyen (2023) highlight potential regulatory and operational burdens accompanying transparency initiatives.

Empirical and normative insights in this study collectively point toward a nuanced yet progressive reform agenda. Role segregation is positioned as a key driver of ethical leadership, though success hinges on institutional maturity, cultural fit, and stakeholder alignment. Governance transformation requires more than structural redesign—it demands readiness for principled adaptation and sustained accountability.

Conclusion and Recommendations

This study brings to the fore the governance implications of role segregation between the Board Chair and AGM Chair in Sub-Saharan Africa. The empirical interviews and documentary analysis add to the academic and regulatory discourse on ethical governance, structural impartiality, and stakeholder legitimacy (Zahoor & Tian, 2023; Ozdemir & Kilincarslan, 2021; Karsono, 2023). The key recommendations include:

Governance Integrity and Role Separation: Firms should institutionalise the separation of Board Chair and AGM leadership roles as a normative governance standard. This is in line with the King IV Report and Nigeria's Corporate Governance Code, and viewed as an essential component of AGM legitimacy and internal control. Regulators can embed these reforms through codified expectations in listing rules and sectorial directives in line with the OECD or the Bank of Ghana (see also, the King IV Report and CGISA guidelines for practical implementation in different contexts).

Impartial Decision Making and Governance Effectiveness: Role segregation must be embedded within broader board governance reforms. Both Board Chairs and Company Secretaries in our study confirmed that the separation allows for balanced deliberation and shields the board from executive influence. Regulators should thus reinforce these reforms through codified expectations in listing rules and sectorial directives.

Transparency and Accountability in Corporate Governance: Organisations should proactively adopt the segregation of roles to reinforce disclosure quality and stakeholder trust. The greater the

shareholder participation and improved documentation found in our sample under independent AGM leadership. These results support policy mandates for disaggregated roles, as they are represented in the APRM (2024) Framework and the relevant portions of the Central Bank manuals.

Conflict Mitigation and Governance Reform:

Corporate boards should adopt structural safeguards against internal conflict, such as whistle-blower protocols, and independent procedural facilitators to enable open engagement. This is in line with protocols in Kenya's governance protocols and the CGISA guidelines, among others.

Theoretical Contributions and Future Research:

The study findings contribute to

the theory of governance by providing insights on how cognitive, status quo, and overconfidence biases influence governance reform and behaviour (Smith-Meyer, 2022; Gurdgiev & Ni, 2232). Future research could explore how different jurisdictions and legal orders tailor role separation to local institutional logics, and the impact of such adaptations on contextually embedded governance theory.

Practical Guidance and Policy Design:

The study further recommend practitioners and regulators to develop accredited registers of independent AGM Chairs and explore different forms of shareholder voting in relation to the election of the AGM Chair. Decoupling should not be reduced to formal compliance, but embraced as a foundational pillar of ethical, adaptive, and resilient GC.

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Environmental Factors and Sustainability of Micro, Small, and Medium Scale Enterprises in Lagos Mainland Local Government Area, Lagos State, Nigeria

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Abstract

The main objective of the study is to investigate the effect of environmental factors on the sustainability of micro, small and medium scale enterprises (MSMEs) in Lagos Mainland Local Government Area, Lagos State, Nigeria. Survey research design was used for the study. Data was collected through the use of questionnaire. Convenience sampling technique was used to survey 780 MSMEs in Lagos Mainland Local Government. Descriptive statistics was used to analyze the respondents' biodata while multiple regression analysis was used to test the hypotheses formulated. The study found that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no combined significant effect on each of the dependent variables (employment creation, revenue generation, and workers' loyalty) in MSMEs in Lagos Mainland Local Government Area. The study concluded that policies initiated and implemented by the Nigerian government to ensure that businesses operate smoothly, efforts made by the government to provide infrastructural facilities needed for businesses to carry out their activities effectively, and global pandemic outbreak that take place in countries across the world may or may not lead to creation of employment, assist MSMEs in generating revenue, and influence workers to remain loyal in their workplace. The study recommended that owners/managers of micro, small, and medium scale enterprises in Lagos Mainland Local Government Area should initiate and implement other actions that will boost employment creation, assist them in generating sufficient sales needed to run their business very well, and influence the loyalty of their workers since government policies, infrastructural facilities, and global pandemic outbreak have no combined significant effect on each of the dependent variables (employment creation, revenue generation, and workers' loyalty).

Key words: Environmental Factors,
Government Policies, Infrastructural Facilities,
Employment Creation, Revenue Generation

Introduction

All over the world, small and medium-sized enterprises (SMEs) have been given due recognition, especially in the developed nations, for playing very important roles towards fostering accelerated economic growth, development and stability of several economies. They make up the largest proportion of businesses all over the world and play tremendous roles in employment generation, provision of goods and services, improving standard of living, as well as immensely contributing to the gross domestic products (GDPs) of many countries (OECD, 2000).

SMEs constitute essential ingredients in the lubrication and development of any economy. SMEs play a major role in economic growth in the OECD area, providing the source for most new jobs. Over 95% of OECD enterprises are SMEs, which account for 60%-70% of employment in most countries (OECD, 2005). As larger firms downsize and outsource more functions, the weight of SMEs in the economy is increasing. In addition, productivity growth and consequently economic growth is strongly influenced by the competition inherent in the birth and death, entry and exit of smaller firms (Taiwo, Falohun, & Agwu, 2016). This process involves high job turnover rates and churning in labour markets which is an important part of the competitive process and structural change. Less than one-half of small start-ups survive for more than five years, and only a fraction develop into the core group of high performance firms which drive industrial innovation and performance (Taiwo et al., 2016).

Business enterprises cannot operate successfully alone without dependence on supportive institutions, variables and factors (Oginni, 2010) that is, a business

organization exists and operates in a complex interplay of activities and networks of relationships among human resources, material resources, and other systems (Muogbo & Enemuo-Uzoezie, 2019). In the views of Aborade (2005), all business decisions are found to be contingent upon a good analysis of the environment which is often the bane of all the constraints as this environment creates the opportunities, threats and problems for the business organization. This has led to the belief that a business organization is an integral part of its environment, on the basis that they are mutually interdependent and exclusive, with the environment providing resources and opportunities for the organization's survival, and the business organization, in turn, providing goods and services to the people living in the environment for survival and enlightenment (Ajala, 2005).

Access to financial services, use of financial services, and the caliber of service delivery are essential for guaranteeing the long-term viability of SMEs (Akeju, 2022). Sustainability makes sure that the environment is properly protected for the society's benefit both now and in the future, meeting the needs of both the present and the next generation. A company should base its socially responsible goals on the sustainable development goals (SDGs). Corporate sustainability is a legitimate field of research because it impacts various aspects of business, society, and the environment, as highlighted by Zauro, Saad, Ahmi, and Mohd Hussin (2020).

Understanding how the concept of sustainability has been applied by many businesses in many countries and markets will help micro, small, and medium-sized businesses in Nigeria to secure the sustainability of their workplace. The four

pillars of Nigeria's success include individual traits, management elements, business support, and financial availability as emphasized by Afolabi (2020). As stressed by Afolabi (2020), SMEs who receive sufficient funding on time are more likely to make it past their first five years in business. A small firm may succeed or fail depending on the founder's age, experience, and financial needs (Uwah, Udoayang, & Uklala, 2022). According to Uwah et al. (2022), small and medium-sized enterprises (SMEs) account for the great majority of businesses globally and are essential to achieving sustainable growth and development because they, among other things, provide employment, raise incomes, and supply goods and services that are needed.

In the last one decade, the Nigerian business environment has witnessed unsatisfactory progress cumulating into retarded growth rate, high rate of unemployment, low industrial output coupled with poor demand in terms of services and tangible products. Despite the fact that small and medium enterprises contribute to economic development and job creation in Nigeria, so many SMEs find it very difficult to sustain their businesses beyond 5 years (Ifekwem & Adedamola, 2016). The small medium enterprise development agency of Nigeria (SMEDAN) reports failure rates for SMEs as 80% within the first 5 years of inception (Agwu, 2014). This is because so many owners/managers of SMEs face the problems of sustaining their businesses beyond 5 years. This in turn has led to a high rate of business failure in Nigeria. Internal and external factors within and outside the business that act as constraints to the sustainability and survival of SMEs in Nigeria include high cost and shortage of materials, inadequate funding, inability to

recruit competent staff, lack of financial discipline on the part of the owners of the business, wrong choice of business, wrong location of business, poor maintenance culture, inability to access new technology, inability of the government to create an enabling environment needed for business owners in Nigeria to do their business with ease, global economic recession, global pandemic outbreak that take place across countries worldwide, high rate of importation of foreign goods into the country, wide spread corruption and harassment of SMEs by some government agencies over unauthorized levies and charges, exorbitant interest rates charged by banks and other financial institutions on loans granted to SMEs, poor power supply, poor road networks, and low demand for goods and services due to decrease in customer purchasing power are some of the factors that serve as constraints to the survival and sustainability of SMEs in Nigeria. Poor supply provided by the government increases the cost of doing business among SMEs in the country. High rate of importation of foreign goods into the country distracts Nigerian citizens from purchasing the goods and services produced by SMEs in the country (Alabi, Awe, & Musa, 2015; Jayeola, Ihinmoyan, & Kazeem, 2018; Ojuye & Egberi, 2018; Asikhia & Naidoo, 2020; and Enesi & Ibrahim, 2021).

Many SME owners lack the knowledge of sustainability strategies needed to improve the performance of their businesses (Meflinda, Mahyarni, Indrayani, & Wulandari, 2018). Small and medium enterprise owners also do not realize and consider the different organizational stakeholders and how they affect their organization's sustainability (Mile, 2017). Reasons why the growth and sustainability of SMEs in Nigeria deteriorates include

poor environmental scanning, insufficient infrastructural facilities provided by the government, high rate of employee turnover, low level of workers' motivation to improve the success of the business, lack of customer loyalty and continuous patronage, and low community support (Reina, Roger, Peterson, Byron, & Hom, 2018).

Several studies such as Adagba and Shakpande (2017), Agu, Isichei, and Olabosinde (2018), Akinlemi (2018), Akinson (2018), Jayeola, Ihinmoyan, and Kazeem (2018), Alabi, David, and Aderinto (2019), Hekwem (2019), Ibrahim and Mustapha (2019), Muogbo and Enemu-Uzoezie (2019), Agbim (2020), Aifuwa, Musa, and Aifuwa (2020), Ameji, Taija, and Amade (2020), Hassan, Akor, Bamiduro, and Rauf (2020), Bularafa and Adamu (2021), Fagbohunka and Oladehinde (2021), Igwela (2021), Ngalo (2021), Musabayana, Mutambara, and Ngwenya (2022), Obianuju (2022), Adegbite, Omisore, and Sanusi (2023), Agbenyegah and Amankwaa (2023), Ogunmuyiwa and Adetayo (2023), Usende (2023), Haleem and Ditsa (2024), etc. have been conducted on environmental factors affecting businesses. However, there is paucity of research on environmental factors and sustainability of micro, small, and medium scale enterprises in Lagos Mainland Local Government Area of Lagos State, Nigeria. This study filled this gap in knowledge by investigating the effect of environmental factors on the sustainability of micro, small and medium scale enterprises in Lagos Mainland Local Government Area, Lagos State. The study also filled the gap in knowledge by examining the combined effect of the independent variables on each of the dependent variable as there exists dearth of research that examined the combined effect of the independent

variables on the dependent variable in the literature.

The main objective of the study is to investigate the effect of environmental factors on the sustainability of micro, small and medium scale enterprises in Lagos Mainland Local Government Area, Lagos State. The specific objectives are to: i. examine the effect of environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) on employment creation in micro, small and medium scale enterprises, ii. evaluate the effect of environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) on revenue generation in micro, small and medium scale enterprises, and iii. ascertain the effect of environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) on workers' loyalty in micro, small and medium scale enterprises in Lagos Mainland Local Government Area. In order to achieve the main and specific objectives highlighted above, the research hypotheses were tested:

H₀₁: Environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on employment creation in micro, small and medium scale enterprises in Lagos Mainland Local Government Area.

H₀₂: Environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on revenue generation in micro, small and medium scale enterprises.

H₀₃: Environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on workers' loyalty in micro, small and medium scale enterprises in Lagos Mainland Local Government Area.

Review of Related Literature

Conceptual Review

Concepts reviewed in this study include environmental factors, government policies, infrastructural facilities, global pandemic outbreak, firm sustainability, employment creation, revenue generation, and workers' loyalty.

Business environment is described as the combination of both internal and external factors of the business outfit influencing the continued and successful organisational existence (Sharmilee & Muhammad, 2016). The environment and its components undoubtedly have effects on the performance of micro, small, and medium scale enterprises. Internal environmental factors consists of variables that are easily controllable by the business (Kolstad & Wiig, 2015). These variables include finance, managerial competencies and skills, technological capabilities, raw materials, and marketing. On the other hand, external environmental factors encompass factors that the firms can neither control nor manipulate (Obasan, 2014). External environment broadly consists of economic, sociocultural, political, technological and legal/public policy environment. Specifically they include competition, infrastructure, government policies and political factors. The internal and external environmental factors need to be holistically identified, analysed and tackled effectively and efficiently for good business performance (Jayeola et al., 2018).

As stated by Ngalo (2021), government policies refers to rules and regulations that enable the startup and viability of entrepreneurial activities. The government policy consists of extraneous factors that are beyond the control and cannot be manipulated by the business enterprise management. The business enterprise is obliged to be cognizant of its operating

environment in order to heighten its performance. Furthermore, the government policies and business enterprises are in a mutually interdependent interaction. This is because an enterprise exists in the world of threats, resources, limits, and opportunities. The creation of effective government policies for SMEs growth is a crucial element of most countries' strategies and is important for the expansion, performance, and growth of SMEs (Ifekwem, 2019).

Infrastructural facilities are all the facilities that make it possible for businesses within a society or nation to function effectively. Such resources include water, electricity, good roads, good transportation services, and good telecommunication services. These facilities are present in a region and move people, goods, commodities, waste energy, and information, thereby creating a livable environment.

A pandemic outbreak occurs when a disease spreads to a large number of people within a short period of time. It might stay in one spot or spread out across a larger region. From the study of Aifuwa, Musa, and Aifuwa (2020), the Covid-19 pandemic in Nigeria has resulted in business leaders and owners having to swiftly mobilize and make short term decision. A decision such as the reduction in production output and or even shutting down operation temporarily could have long term implications that may not be foresighted. This, thus, would have an impact on private business financial performance, as a result of the lockdown policy or order by the President of the Federal Republic of Nigeria.

Businesses have adopted sustainable practices for effective waste management. Sustainable practices techniques embraced are total quality management, recycling, bio-treatment, incinerations, neutralization

and secure sanitary landfill (Taiwo, 2009). Total quality management like continuous improvement and the zero-defect call are apt solutions and guides to effective waste management. This method guarantees waste eradication, high quality and increased profitability hence is a sustainable practice for companies. Bottling companies, for example use technological facilities with high efficiencies that are automated to reduce process waste generation (Iheanachor, 2021). Lagos, as Nigeria's industrial and densely populated city has numerous dumpsites. With a long value chain that is highly valuable ranging from the scavenger to the middlemen who sell or are representatives of companies, recycling is a sustainable method of managing waste and reducing its impact on the environment. Waste recycling saves raw materials, costs less, generates cash, creates jobs, and sustainable living (Edet & Maduabuchi, 2019).

Umar (2011) define employment creation as the process of creating new jobs for unemployed people, the process of creating jobs for yourself, and the process of creating more paid jobs (Umar, 2011). Job Creation is the net new job that is created without displacing any other economic activity (Cray, Nguyen, Pranka, Schildt, Sheu, & Whitcomb, 2011). The country director of International Labour Organization (ILO) in Nigeria stated that MSMEs contribute 48% of national gross domestic product (GDP), account for 96% of businesses, and 84% of employment. This sector contributes significantly to alleviating poverty and increasing job creation," he said (Ezigbo, 2023).

Etuk, Etuk, and Michael (2014) argued that SMEs are regarded as the bedrock of industrialization. Because a number of them possess extensive knowledge of resources, as well as demand and supply trends, they constitute the chief suppliers of

inputs to larger firms. They also generate sufficient revenue needed to fund their businesses because they serve as the main customers to the larger firms and as well provide all sorts of products ranging from food, clothing, recreation, entertainment, healthcare, education, and so forth. As noted by Ogonu and Okejim (2018), small scale businesses generate income/revenue to three distinct bodies of the economy. They generate income in the form of salary/wages to the employees, profits to the entrepreneur and tax and other statutory levies to the government. This helps to boost the country's national income. In this way small business ventures generate revenues and strengthen the Nigeria economy.

Al-Ma'ani (2013) define workers' loyalty as the sense of commitment of the employees towards staying with the organization, and often this is enhanced by good support by the organization for its employees, allowing them to participate and positively interact, not only in the manner of implementing procedures or carrying out the work, but to contribute to the development of goals, planning and policy-making for the organization. A loyal employee is such that is willing to work in that organization, thinking or believing that to work in the organization is the best option for him. For this purpose, the employee tries his best for the success of the organization to ensure that it survives (Adedeji & Ugwuamadu, 2018).

Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) define a micro enterprise as any enterprise employing between one to nine people and having a capital base from ₦1 (\$0.00065) to ₦5 million (\$3,255) excluding the cost of land. It define a small enterprise as any company that employs between 10 and 49 workers and has a

capital base from ₦5 million (\$3,255) to ₦50 million (\$32,550). It define a medium enterprise as any enterprise that employs from 50 to 199 workers and has a capital base from ₦50 million (\$32,550) to ₦500 million (\$325,500) (Ebitu, Glory, and Alfred, 2016).

The COVID-19 epidemic has significantly impacted global economies and cultures, posing unprecedented challenges to businesses of all scales. MSMEs, who are vital contributors to the global economy, were severely impacted. MSMEs provide a substantial contribution to employment, innovation, and economic growth (Bhat & Meher, 2020). Nevertheless, their intrinsic weaknesses, such as low financial resources, restricted market access, and less advanced operational infrastructures, have made them especially vulnerable to the impacts caused by the pandemic. As the world moves towards a period after the pandemic, it is crucial to prioritize the development of resilience in MSMEs to guarantee their long-term viability and ability to endure future disturbances. Resilience refers to the capacity of enterprises to effectively endure, adjust to, and bounce back from unfavorable circumstances. For MSMEs, resilience entails not only surviving but also flourishing in a swiftly evolving context (Abhaya, Suresh, Asit, & Pragyan, 2025).

The provision of government support is crucial in promoting the expansion and long-term viability of MSMEs. All over the world, a range of measures, strategies, and schemes are put into action to offer monetary support, education, and relaxation of regulations for MSMEs. Governments frequently provide grants, subsidies, and loans with low interest rates to help MSMEs have access to cash. This allows them to invest in technology, grow their operations, and engage in innovation (Gupta & Barua, 2017). In general, a favorable regulatory framework and

specific government assistance enable MSMEs to prosper, make a significant impact on economic growth, and generate job opportunities.

In addition to government help, development agencies have also taken action. The World Bank Group is providing assistance to over 100 developing nations through its emergency operations. The help provided by the organization has a significant impact on MSMEs in two areas namely, assisting in the expansion of social protection, and aiding enterprises and maintaining employment. The bank is offering financial assistance to countries with the aim of enhancing their existing social protection programs. This encompasses money for direct financial assistance to low-income families, one-time financial compensation for unemployment, financial support for social benefits, and grants to MSMEs. Google has unveiled a \$200 million investment fund aimed at assisting non-governmental organizations (NGOs) as well as financial institutions worldwide in providing small enterprises with financial resources to help them navigate through this crisis. Furthermore, the company has provided SMEs, which have maintained active accounts during the past; with Google Ads credits amounting to USD \$340 million. Unilever has made a global announcement that it will provide €500million (\$541,389,205) in cash flow assistance to the most susceptible SME suppliers. These programs are vital in promoting the growth and sustainability of MSMEs, which are critical catalysts for economic development and job creation (Abhaya et al., 2025).

Over ₦300 billion (\$195,298,514) was disbursed by the Central Bank of Nigeria (CBN) to operators in the Small and Medium Enterprises space, together with the healthcare, agriculture, and

manufacturing sectors, among others to cushion the effects of the coronavirus pandemic on their businesses.

International Finance Corporation (IFC), a member of the World Bank Group, announced a \$50 million loan to Nigeria's First City Monument Bank (FCMB) Limited, to assist the bank expand lending to small and medium enterprises (SMEs), enabling them sustain business activities disrupted by the COVID-19 pandemic. Also, the Bank of Industry (BOI) has raised a €1billion (\$1,082,205,000) medium-term syndicated facility from the international capital market to support micro, small, medium and large enterprises across key sectors of the Nigerian economy. The pursuit of post-COVID economic recovery plan for MSMEs will not only help these businesses in to recover from the downsides of COVID but also place them on a path of long-term sustainable growth ([https://lsetf.ng/sites/default/files/Impact of Covid19 on MSMEs in Lagos GIZ LSETF Report October 2021 Final.pdf](https://lsetf.ng/sites/default/files/Impact%20of%20Covid19%20on%20MSMEs%20in%20Lagos%20GIZ%20LSETF%20Report%20October%202021%20Final.pdf)).

Theoretical Review

Contingency theory was reviewed in this study. Also, this study was anchored on contingency theory.

Contingency theory was propounded by Fred Fiedler. According to contingency theory, there are numerous effective and efficient ways to accomplish a particular goal given the same initial conditions, rather than a single perfect management strategy that functions flawlessly in every situation. A management strategy or practice that appears to be effective in one context might not work in another (Woodward, 1965; Uwauwa & Ordu, 2016). In this sense, managers and leaders are expected to recognize the unique characteristics of the scenario they find themselves in and then devise a plan that would work best (Mark & Erude, 2023).

Contingency theory aimed to explain how organizations function under specific conditions and situations that vary, with a focus on the multidimensional nature of organizations. The ultimate goal of the contingency view is to provide organizational structures and managerial strategies that are best suited for a given circumstance (Mark & Erude, 2023). Effiong and Ejabu (2020) emphasized that managers' actions in the real world are dependent on or determined by a particular set of conditions.

Contingency theory acknowledges that people and organizations are different, and that what works for one may not work for another. In summary, it implies that every aspect of the issue needs to be taken into account while studying an organizational challenge. According to them, the optimal approach to solving any issue is to consider all relevant aspects of the problem and direct that approach toward them (Sofer, 1972; Shu'ara & Amin, 2022).

This study is anchored on contingency theory. This because an organization's success in its industry/market highly depend on different environmental situations that surrounds it at different period of time and its ability to cope with and manage these situations. Organizations that easily get use to and manage any situation within its environment always will continue to record huge success than its rival in the market.

Empirical Review

Ogunmuyiwa and Adetayo (2023) examined the effect of environmental factors on SMEs' performance in Ogun State, Nigeria. Survey research design was used for the study. Sample size comprised of 218 SMEs in Ijebu-Ode and Ago-Iwoye, Ogun State. Questionnaire was used to collect primary data for the study. Multiple regression analysis was used to test the

research hypotheses. Findings of the study affirmed that employees, shareholders, government support, and competitive pressure have individual significant effect on SMEs' performance in Ogun State. Also, the study revealed that employees, shareholders, government support, and competitive pressure have combined significant effect on SMEs' performance. Usende (2023) examined the effect of external environmental factors on the performance of small and medium scale enterprises in Makurdi Metropolis, Benue State, Nigeria. Survey research design was used for the study. Sample size comprised of 300 SMEs in Makurdi. Primary data was collected through the use of questionnaire. Simple regression analysis was used to test the research hypotheses. Results of the study indicated that economic factors, political factors, and technological factors have individual significant effect on the performance of SMEs. Socio-cultural factors have no significant effect on the performance of SMEs.

Haleem and Ditsa (2024) examined the influence of external environmental factors on the implementation of human resource information system in metropolitan, municipal, and district assemblies (MMDAs) in the Upper West Region of Ghana. Purposive sampling technique was used for the study. Sample size comprised of 187 line managers in 11 MMDAs. The study centered on a questionnaire-based opinion survey. Spearman bivariate correlation was used to test the research hypotheses. The study showed that government policies, external support, and competitive pressure have no individual significant influence on the acceptance of human resource information system. Also, government policies, external support, and competitive pressure have no individual significant influence on the effectiveness of human resource information system in

MMDAs in the Upper West Region of Ghana.

Obianuju (2022) investigated the impact of the internal and external environmental factors on the performance of micro and small scale enterprises in East Gojjam Zone, Ethiopia. Sample size comprised of 362 micro and small scale enterprises in selected woredas and town administrations. Questionnaire was used to collect primary data for the study. Descriptive statistics was used to analyze the respondents' bio-data and responses on each item of the research instrument. Regression analysis was used to test the research hypotheses. Findings from descriptive statistics confirmed that inadequate power supply, inadequate water supply, unavailability of dry waste and sewerage system, unavailability of business development service, unavailability of suitable market place, collateral requirements to get loan, shortage of working capital and unavailability of own working premise pose serious problems resulting in low performance of micro and small sized enterprises. Findings from regression analysis ascertained that infrastructural facilities, finance technology, and entrepreneurial commitment have significant effect on the performance of micro and small scale enterprises East Gojjam Zone, Ethiopia. However, infrastructural facilities and finance have positive significant effect on the performance of micro and small scale enterprises.

Adegbite, Omisore, and Sanusi (2023) evaluated the impact of socio-cultural environmental factors on business performance using International Breweries Plc., Ilesha, Osun State, Nigeria as a case study. Stratified sampling technique was used for the study. Questionnaire was used to collect primary data. Sample size comprised of 40 workers made up of top management, middle management, lower

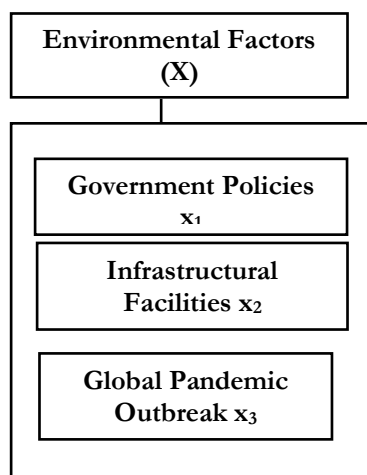
management, and junior staff of the company. Regression analysis was used to test the hypotheses. The study found that socio-cultural factors such as gender, religion, family composition, language/ethnicity, age distribution, designation, and educational/professional qualification have significant effect on business performance.

Agbenyegah and Amankwaa (2023) investigated the level of SMEs' financial sustainability and the environmental factors that influence SMEs' financial sustainability in Sekondi-Takoradi, Ghana. Using Bartlett, Kotrlík, and Higgin (2001)'s table for sample size determination, 250 SME owners (who employ between 1 to 30 workers) out of about 10,205 SMEs were sampled as respondents for the study. Close-ended instrument was then used to gather information from the respondents. Multiple regression analysis was used to test

the research hypotheses. The study discovered that most SMEs in Sekondi-Takoradi have high to moderate financial sustainability. Not only are they able to generate profit and increased sales, they are able to meet their debt, cut cost, meet daily business expenditures and are assured of the longevity of their business. Internal factors such as management skills and experience, owners' available funds, owners' financial literacy, product uniqueness, years of business operation, retained profit, and family members' commitment have positive significant influence on SMEs financial sustainability. External factors such as taxes, payment for an operating permit, use of technology, and market competition have negative significant influence on the financial sustainability of SMEs in Sekondi-Takoradi.

Conceptual Model

Independent Variable



Dependent Variable

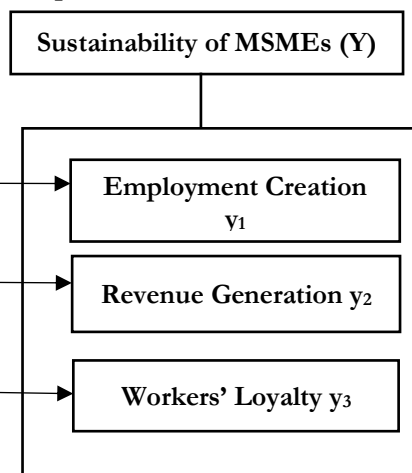


Figure 1: Environmental Factors and Sustainability of MSMEs
Source: Researchers' Conceptual Model (2024).

The research conceptual model showed how the researchers investigated the combined effect of all the independent

variables (government policies, infrastructural facilities, and global pandemic outbreak) on each of the

dependent variable (employment creation, revenue generation, and workers' loyalty) in micro, small, and medium scale enterprises in Lagos Mainland Local Government Area, Lagos State, Nigeria.

Methodology

Survey research design was adopted for this study. This study employed a survey research design because it is the most popular and least expensive research design in the field of social and management sciences. Survey research design is a unique method of collecting data from a large number of research participants. Survey research design consists of several advantages, including a high sample size and hence greater statistical power, the ability to collect vast volumes of data, and the availability of validated models. Survey research design is frequently used in social and psychological research because they are very useful for describing and exploring human behavior (Singleton & Straits, 2009). According to the 2021 MSMEs survey by Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), there are 39 million MSMEs in Nigeria (Nnodim, 2022). Also, according to the survey of National Bureau of Statistics (NBS) in 2020 on the number of MSMEs in Nigeria, there are 39,654,385 MSMEs in the country. Micro enterprises make up 96.9% while SMEs make up of 3.1% of this population (<https://www.pwc.com/ng/en/assets/pdf/pwc-msme-survey-report-2024.pdf>). This survey was done generally on the number of MSMEs in Nigeria without specific survey on the number of MSMEs in different towns and local governments. Since, these are general surveys on the number of MSMEs in Nigeria and not in specific states, cities, and towns in Nigeria, this study carried out its research among 780 MSMEs in Lagos Mainland Local Government using convenience sampling

technique. Convenience sampling technique was used because it allows a researcher to administer his research instrument to respondents that are readily available and willing to participate in his

research study (Latham, 2007).

The research instrument used for this study was a structured questionnaire. The study adopted the questionnaire of Akinlemi (2018) on infrastructural facilities, Igwela (2021) on global pandemic outbreaks, and Allen and Meyer (1990) on workers' loyalty. The study constructed its research instrument on government policies, employment creation, and revenue generation.

The research instrument comprised of 34 items. Internal consistency method of reliability was used to test the reliability of the research instrument. Cronbach alpha was used to test the internal consistency of the research instrument. The questionnaire comprised of two major sections: Section A (demographic profile of the respondent) and Section B (Research construct items). The questionnaire comprised of major construct items.

However, modified Likert's interval rating scale with options ranging from strongly agree, agree, partially agree, partially disagree, disagree, and strongly disagree were used as the response patterns on the construct items. The pilot study was carried out by administering copies of the questionnaire to Ten (10) percent of the respondents who filled them and returned back to the researchers. Thereafter, the reliability of the research instrument was tested using Cronbach Alpha co-efficient. Descriptive statistics using simple percentages and frequency distribution tables was used to analyze the respondents' bio-data (gender, age, marital status, and educational qualifications) and responses on each item of the research instrument

while multiple regression analysis was used to test the hypothesis formulated. These methods of data analysis were used with the aid of the Statistical Package for the Social Sciences (SPSS) version 23.

Table 1: Cronbach Alpha Value of the Research Instrument

Variable	Number of Items	Cronbach Alpha Value
Employment Creation	5	0.73
Revenue Generation	5	0.75
Workers' Loyalty	4	0.79
Government Policies	7	0.82
Infrastructural Facilities	6	0.71
Global Pandemic Outbreak	7	0.86
Total	34	

Source: Researchers' Computation (2024).

Table 1 showed the Cronbach Alpha value for each item of the research instrument tested which ranged between 0.73 and 0.86. This showed that the research instrument tested is reliable.

Data Analysis, Results and Discussion

Copies of questionnaire were administered to 780 owners/managers of micro, small,

and medium scale enterprises in Lagos Mainland Local Government Area. Out of which only 620 copies were filled and returned back. 620 (79%) of the respondents filled and returned the questionnaire back. Thus, the percentage of the copies of questionnaire returned is high enough for the generalization of the outcome of this research work.

According to the demographics of the respondents, 260 (42%) are male and 360 (58%) are female. The marital status of the respondents revealed that 397 (64%) are single and 223 (36%) are married. According to the age distribution of respondents, 174 (28%) are between the ages of 21 and 30years, 199 (32%) are between the ages of 31 and 40years, 161 (26%) are between the ages of 41 and 50years, and 86 (14%) are between the ages of 51years and above. According to the respondents' educational qualifications, 136 (22%) possess the Senior School Certificate Examination (SSCE), 316 (51%) possess a Bachelor's degree, 143 (23%) possess a Master's degree, and 25 (4%) possess a doctorate degree. In terms of size of business, 167 (27%) of business firms are micro scale enterprises, 292 (47%) are small scale enterprises, and 161 (26%) are medium scale enterprises. Finally, in terms of length of service, 304 (49%) have spent 1-5years, 167 (27%) have spent 6-10years while 149 (24%) have spent 11years and above in their workplace.

Table 2: Multiple Regression Analysis Results on Environmental Factors and Employment Creation in Micro, Small, and Medium Scale Enterprises in Lagos Mainland Local Government Area.

Variables	Employment Creation
Constant	$\beta = 12.712$ $t = 6.946$ $p = 0.000$
Government Policies	$\beta = 0.245$ $t = 2.182$ $p = 0.032$
Infrastructural Facilities	$\beta = -0.262$ $t = -0.235$ $p = 0.022$
Global Pandemic Outbreak	$\beta = 0.039$ $t = 0.378$ $p = 0.706$
R-Squared	0.284
Adj. R-Squared	0.222
F-Statistic	12.482
Prob (F-statistic)	0.066

Source: Researchers' Computation (2024).

Results of the study in table 2 indicated that government policies ($\beta = 0.245$, $t = 2.182$, $p < 0.05$) had significant effect on employment creation, infrastructural facilities ($\beta = -0.262$, $t = -0.235$, $p < 0.05$) had negative significant effect on employment creation, and global pandemic outbreak ($\beta = 0.039$, $t = 0.378$, $p > 0.05$) had no significant effect on employment creation in micro, small, and medium scale enterprises in Lagos Mainland Local Government Area. The adjusted R square of 0.222 showed that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) explained only 22.2% of the variation in employment creation. This implies that only 22.2% of the changes in employment creation could be attributed to environmental factors in micro, small, and

medium scale enterprises. The results revealed that the overall model was statistically insignificant as represented by $F = 12.482$ with p -value ($0.066 > 0.05$).

The regression model showed that holding environmental factors to a constant zero, employment creation would be 12.712 which implies that without environmental factors, employment creation in micro, small, and medium scale enterprises in Lagos Mainland Local Government Area was 12.712. Based on these findings, the null hypothesis (H_{01}) which states that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on employment creation in micro, small and medium scale enterprises in Lagos Mainland Local Government Area is hereby accepted.

Table 3: Multiple Regression Analysis Results on Environmental Factors and Revenue Generation in Micro, Small, and Medium Scale Enterprises in Lagos Mainland Local Government Area.

Variables	Revenue Generation
Constant	$\beta = 15.156$ $t = 7.046$ $p = 0.000$
Government Policies	$\beta = 0.232$ $t = 2.059$ $p = 0.042$
Infrastructural Facilities	$\beta = -0.075$ $t = -0.665$ $p = 0.508$
Global Pandemic Outbreak	$\beta = 0.158$ $t = 1.539$ $p = 0.127$
R-Squared	0.558
Adj. R-Squared	0.490
F-Statistic	22.233
Prob (F-statistic)	0.090

Source: Researchers' Computation (2024).

Results of the study in table 3 showed that government policies ($\beta = 0.232$, $t = 2.059$, $p < 0.05$) had significant effect on revenue generation, infrastructural facilities ($\beta = -0.075$, $t = -0.665$, $p > 0.05$) had negative insignificant effect on revenue generation, and global pandemic outbreak ($\beta = 0.158$, $t = 1.539$, $p > 0.05$) had no significant effect on revenue generation in micro, small, and medium scale enterprises in Lagos Mainland Local Government Area. The adjusted R square of 0.490 showed that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) explained only 49% of the variation in revenue generation. This implies that only 49% of the changes in revenue generation could be attributed to environmental factors in micro, small, and medium scale enterprises. The results

confirmed that the overall model was statistically insignificant as represented by $F = 22.233$ with p -value (0.090) > 0.05 .

The regression model showed that holding environmental factors to a constant zero, revenue generation would be 15.156 which implies that without environmental factors, revenue generation in micro, small, and medium scale enterprises in Lagos Mainland Local Government Area was 15.156. Based on these findings, the null hypothesis (H_{02}) which states that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on revenue generation in micro, small and medium scale enterprises in Lagos Mainland Local Government Area is hereby accepted.

Table 4: Multiple Regression Analysis Results on Environmental Factors and Workers' Loyalty in Micro, Small, and Medium Scale Enterprises in Lagos Mainland Local Government Area.

Variables	Workers' Loyalty
Constant	$\beta = 8.779$ $t = 4.047$ $p = 0.000$
Government Policies	$\beta = 0.241$ $t = 2.122$ $p = 0.037$
Infrastructural Facilities	$\beta = 0.003$ $t = 0.026$ $p = 0.980$
Global Pandemic Outbreak	$\beta = 0.037$ $t = 0.361$ $p = 0.719$
R-Squared	0.736
Adj. R-Squared	0.607
F-Statistic	29.385
Prob (F-statistic)	0.141

Source: Researchers' Computation (2024).

Findings of the study in table 4 revealed that government policies ($\beta = 0.241$, $t = 2.122$, $p < 0.05$) had significant effect on workers' loyalty, infrastructural facilities ($\beta = 0.003$, $t = 0.026$, $p > 0.05$) had no significant effect on workers' loyalty, and global pandemic outbreak ($\beta = 0.037$, $t = 0.361$, $p > 0.05$) had no significant effect on workers' loyalty in micro, small, and medium scale enterprises in Lagos Mainland Local Government Area. The adjusted R square of 0.607 showed that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) explained only 60.7% of the variation in workers' loyalty. This implies that only 60.7% of the changes in workers' loyalty could be attributed to environmental factors in micro, small, and medium scale enterprises. The results affirmed that the overall model was statistically insignificant as represented by $F = 29.385$ with p -value (0.141) > 0.05 .

The regression model showed that holding environmental factors to a constant zero, workers' loyalty would be 8.779 which implies that without environmental factors, workers' loyalty in micro, small, and medium scale enterprises in Lagos Mainland Local Government Area was 8.779. Based on these findings, the null hypothesis (H03) which states that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on workers' loyalty in micro, small and medium scale enterprises in Lagos Mainland Local Government Area is hereby accepted.

The study found that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on employment creation in micro, small and medium scale enterprises in Lagos Mainland Local

Government Area. Results of the study does not align with the study of Usende (2023) which affirmed that external environmental factors had significant effect on SMEs' performance in Makurdi Metropolis, Benue State. Results of the study agree with the study of Haleem and Ditsa (2024) which discovered that external environmental factors had no significant influence on the effectiveness of human resource information system in MMDAs in the Upper West Region of Ghana.

The study confirmed that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on revenue generation in micro, small and medium scale enterprises in Lagos Mainland Local Government Area. Findings of the study disagree with the study of Obianuju (2022) which revealed that internal and external environmental factors have significant effect on the performance of micro and small-scale enterprises East Gojjam Zone, Ethiopia. Also, findings of the study contradict the study of Ogunmuyiwa and Adetayo (2023) which indicated that environmental factors have significant effect on SMEs' performance in Ogun State, Nigeria. Lastly, the study ascertained that environmental factors (government policies, infrastructural facilities, and global pandemic outbreak) have no significant effect on workers' loyalty in micro, small and medium scale enterprises in Lagos Mainland Local Government Area. Findings of the study contradict the study of Adegbite, Omisore, and Sanusi (2023) which found that environmental factors have significant effect on business performance. Findings of the study also disagree with the study of Agbenyegah and Amankwaa (2023) which showed that internal and external environmental factors

have significant influence on the financial sustainability of SMEs in Sekondi-Takoradi, Ghana.

Conclusion and Recommendations

Based on the findings of the study, the study concluded that policies initiated and implemented by the Nigerian government to ensure that businesses operate smoothly, efforts made by the government to provide infrastructural facilities needed for businesses to carry out their activities effectively, and global pandemic outbreak that take place in countries across the world may or may not lead to creation of employment, assist MSMEs in generating revenue, and influence workers to remain loyal in their workplace. This is because there may be other factors that can result in creation of employment opportunities among MSMEs, boost their sales/revenue, and influence workers to prolong their stay in their place of work.

Since government policies, infrastructural facilities, and global pandemic outbreak have no combined significant effect on each of the dependent variables (employment creation, revenue generation, and workers' loyalty), the study recommended that owners/managers of micro, small, and medium scale enterprises in Lagos Mainland Local Government Area should initiate and implement other actions that will boost employment creation, assist them in generating sufficient sales needed to run their business very well, and influence the loyalty of their workers. Owners/managers of MSMEs, government, and employers' association should put into consideration, initiate, and implement other factors that can lead to the creation of jobs, increase their revenue base, and motivate workers to stay in their

workplace for a long period of time. These stakeholders should take further steps that will continually promote employment

creation, increased revenue, and workers' loyalty in these organizations.

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Does Pre-Retirement Financial Literacy Matter to Age 60's? Evidence from Ghana

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Abstract

It is essential for everyone to engage in effective retirement planning. Unfortunately, many people face financial difficulties after retirement due to inadequate financial literacy before, during, and after reaching the age of 60. This study empirically investigates the association between financial literacy and retirement planning and public pension management. Using a multivariate regression model on sample data collected from respondents in Ghana, this study shows that financial literacy matters in retirement planning and is positively associated with public pension management. In a developing country like Ghana, with high levels of financial illiteracy among older adults, we find evidence to show that most respondents have prepared for "basic" retirement. Evidence also shows that financial literacy is important for understanding governance, accountability, and transparency in public pension management. For policy purposes, we outline a host of policy recommendations that can enhance retirement planning and financial literacy and cure retirement financial distress.

Key words: Retirement Planning, Public Pension, Financial Literacy.

Introduction

The desire to have a good life after working years is an ambition that many individuals may not achieve because of poor retirement plans, non-performing retirement portfolios, insufficient pension benefits (mainly from public pensions), and financial illiteracy. Financial literacy is a latent yet potent force that influences how individuals manage their finances and plan for their retirement through the selection of financial and non-financial investment portfolios and their choice of pension fund managers. In 1994, the World Bank proposed a Multi-pillar Pension System in a famous report titled 'Averting the Old Age Crisis.'

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The three pillars of this proposal are basic pension, mandatory contributions to an earnings-related scheme, and voluntary saving. Based on this proposal, many countries rolled out pension reforms to provide improved benefits to pension contributors. These reforms have occurred in several ways. In some cases, governments have reduced their benevolence and placed greater responsibility on individuals to build and manage pension funds by encouraging private pension use to augment public pension schemes. Indeed, surmounting the challenge of building a sustainable retirement plan in a world where financial markets and products are becoming increasingly complex is a significant task for many. The financial market is becoming increasingly complex because of competition, technological improvements, and integration of global financial markets. In the Scientific mapping and bibliometric analysis of financial literacy, which covers the years 2001 to 2021, Suri and Jindal (2022) mentioned that there are four dominant research areas: demographic studies, economics, welfare, and behavioral themes. The authors suggest that literature in many of these areas is influenced by evidence from developed countries; hence, there exists a huge scope for empirical work from middle, low-middle, and low-income countries.

The terms financial education and financial literacy are used interchangeably. According to the Organization for Economic Cooperation and Development (OECD) (2005), financial education is the process by which financial consumers or investors improve their understanding of financial products and concepts. Through information, instruction, and/or objective advice, they develop skills and confidence to become more aware of financial risks

and opportunities to make informed choices, know where to go for help, and take other effective actions to improve their financial well-being. Financial literacy, on the other hand, is a combination of awareness, knowledge, skills, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial well-being (OECD/INFE 2011:3). Empirically, Klapper et al. (2015), in the S&P Global Financial Literacy Survey, revealed that many countries in Africa and South Asia have adult populations with low financial literacy. The survey also inferred that 68 percent of the adults in Ghana were financially illiterate. This high rate of adult financial illiteracy is alarming and requires urgent attention through research and policy interventions, considering the pension reforms that have occurred in Ghana. Holzmann, Hinzand, and Dorfman (2008) conceptualized pension systems and reforms to compose of (i) a non-contributory “zero pillar”; (ii) an appropriately sized mandatory “first pillar”; (iii) a funded mandatory defined contribution “second pillar; (iv) a funded voluntary “third-pillar”; and (v) a nonfinancial “fourth pillar” fourth pillar”. The core objective of this pension system is to provide protection against the risk of poverty in old age and smooth consumption from work life to retirement.

While financial assets are easily recognized as a major means of building a retirement portfolio, many lack the financial knowledge and skills of personal financial management, leading to inadequate retirement planning. Many employees put so much hope on public pensions to provide the anticipated and needed financial cushion during retirement, which in many instances tends to be woefully inadequate. The main problem is that many contributors to public pensions assess the

performance of these funds based on the current retirement income enjoyed by retirees and their anticipated retirement income. Many of these contributors themselves lack the basic knowledge of financial literacy, a situation very common in both developed (Lusardi and Mitchell, 2007a, 2007b, 2009; Hastings and Tejada-Ashton, 2008) and developing countries (Klapper, Lusardi, & Van Oudheusden, 2015). Similarly, Amoah (2019) notes that financial education helps reduce the probability of investors falling prey to fraudulent investment schemes, such as Ponzi and pyramid schemes. The key research questions are as follows: How do these contributors to public pensions assess the management of their pensions in an environment where there is evidence that basic financial literacy is woefully inadequate? To what extent is financial literacy related to pension contributors' assessment of public pension fund management? These two issues set the tone for this study as we investigate the nexus between pre-retirement financial literacy and public pension management.

Financial security during retirement is a major global concern, especially in developing nations with low financial literacy. In Ghana, inadequate financial literacy hampers effective retirement planning, leaving many older adults unprepared for their post-retirement financial needs. Additionally, a limited understanding of public pension systems reduces individuals' ability to hold institutions accountable, ensure transparent governance, and optimize financial outcomes. This study addresses the prevalent retirement financial distress that affects the financial well-being of older adults and their dependents. This calls for an empirical investigation into the relationship between financial literacy,

retirement planning, and public pension management in Ghana. The objectives of this study are threefold: first, to assess the preparedness of respondents for retirement; second, to determine how financial literacy is associated with retirement planning and public pension fund management in Ghana; and third, to analyze how financial literacy affects respondents' views on public pension management in Ghana.

This study addresses the issue of retirement financial insecurity among older adults in developing nations such as Ghana. Inadequate financial literacy and systemic challenges in the public pension administration have worsened this problem. Improving financial literacy can enable individuals to make informed retirement decisions, advocate better pension governance, and achieve financial security. This research offers actionable insights for policymakers, educators, and financial institutions concerning Ghana's aging population and the crucial role of public pensions in supporting retirees.

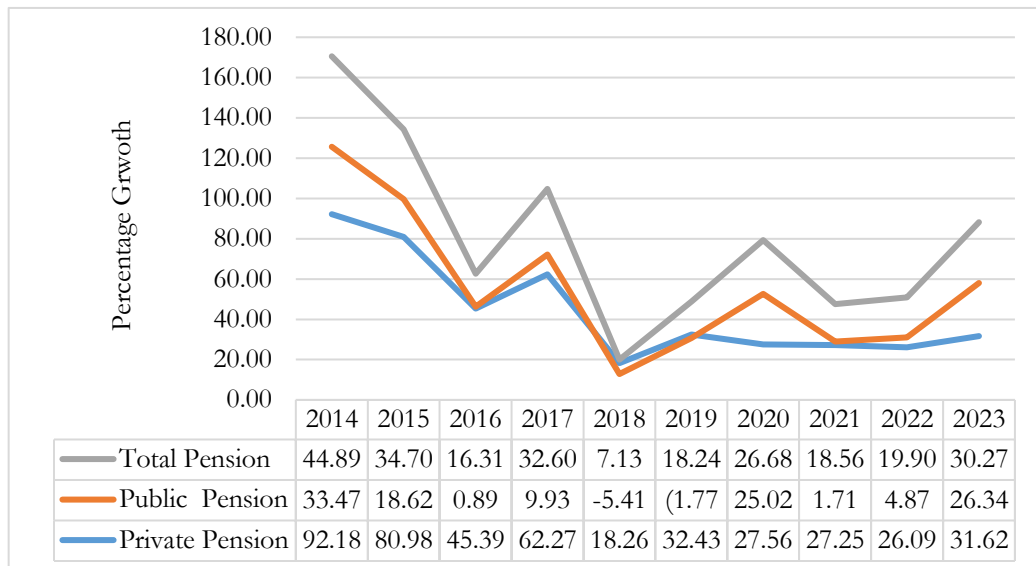
This study enriches the literature on financial literacy and retirement planning by empirically demonstrating a link between financial literacy and retirement planning in Ghana. Using a robust multivariate regression model on the sample data, we show how financial literacy impacts individuals' retirement planning capabilities. This study highlights the importance of financial literacy in understanding and engaging public pension fund management. The findings show that financial literacy aids individuals' financial decisions and plays a vital role in improving governance, accountability, and transparency in public pension management. We offer policy recommendations to improve the financial

literacy and retirement planning of older adults. This includes financial education programs, integrating retirement planning into community initiatives, and increasing public awareness of pension systems, especially by the National Pension Regulatory Authority (NPRA), managers of private and public pension funds, and promoters of financial literacy and inclusion.

For Ghana, the National Pensions Act, 2008 (Act 766), demands that every Ghanaian worker receives retirement benefits as and when due. The objectives of Act 766 (2008) are to provide pension benefits, ensure retirement income security for workers, ensure that every worker receives retirement benefits, and establish a uniform set of rules and standards for the administration, payment of retirement, and related benefits for workers. The Act created a formal public pension and private pension fund industry. Furthermore, the National Pensions Act of 2008 (Act 766) mandated the establishment of a new contributory Three-Tier Pension Scheme with the National Pensions Regulatory Authority (NPRA) to oversee the efficient administration of the composite pension scheme. In all, Act 766 mandates an 18.5 percent contribution towards an employee's pension and a maximum tax allowable pension contribution of 35 percent.

The first tier (Tier I) is public pension, which is the Basic National Social Security Scheme for all workers in Ghana. It is a defined benefit scheme and mandatory for workers to have 13.5% of employers' contributions, of which 11 percent are managed by the Social Security and National Insurance Trust (SSNIT) and the remaining 2.5 percent is paid to the public National Health Insurance Scheme. The second tier (Tier II) is a defined contribution occupational pension scheme mandatory for workers, with a 5 percent contribution from the employees. The 16.5 percent tax allowable maximum contribution is the third-tier (Tier III) voluntary scheme, which includes all Provident Funds and all other Pension Funds, aside from Tiers I and II.

Data from the National Pension Regulatory Authority (NPRA) shows that growth opportunities exist in the private pension fund industry (Figure 1), with a higher growth in the asset size of the private pension industry compared to the public pension fund. This result can be partially attributed to the 10-year mandatory lock-in fund period. Furthermore, the trend that shows a high rate of 92.18 in 2014 compared to 31.62 percent in 2023 points to the growth opportunities that exist in the private pension industry.

Figure 1: Growth of Pension Funds in Ghana

Authors' Construct with data from the NPRA Annual Report various editions.

What is more striking is that in 2018, public pension assets declined by 5.41 percent, while private pension fund assets experienced an 18.26 percent growth. Additionally, the growth in the two respective industries appears to converge over time. This trend demands more effort from pension fund managers to increase their asset sizes by enrolling more contributors in their schemes. As Iglesias and Palacios (2000) posit, many public pensions are mismanaged, which deprives contributors of a good return on their investment during their non-working years. This unfortunate situation in the management of public pensions places an extra burden on pension contributors to pursue retirement plans to augment the benefits that they may tap from public pensions. From 2019 to 2023, this trend has reversed, although 2021 reported a dip in the percentage growth in pension fund assets.

We argue that financial literacy matters in pursuit of personal retirement plans. As Kim et al. (2005) note, individuals who have advanced economic knowledge are more likely to prepare for retirement than those who are financially less literate. In Almenberg and Save-Soderbergh (2011), financial literacy influences retirement plans for those who plan to retire compared to those who do not. What is also worrying is that, in many countries, pension knowledge is limited, and many individuals find pension information and communication too complex to comprehend (Prast & van Soest, 2016). The resources that one may set aside for a personal retirement plan are also largely influenced by the expected performance of public pension funds, being mindful that in many instances, public pension benefits are inadequate. In Africa and Ghana, in particular, Kumado and Gockel (2003) cautioned that external family support in

retirement and old age is declining since modern-day families in Ghana are heavily nuclear in nature; hence, pension funds would play a crucial role in the survival of old age. Public information on public pensions in Ghana, the Social Security and National Insurance Trust (SSNIT), spends approximately 1 percent of the Gross Domestic Product on providing pensions for approximately 0.4 percent of the Ghanaian population. The rest of the paper is structured as follows: Section 2 presents the theoretical and empirical literature, Section 3 details the data collection method, Section 4 presents the results and discussion, and Section 5 presents the conclusions and recommendations.

Literature Review

Increasingly competitive and complex financial markets present financial market participants with challenging decision-making processes. Therefore, an individual's ability to make financial decisions with the expectation of the best outcome depends on many factors, of which financial literacy plays a major role. This decision-making process is enveloped in behavioral economics and finance literature on individual financial investment decisions. From a conventional economic perspective, individuals are rational and seek to pursue decisions that maximize their utility. Altman (2008) doubts that the interplay between financial literacy and education does not result in rational individual behavior, as predicted.

According to Altman (2012), three different approaches exist for individual financial decision making. The first approach in explaining financial decision-making is conventional economic theory, which posits that education and training, also known as human capital formation, are key to improving productivity. In this theory,

an individual's financial decision is assumed to be optimal unless there is interference from the government in the market and decision-making. The second approach is behavioral economics: Kahneman-Tversky, the errors and biases approach, which suggests that education can sometimes improve decision-making. This also includes the view that government intervention in decision making is often considered the best practice route to make ideal choices. In the behavioral economics setting, financial decision making is biased and error-prone, without government intervention in choice behavior. The third is behavioral economics: the Simon bounded rationality-rational individuals' approach, which holds that education can have important effects on decision-making, and the role of the government is to establish the correct institutional environment and provide the education required for ideal choices to be executed. In this context, the government intervenes in the financial market to protect only its participants. Financial decision making can be improved through high-quality decision-making environments and improvements in financial education.

With financial literacy, Bandura's (1997) self-efficacy theory comes to the fore because an individual's ability to stay committed to a decision is based on the skills and knowledge that individuals possess in a particular matter of interest. In situations of personal interest, individuals who are more skilled, knowledgeable, and resilient are likely to make sound judgments in harsh conditions. The Existence, Relatedness and Growth (ERG) theory propounded by Alderfer and Guzzo (1979) can also be linked to financial literacy. The main contention of this theory is that when existence or basic needs (as brought forth by Maslow) are satisfied, an individual can

focus on other higher needs. For instance, once an individual satisfies their basic needs, such as food, clothes, and shelter, the rest can be either saved or invested to achieve favorable returns. In other words, individuals with more money at their disposal are more likely to invest in the future than those with less money. The relatedness aspect of the theory captures an individual's ties with family members. For instance, do individuals depend on which they expend? This may affect disposable income or the money left to invest. Again, the growth aspect of the theory captures the personal development of the individual, such as the funds invested in education, obtaining certain life skills, and any other career-oriented program, with the sole aim of adding value to the individual. This can also affect disposable income and, to some extent, the ability to invest and save in the future. Clearly, for this study, financial education plays an important role for individuals and households in maximizing their economic well-being during their lifetime and, most importantly, during their retirement.

Two theories in the literature on saving for retirement are the life-cycle hypothesis (LCH) and permanent income hypothesis (PIH). Generally, the main reason for pension funds is to provide adequate funds to contributors during the non-working years of their lives. Therefore, a good pension protects contributors against poverty and attempts to provide decent income over their life cycle. The LCH, accredited by Modigliani (1966), explains the consumption patterns of individuals during their lifetime. The LCH suggests that individuals plan their consumption and savings behaviors over their lifecycle. Friedman's (1957) PIH theory holds that consumption is a function of permanent income, and thus, saving is a residual.

According to the PIH, individuals average their income in the long term, with little change in consumption over this period. In general, these theories explain that individuals save funds during their active working years to cover their living expenses during retirement. The extent to which they save for retirement depends on their lifestyle during their working years and anticipated lifestyle during retirement.

In anticipating how much to save during work life for retirement, Novy-Marx and Rauh (2011) remark that the available policy options in the cost-of-living matter in building funds for retirement. Empirically, these authors argue that adjustment by one percentage point or adjusting the retirement age by one year in Colorado and Minnesota exposes the taxpayer to bear a large share of the costs associated with the legacy liabilities of state-defined benefit pension plans. In terms of risk management through public pension funds, Halim et al. (2010) show that American corporate and public funds are more efficient in managing risk. These efficient funds have the lowest average number of staff dedicated to risk management, whereas Australia/New Zealand and Canada have the highest for each invested dollar. Ketkaew et al., (2020) reveal that in urban and rural China, the perceived retirement benefits, and financial attainment capacity among other factors are related to an individual's retirement behavior. Naruetharadhol et al, (2021) provide evidence that career status matters in an individual's preparedness for retirement just as age is also relevant in retirement.

Akoto et al., (2017), contribute to the empirical financial literacy in Ghana by revealing that cocoa farmers in the Assin Foso and Twifo Praso Districts of the

Central Region have a lower level of financial literacy. This study finds factors with a high probability of influencing financial literacy, including geographical location, age, and education level. According to Dovie (2018), an individual's usage of funds is a function of his/her financial literacy, and retirement preparation helps accumulate funds for life in old age. For Agbobli (2011), Kpessa (2011), and Dovie (2018b), pension income is the major source of income for retirees in Africa, particularly in Ghana. Ofori (2021) examined financial planning and retirement in Ghana. Using survey data from 900 respondents and a logit model, this study provides evidence to support variables such as age, income, and years of retirement as key drivers influencing retirement planning. While Ofori (2021) focuses on financial and retirement planning, our study focuses on financial literacy and its effects on retirement planning and public pension management.

Additionally, there is evidence in the work of Hastings and Tejeda-Ashton (2008) that individuals with low financial literacy, income, and education prefer to use relations, that is, recommendations from friends, co-workers, and employers, rather than fundamental cost considerations when deciding on which pension fund to choose. Similarly, Mata (2021) investigated the effects of financial literacy and gender on retirement planning among young Mexican adults. Huang, et al., (2024) employed the structural equation modeling analysis to show that both pension and financial literacy directly influenced the diversity of financial portfolios and financial well-being for adults in Chengdu, China. Adopting Ajzen's theory of planned behavior, the author developed an extended conceptual framework and estimated a generalized structural model using survey data on

financial inclusion. The author found that most financially literate individuals have less intention to pursue passive strategies, whereas financial behavior and inclusion are associated with active planning. From this review, it is clear that, to a large extent, financial literacy influences the choice of retirement plans and pension funds. In assessing readiness for pension reforms, Oggero et al. (2023) employed an ad hoc module of SHARE data for Italy and reported that financially literate and pension-knowledgeable individuals are more willing to accept pension reforms. Ghadwan et al. (2023) employed a structural equation modelling technique to show that financial self-efficacy, retirement goal clarity, and government policy impact financial planning for retirement behavior among public university employees. Harvey and Urban (2023) recommend that there is no clear increase in account ownership, retirement investment, or homeownership after personal financial education coursework for 18-year-old Americans from the National Financial Capability Study (NFCS). The preferred route is personal finance coursework to have content, such as budgeting, long-term debt, and credit. Based on their research in rural China, Xu et al. (2023) argue that enhancing financial literacy could enhance rural households' involvement in pension plans. They also observe that, while financial literacy does not notably impact the adjustment in pension contributions, possessing a high level of financial literacy provides relative benefits in rural household pension decision-making.

This study hypothesizes that financial literacy is related to retirement plans. From the many stories of retirees who contribute to mandatory public pension schemes, their ability to evaluate these funds and their reliance on the expected benefits from

these funds have opened them up to disappointment. This is because the pension they receive from the public is woefully inadequate, and they have to fall on their retirement plans to augment their financial needs during retirement. (1) Is there any role of financial literacy in judging the management of public pension funds? (2) What are the lessons for the stakeholders in the pension ecosystem? This study uses data from sampled Ghanaians to answer these questions.

Method

Data

This study relies on quantitative and cross-sectional primary data. The data were sourced from a structured questionnaire administered to a representative sample of 600 respondents. The question type was a mixture of closed-ended (e.g., multiple choice and a seven-point Likert Scale) and open-ended survey questions. A multistage random sampling technique was applied to obtain respondents from districts of the Greater Accra Region, Ghana, from August 15, 2018, to October 16, 2018. The districts are Okaikwei, Ladadekotopon, Ayawaso East, Ga Central, Ga South, Ablekuma North, Kponekatamanso, Ashiaman, Ada East, Ningo Prampram, and Tema Metropolis.

To avoid ambiguity, we briefly explain how the three variables that capture public pension fund management were measured. For financial literacy, the study adopted the basic financial literacy question used by Van Rooij, Lusardi, and Alessie (2011). Thus, a tried and tested standard question is predominantly used with a unique addition. The question set tested respondents' numeracy ability, understanding of inflation, interest compounding, money illusion, and diversification. To differentiate our test scores from earlier works that adopted this set of questions, we added one question to test the respondents'

ability to differentiate between savings and investments. There is often a weak understanding of the differences between the two concepts. In this study, savings is defined as regularly depositing funds into an account to meet daily and emergency needs, whereas investment is the commitment of funds for a stated period to meet a set objective. When investment is made properly, it should compensate for time, inflation, and risk. We categorized financial literacy scores as very poor, poor, fair, good, very good, and excellent.

Concerning retirement planning, we used constructs that measured the time allocated to thinking and planning for retirement and the component of respondents' educational courses that addressed investment and retirement planning. For public pension fund management, we used the Canadian Pension Reforms contained in the World Bank Report (2017), "The Evolution of the Canadian Pension Model...", which provides a standard to assess public pension management. The three areas of public pension fund management are governance of the pension scheme, accountability and transparency, and investment policies of the scheme. The three areas of public pension fund management are transformed into logarithmic forms and used in the model. We also used the respondents' demographic and behavioral characteristics as controls. We used a multivariable construct to measure the respondents' perceptions of public pension management in Ghana. These theoretically and empirically informed variables are modeled and estimated in subsequent sections.

Econometric Modelling

To investigate the role of financial literacy in determining retirement planning and public pension management, we used a simple linear matrix of the form:

$$y = X\beta + \varepsilon \dots (1)$$

Where y is an $n \times 1$ vector of observations representing the dependent variable(s), X is an $n \times k$ vector with k covariates, β is a $k \times 1$ vector that is unknown, and a stochastic error term (ε) which is assumed under the classical linear regression to be normally distributed.

Equation 1 is re-specified as a multivariate model with multiple dependent variables. That is, we transform the standard linear regression in equation 1 into a multivariate regression form with more than one dependent variable (Refer to Afifi et al., 2004; Haase & Ellis 1987; Chatfield, 2018; Hidalgo and Goodman, 2013).

Following the formulation by Hidalgo and Goodman (2013), equation 1 is now presented as:

$$Y_{n \times 1} = X_{n \times (K+1)} \beta_{(K+1) \times 1} + \varepsilon_{n \times 1} \dots (2)$$

To present equation 2 in an estimable form we follow Bruin (2006),

$$Y_{n \times p} = \beta_0 + \beta_1 \text{Finlit}_1 + \beta_2 \text{Controls}_2 + \gamma_3 + \varepsilon \dots (3)$$

From equation 3, $Y_{n \times p}$ which represents the multiple dependent variables include a measure of retirement planning in logs ($\ln RP$), measure of government pension scheme in logs ($\ln pp$), a measure of accountability and transparency in logs ($\ln acc$), and a measure of the investment policy of the scheme in logs ($\ln im$). The variable of interest $Finlit$ is financial literacy scores which is a categorical variable of the form very poor, poor, fair, good, very good, and excellent. A vector of control variables (controls) includes age, age², contributor to the public pension (SSNIT contribution), level of education

completed, years to retirement, and take-home income. Given the heterogeneous nature of the districts and communities, their respective dummies were included as fixed effects (γ). To simplify the results these 10 dummies are presented as YES, so the results do not look messy, more so as they add very little to the results. All other variables or parameters have been defined previously.

Diagnostics Tests

When analyzing cross-sectional data, the two main identification challenges commonly associated with such data are multicollinearity and heteroscedasticity. We investigated the presence or absence of multicollinearity by using a pairwise correlation test. The test results in Table 3 provide evidence that there are no high pairs of variables in the estimated models. The highest correlation coefficient of 0.494 exists between SSNIT contribution (SSNIT Cont) and employment status (Empl Status), which is intuitively expected. However, the invalidation of the model estimates was not severe. Furthermore, the variance inflation factor (VIF) in an ordinary least squares model was used as a robustness check.

A mean VIF value of 3.78, as reported in Table 4, indicates the absence of severe multicollinearity in the models. We controlled for possible heterogeneous effects using district- and community-level dummies. According to Amoah et al. (2018), this approach is an appropriate way to control unobserved heterogeneity. Using the F-statistics, which are statistically highly significant, we have evidence that, overall, the models have passed the fitness tests and will not produce spurious results. However, we deem it necessary to acknowledge that financial literacy is endogenous as a result of possible reverse causality with the

dependent variables or missing variable bias; hence, similar to Lusardi and Mitchel (2013), we interpret our results as an association rather than a causal impact, which is empirically acceptable. Finally, given the sensitive and confidential nature of financial issues to respondents, we recorded about 13 percent non-responses. Based on these diagnostics, we are confident that the estimates are valid and reliable.

Ethical considerations

This study obtained ethical clearance from the Center for Economics, Finance, and Inequality Studies (CEFIS) (clearance number 2018-E5421). By implication, the study does not have health, legal, moral, or cultural consequences; it is neither

discriminatory nor does it pose any physical, emotional, or mental threat to any respondent. The questionnaire was used to elicit information-assured respondents regarding confidentiality. The authors have no personal interest in the research except academics; hence, we can posit that there are no potential conflicts of interest regarding this study. Additionally, the sources and data collection processes have been duly acknowledged and are readily available upon request. The study had no direct effect on the physical, psychological, mental, or emotional health of respondents. All the sources of information used in this study were referenced.

Analysis of Results

Table 1: Descriptive Statistics

Stats	lnRP	lnGov	lnAcc	lnInv	Finlit	Age	Age2	SNNIT	Empl		Yrs to	Income
								Cont.	Educ	Status	Retire	(ln)
Mean	5.72	4.51	4.9	4.33	2.84	31.25	1062.91	0.56	0.77	0.785	30.66	7.47
Median	5.78	4.59	4.97	4.4	3	29	841	1	1	1	30	7.44
SD	0.45	0.46	0.44	0.51	1.28	9.3	701.58	0.5	0.42	0.411	13.12	1.12
Skewness	-1.7	-1.76	-1.56	-1.64	-0.11	1.27	2.08	-0.22	-1.26	-1.4	0.68	0.18
Kurtosis	8.76	9.91	8.12	8.49	2.27	4.58	8.64	1.05	2.59	2.93	4.86	3.06
Min	3.33	1.95	2.49	1.61	0	18	324	0	0	0	0	4.38
Max	6.68	5.2	5.8	5.95	5	73	5329	1	1	1	95	10.46
N	521	521	519	520	532	517	517	521	532	531	454	389

Note: Finding an anti-log of the values in logarithms, yields the actual values obtained from the field.

The descriptive statistics for all the variables used in the model are presented in Table 1. The four dependent variables, *lnPP*, *lnGov*, *lnAcc*, and *lnInv*, were observed to have approximately the same mean and median, with smaller standard deviations (SD). This provides evidence of near-normality in the distributions of the dependent variables. The dependent variables are transformed into logarithms to facilitate the interpretation of our results in

terms of elasticity. With the variable of interest, *Finlit* is a categorical variable that ranges from a minimum value of zero (0) to a maximum value of five (5), showing six categories, as indicated earlier. Similarly, the mean is approximately the same as the median, suggesting that most respondents are ranked "good" in financial literacy. In support of this conclusion, we also found that about 77 percent of the respondents were educated, with 56 percent being

SNNIT contributors. This shows that in our sample, not all educated respondents had SNNIT contributions. Most respondents were youthful, with the youngest respondent at age 18 and the oldest at 73, reflecting a wider coverage in the sample selection. The mean income of respondents was Gh¢3,300.00 ($\ln=7.47$)

and a median of Gh¢1,700.00 ($\ln=7.44$), with an abnormally high standard deviation. The distribution was observed to be skewed and not normal; hence, it was necessary to transform the values into their respective natural logarithm form to look near normal, as shown in Table 1.

Table 2: T-test for Base and Actual Preparedness for Retirement (Rp)

Statistics	Base Rp	Reported Rp
Mean	9	9.167293
Variance	0	6.617911
Observations	532	532
Hypothesized Mean Difference	0	
Degree of Freedom	531	
T-Statistics	-1.49994	
P(T<=t) one-tail	0.067112	

From the data collected and analyzed using a t-test, we have evidence from Table 2 that there is a statistically significant difference between those who are indifferent regarding their preparation for retirement and those who are prepared. This difference lends credence to our study regarding the unveiling of key drivers of such behavioral differences. Consistent with this theory, we posit that financial literacy is a key driver of retirement preparedness. To avoid possible serial correlation issues among covariates, we first investigated the correlation properties and presented the results in Table 3. We report the highest and lowest correlation coefficients as 0.494 and 0.001, respectively. The negative coefficient in the correlation matrix indicates an increase in one variable associates with a decrease in the other variable. From the correlation coefficients (see Table 3) and mean VIF

(see Table 4) results, we argue that multicollinearity was not severe in this study. By implication, we can proceed to estimate our econometric model using these covariates with less concern for serial correlation issues. In Table 3, the pairwise correlation matrix reveals that financial literacy scores, ranging from *FinLit* 1 (very poor) to *FinLit* 5 (very good), generally exhibit weak correlations with demographic and socioeconomic factors. The observed negative correlations between different *FinLit* levels (e.g., *FinLit* 1 and *FinLit* 2: $r = -0.221$; *FinLit* 1 and *FinLit* 3: $r = -0.250$) are expected, as these levels serve as mutually exclusive indicators of financial knowledge. Notably, there is no strong positive correlation between financial literacy and income, with correlations across all *FinLit* levels remaining near zero (e.g., *FinLit* 4: $r = 0.063$; *FinLit* 5: $r = 0.001$).

Table 3: Pairwise Correlation Matrix

Variables	FinLit 1	FinLit 2	FinLit 3	FinLit 4	FinLit 5	Age	SnnitCont	Empl Status	Edu	Yrs retire	Inc
FinLit 1	1										
FinLit 2	-0.221	1									
FinLit 3	-0.25	-0.337	1								
FinLit 4	-0.219	-0.294	-0.33	1							
FinLit 5	-0.136	-0.183	-0.21	-0.181	1						
Age	-0.136	-0.06	0.108	0.069	-0.026	1					
SNNIT Cont	-0.029	-0.009	-0.01	0.037	-0.005	0.42	1				
Empl Status	-0.078	-0.02	0.055	0.008	0.039	0.42	0.494*	1			
Edu	-0.071	-0.08	-0.02	0.117	0.082	0.03	0.046	-0.083	1		
Yrs retire	0.117	0.141	-0.05	-0.184	-0.018	-0.4	-0.292	-0.123	-0.2	1	
Inc	-0.145	0.035	0.033	0.063	0.001	0.08	0.019	0.027	0	-0.051	1

**Shows the highest correlation coefficient.*

Similarly, educational attainment is only modestly associated with higher financial literacy (e.g., *FinLit* 4 and education: $r = 0.117$; *FinLit* 5 and education: $r = 0.082$). Age and years of retirement also do not demonstrate significant or consistent patterns, indicating that neither age nor proximity to retirement serves as a reliable predictor of financial literacy. Additionally,

variables such as SSNIT contributions and employment status do not exhibit meaningful correlations with financial literacy, underscoring the complexity and multifaceted nature of financial knowledge development. Overall, the results suggest that financial literacy is not strongly associated with any single demographic or economic factor within the dataset.

Table 4: Multivariate Regression Results

VARIABLES	(1) lnRP	(2) lnGov	(3) lnAcc	(4) lnInv
Financial Literacy				
<i>(Base Category Finlit==Very Poor)</i>				
Finlit==Poor	0.2918** (0.136)	0.4179*** (0.145)	0.3006** (0.140)	0.1665 (0.164)
Finlit==Fair	0.3184** (0.129)	0.4228*** (0.137)	0.3332** (0.133)	0.2012 (0.156)
Finlit==Good	0.2768** (0.128)	0.4021*** (0.136)	0.3076** (0.131)	0.0859 (0.154)
Finlit==Very Good	0.3001** (0.130)	0.4342*** (0.138)	0.3093** (0.133)	0.1602 (0.156)
Finlit==Excellent	0.3351** (0.137)	0.3739** (0.145)	0.3991*** (0.140)	0.2090 (0.164)
Controls				
Age	0.0716*** (0.018)	0.0719*** (0.020)	0.0641*** (0.019)	0.0895*** (0.022)
Age ²	-0.0009*** (0.000)	-0.0009*** (0.000)	-0.0007*** (0.000)	- (0.000)
SSNIT Contribution Dummy	0.0765 (0.048)	0.0872* (0.051)	0.0527 (0.050)	0.1131* (0.058)
Years to Retire	0.0038** (0.002)	0.0038** (0.002)	0.0040** (0.002)	0.0039* (0.002)
Employment Dummy	-0.0293 (0.077)	-0.0715 (0.082)	-0.0350 (0.079)	-0.0019 (0.093)
Education Dummy	0.0067 (0.051)	0.0369 (0.054)	-0.0182 (0.052)	0.0128 (0.061)
Income (ln)	-0.0019 (0.020)	-0.0100 (0.021)	0.0000 (0.021)	0.0019 (0.024)
<i>Community dummies</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Constant	4.0146*** (0.354)	2.7230*** (0.376)	3.2965*** (0.364)	2.4636*** (0.426)
Turning Point in Years (app.)	75.00	75.00	92.00	82.00
Observations	532	532	532	532
R-squared	0.123	0.110	0.114	0.129
F-test	3.576***	3.163***	3.299***	3.788***
Mean VIF†	3.78	3.78	3.78	3.78
Parms	14	14	14	14
RMSE	0.3636	0.3859	0.3733	0.4375

Dep Variables: lnPP, lnGov, lnAcc, and lnInv. † denotes a test based on OLS model.

*Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

From Table 4, our variable of interest, financial literacy, is presented in categorical form. The categories take the lowest measure as very poor and the highest as excellent. For simplicity of interpretation, we use very poor as the reference category and find evidence that improvement in financial literacy is positively associated with retirement planning (model 1: *lnRP*), governance and accountability of public pension (model 2: *lnAcc*), and perception of good public pension management (model 3: *lnGov*) at a minimum significance level of 5 percent. Thus, respondents with higher levels of financial knowledge are more likely to be identified with retirement planning, governance and accountability of public pensions, and public pension management than respondents with very poor levels of financial knowledge. This suggests that knowledge of financial literacy is essential in making decisions on retirement planning, which is consistent with the literature (Lusardi and Mitchell, 2007a, 2007b; Almenberg and Save-Soderbergh, 2011; Niu and Zhou, 2018). However, the same cannot be said for investment management of public pensions (Model 4: *lnInv*). This may be attributed to the fact that the investment portfolio for pension funds is a complex and specialized area that exceeds the basic financial literacy knowledge of our respondents. This evidence is similar to that of Prast and van Soest (2016), who reported that pensions are complex for most individuals to understand; hence, the association is insignificant.

In theory, age is considered an important variable in retirement and pension decisions. Against this background, we controlled for age and found that it was positively associated with retirement planning and a good understanding of public pension management. In addition,

we tested for a possible turning point in age, and found an inverted U-shaped association between Age, Age squared, retirement planning, and public pension management. Plausibly, as contributors' ages increase, they accept whatever retirement package and public pension benefits are available near retirement. This inverted U-shaped relationship with "Age" might also imply that, as people age beyond a certain threshold (75 years), their appreciation of public pensions declines, mainly because they have passed the retirement age. The turning point at 75 years of age is consistent with Ghana's public pension benefit threshold for named beneficiaries in the case of dead retirees.

This finding of age as a determinant of retirement planning from sample respondents in Ghana is similar to the evidence provided by Naruetharadhol et al. (2021) regarding retirement readiness among skilled immigrants in Thailand. Furthermore, contributing to public pensions is relevant to assessing public pension management only in the case of retirement planning and fund governance.

The number of years to retire is positively associated with retirement planning and public pension management, implying that the fewer the number of years contributors have, the more they accept their retirement state and public pension management. In this study, the more time (in years) respondents have to retire, the more positive they are about public pension management, implying that when an individual is young, the pension is not an immediate concern. This evidence agrees with Bongini and Cucinelli (2019) that youth must be educated to understand pension and social security, and the need for them to start planning for retirement early in their career lives. For the elderly, this issue becomes important because the

more people advance in age, the more likely they are to be less charitable for the management of public pension funds. In this study, we found no statistically significant associations between education, employment, income level, and public pension management. Thus, respondents were found to emphasize drivers other than education, employment, and income. Overall, the community's dummy variable was not statistically significant, indicating that variations in communities do not account for the dependent variable. Therefore, while we acknowledge its inclusion with "Yes," we do not report the statistics for the sake of brevity in presentation.

Discussion of Findings

This study provides evidence of the association between financial literacy and management of public pension funds using data from Ghana. Given the paucity of studies on this subject, this study makes a case similar to that of Anderson et al. (2017) in that financial literacy is an important and strong determinant of retirement planning in the United States. In other words, a strong statistical association exists between financial literacy and retirement planning. This evidence contradicts the findings of a recent study by Tan and Singaravelloo (2020). These authors used data on sampled Malaysian government employees and failed to find evidence consistent with Anderson et al. (2017). They argue that there is no evidence of an association between financial literacy and retirement planning. This finding suggests that financial literacy was low. Therefore, it is not expected to be significantly associated with retirement planning in Malaysia. The recent global financial literacy ranking score for Malaysia is 66, while that for the United States is 14, suggesting that the latter is

more financially literate. Thus, countries with higher financial literacy are more likely to have a positive association with retirement planning. Given that the present study focused on the Greater Accra Region, which has the highest literacy rate in Ghana, it is not surprising that our results corroborate those of Anderson et al. (2017) and contradict those of Tan and Singaravelloo (2020). Intuitively, it would not be out of place to argue that countries (i.e., developed or developing) should emphasize financial literacy if they seek to provide a safe economic haven for cohorts on retirement. This argument may resonate with countries such as Angola, Somalia, Afghanistan, Albania, and Yemen, which are the last five countries with worst financial literacy scores of 140 and above.

Furthermore, our study posits that the level of financial literacy is associated with contributors' understanding of public pension fund management in the areas of governance and accountability. However, the investment management function of pension funds demands specialized knowledge and skills beyond the basic financial literacy levels examined by our respondents. In our sample, financial literacy levels were not associated with the investment management policy for public pensions. This is likely because advanced financial investment and portfolio management knowledge and skills are required to evaluate pension fund investment portfolios. From our response, age matters up to a certain level in public pension contributors' appraisals of pension fund management. Beyond a certain age, retirement and the planning and management of pension funds have no significant associations.

Conclusion and Recommendation

This study investigates the role of financial literacy in determining retirement planning and public pension management in Ghana. There is evidence that most respondents planned to retire. In addition, financial literacy is critical in retirement planning and evaluating public pension fund management. Moreover, in the face of the government becoming less benevolent in pension support, this study recommends that workers start planning for retirement in the early working years. Policymakers, such as the Ministry of Finance, Ministry of Education, and the Ghana Education Service, as well as the National Council for Curriculum and Assessment, in particular, should consider making financial education a part of the academic curriculum at the pre-tertiary educational level. In doing so, an integrated curriculum is preferred so that students are not exposed to making money without developing their full potential. Financial education, as part of the academic curriculum, will provide the necessary personal financial management knowledge and skills that will aid students in their lifelong financial decisions and improve their personal and family well-being.

The Ghana Tertiary Education Council should consider recommending that financial literacy be part of each program at the tertiary level of education in Ghana, especially for non-business students. This is

because young adults at various tertiary educational institutions need personal financial education to prepare themselves before engaging in the ever-changing complex financial market. Without proper personal financial education, these graduates will not be effective and efficient participants in the financial market. Financial service providers such as banks, insurance companies, pension funds, mutual funds, and real estate brokers, among others, should prioritize financial literacy in their social engagement with the public, as they stand to gain most if the citizenry is financially literate. Regulatory bodies such as the National Pension Regulatory Authority (NPRA), Securities and Exchange Commission Ghana (SEC), and Bank of Ghana (BoG) should support financial literacy programs, as it is important to support their public education function. These institutions in the case of the NPRA should also engage in public education and create awareness of retirement plans. The SEC and BoG should dedicate financial and non-financial resources for use in financial literacy campaigns, as the knowledge transferred and acquired from public educational programs will, in the long-term, support their public education mandates. These activities should be targeted at all, including the employed and the self-employed.

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A Historical Review of the Nature, Relevance, and Challenges of Small and Medium Scale Enterprises (SMEs) in Africa

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Abstract

Small and Medium Enterprises (SMEs) are essential to Africa's economic development, accounting for 34% to 70% of GDP and up to 86% of employment. This research analyzes small and medium-sized enterprises (SMEs) in Ghana, South Africa, Ethiopia, Nigeria, and Kenya, with an emphasis on financial inclusion, digital transformation, regulatory challenges, and adaptations following the COVID-19 pandemic. Employing thematic analysis and adhering to PRISMA guidelines, the findings indicate FinTech's contribution to the expansion of SME financing, ongoing bureaucratic obstacles, and cybersecurity threats associated with digital adoption. The study advocates for the alignment of SME policies, investment in AI-driven solutions, and the promotion of sustainability strategies to improve SME growth and resilience within Africa's changing business environment.

libraries and IL in a competency-based environment.

Key words: Information Literacy, School libraries, CBC, Curriculum development, Kenya.

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Introduction

The role and importance of small- and medium-scale enterprises (SMEs) in Africa has received considerable recognition in recent studies. This can be attributed to the fact that SMEs are a dominant force in the economy of most African countries (Siriam and Mersha, 2010). Their activities are noted to be the engine for growth and job creation in Africa (Benzing and Chu, 2009) resulting in a growing interest in the development of SMEs. Understanding the concept, definition, nature, benefits, and challenges of SMEs in the growth of economies is relevant for explaining the development of SMEs in Africa.

Abor and Quartey (2010) were among the earliest

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researchers to address this question. Presenting case evidence of South Africa and Ghana, the authors delineated the significant issues related to SME development in these countries. The issues that they touched on included definitions, characteristics, contributions, and general constraints. Their evidence points to the dominance of SMEs in the business ecologies of these two countries and makes significant contributions to the literature. They also noted significant challenges faced by these SMEs in their development. These include regulatory constraints and difficulties accessing capital. Ahmed and Nwankwo (2013) present an overview of entrepreneurship development in Africa. The authors argue that, although some earlier scholars have noted that “Africa is a fragile mess” (Collier, 2006), most countries are making significant strides to improve the business environment. These include political, market, and regulatory reforms aimed at market responsiveness and improving citizens’ well-being. At the micro level, several authors have studied several aspects of SME development in Africa. These aspects include, but are not limited to, investment climate constraints (Acheampong, 2019), export promotion programs (Quaye et al., 2017), locational effects (Acheampong and Damoah, 2018), microfinancing and financial relations (Acheampong, 2018a; 2018b), environmental configuration (Masocha, 2019) and many other antecedents to SME development in Africa.

Despite the plethora of studies on SME development in Africa, gaps remain for further inquiry into the nature, characteristics, and relevance of SMEs to development in Africa. The features of SME development have received attention in numerous studies, as noted above. Since Abor and Quartey (2010) and Ahmed and Nwankwo (2013) almost a decade ago,

there has been a paucity of studies focusing on the broad issues relating to SME development at the macro level on the continent. In addition, the initial study by Abor and Quartey focused on two-country cases (South Africa and Ghana), while Ahmed and Nwankwo presented a literary overview. This study extends the work of these two seminal pieces and contributes to the SME development literature in Africa. This study extends the number of countries studied. This study extends beyond Ghana and South Africa to include Kenya, Nigeria, and Ethiopia. These countries represent African Lions (Bhorat and Tarp, 2016) that are some of the brightest spots on the African continent. This represents a major departure from Africa’s representation as a fragile mess (Collier, 2006) to presenting Africa as the next frontier for growth. Again, the study reflects on definitional issues, nature, benefits to various countries, and challenges that SMEs face in national-level reports.

The following sections present the research methods/approaches, country cases, findings, discussion, and conclusions.

Literature Review

Definition and Role of SMEs

Small and medium-sized firms (SMEs) are crucial to economic development; nevertheless, their definitions differ throughout countries, typically determined by factors such as staff count, annual revenue, and asset valuation (Abor & Quartey, 2010). The National Small Business Amendment Act of 2004 in South Africa categorizes enterprises with less than 200 employees as SMEs, establishing distinct requirements for yearly revenue and asset value based on the industry sector (International Finance Corporation, 2019). In the manufacturing sector, a medium-sized firm employs a maximum of 200

individuals and achieves a revenue of up to R51 million.

Conversely, Ghana, Kenya, and Ethiopia classify SMEs as businesses with a maximum of 100 employees, emphasizing employment size as the criterion for categorizing business scale (Muriithi, 2017). Nigeria employs an alternative methodology; the Central Bank of Nigeria (CBN) classifies SMEs according to asset base and workforce size, designating them as firms with assets ranging from ₦5 million to ₦500 million and a staff count of 11 to 100 workers (Endris & Kassegn, 2022). These definitional discrepancies illustrate varying economic environments and policy priorities, affecting the support and regulation of SMEs in each country.

Notwithstanding these fluctuations, SMEs continually serve as essential contributors to economic progress. Research demonstrates that SMEs constitute a substantial share of GDP and employment in African countries (Kuada, 2022). In South Africa, SMEs account for roughly 34% of GDP and employ between 50% and 60% of the labor force (International Finance Corporation, 2019). In Nigeria, SMEs contribute around 50% of GDP and account for 76% of the labor force (Okoye et al., 2024). These firms not only facilitate economic diversity and innovation but also significantly contribute to employment creation and poverty reduction (Muriithi, 2017).

The absence of a consistent definition for SMEs complicates cross-country comparisons and the development of integrated support programs (Benzing & Chu, 2009). Aligning these criteria could enhance regional collaboration and improve development strategies for the SME sector throughout the continent (Endris & Kassegn, 2022).

Emerging Trends in SME Development

Financial Technology and Economic Inclusion

The advent of financial technology (FinTech) has significantly enhanced financial inclusion for SMEs, especially in Africa, where conventional banking systems frequently exclude small enterprises due to rigorous collateral demands and elevated borrowing rates. FinTech developments, including mobile banking, digital payment systems, and alternative lending platforms, have markedly enhanced SME access to credit (Kuada, 2022). Services like mobile money (e.g., M-Pesa in Kenya) and peer-to-peer (P2P) lending platforms facilitate SMEs in obtaining microloans and executing transactions independent of traditional banking systems. Furthermore, blockchain technology and decentralized finance (DeFi) solutions are increasingly offering transparent, cost-effective funding alternatives for SMEs, hence diminishing dependence on conventional financial institutions (Endris & Kassegn, 2022).

Post-COVID Rehabilitation and Digital Transformation

The COVID-19 epidemic significantly affected SMEs, compelling them to transition to e-commerce, digital marketing, and remote work solutions to endure lockdowns and movement restrictions (Ekechi et al., 2024). A multitude of small enterprises embraced online sales models and utilized platforms like social media commerce, digital supply chains, and cloud-based management systems to maintain operations. Nonetheless, despite these adjustments, numerous SMEs persist in facing challenges related to digital literacy deficiencies, insufficient internet infrastructure, and cybersecurity threats,

which impede their complete assimilation into the digital economy (Muriithi, 2017).

Cybersecurity Threats and Artificial Intelligence

The growing dependence on AI-driven automation, data analytics, and cloud computing renders SMEs vulnerable to cybersecurity risks, including phishing, data breaches, and ransomware attacks (Okoye et al., 2024). Although artificial intelligence presents SMEs with opportunities for improved customer insights, operational efficiency, and predictive analytics, many lack the resources necessary to establish robust cybersecurity measures, train personnel, and protect sensitive business information (International Finance Corporation, 2019).

Notwithstanding these improvements, conventional impediments—elevated taxation, bureaucratic licensing, and a deficiency of skilled labor—endure in the SME sector, hindering several enterprises from growing or formalizing their operations (Benzing & Chu, 2009). Mitigating these hurdles necessitates proactive governmental regulations, investment in digital infrastructure, and enhanced financial literacy initiatives to enable SMEs to fully leverage the advantages of digital transformation.

Research Methods

Data

This study's data is sourced from 26 national reports on SME-related economic indicators in Ghana, South Africa, Ethiopia, Nigeria, and Kenya from 2003 to 2024. The reports encompass government publications, employment surveys, financial access assessments, industrial firm establishment surveys, and SME policy documents. In Ghana, primary sources are

the Ghana Statistical Service's Integrated Business Establishment Survey (IBES) and the Ghana Enterprises Agency (GEA) Annual Reports, which offer insights into the SME sector's contributions to GDP, employment data, and financing patterns. In South Africa, the Small Enterprise Development Agency (SEDA) and the Bureau of Economic Research (BER) provide sectoral studies, identify SME financing deficiencies, and assess regulatory effects.

Data for Nigeria is obtained from the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and the National Bureau of Statistics (NBS), which monitor employment trends, SME survival rates, and financial inclusion efforts. The Kenya National Bureau of Statistics (KNBS) SME Basic Report delineates spatial business dispersion, trends in digital transformation, and accessibility of finance for SMEs. Ethiopia's National Bank Reports and Labour Force Surveys provide data on SME employment, sectoral contributions, and barriers to company sustainability. These reports offer extensive, government-verified data for analyzing SME growth trends, economic effects, and structural obstacles in the five chosen nations.

Analytical Approach

Thematic analysis was employed to examine the information in the reports according to the methodology proposed by Nowell et al. (2017). Thematic analysis, as described by Braun and Clarke (2006), was chosen for its theoretical flexibility, facilitating the identification of both predefined and emergent themes from the national reports. This method was considered suitable due to the complex and multi-dimensional aspects of SME

development in various African economies. The analytical process employed a systematic approach, utilizing the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to guarantee transparency, reproducibility, and rigor in data selection, coding, and interpretation. The methodology was executed in five primary phases:

- The study identified 32 national reports relevant to SME policies, economic indicators, and sectoral performance in Ghana, South Africa, Ethiopia, Nigeria, and Kenya. Reports were evaluated for credibility, recency (2003–2024), and policy relevance, adhering to PRISMA inclusion/exclusion criteria to exclude outdated, non-governmental, or anecdotal reports.
- Familiarization with Data: Each report was meticulously analyzed to achieve a comprehensive understanding of recurring themes in SMEs, including financial inclusion, regulatory challenges, sectoral contributions, and technological adoption (Nowell et al., 2017).
- Coding and Theme Development: The reports were coded using a deductive-inductive approach. The reference framework was initially based on SME-related themes from Abor and Quartey (2010). Multiple reports revealed common themes, and new patterns such as post-COVID recovery, digital transformation, and cybersecurity risks were inductively integrated to represent emerging realities (Braun & Clarke, 2006).
- Themes were reviewed and refined through cross-verification across various reports to ensure internal consistency and alignment with the existing literature. In cases of inconsistencies, further verification was conducted via iterative reading and validation against secondary literature (Nowell et al., 2017).
- The final stage involved synthesizing themes into summarized country cases, systematically comparing SME definitions, challenges, contributions, and policy interventions across Ghana, South Africa, Ethiopia, Nigeria, and Kenya. Significant similarities were identified between the national reports and the findings of Abor & Quartey (2010), thereby reinforcing the validity of the coded themes and the robustness of the thematic analysis methodology.

Table 1a: National Reports on SMEs

Countries	Reports					
Nigeria	2013 SME survey Report	SMEDF Guidelines 2014	2017 SMEs report	Q3 2018 Employment Report by State	Selected Banking Sector Data 2020	PriceWaterhouseCoopers MSME Survey Report (2024)
Ghana	2015 IBES final report	Regional Spatial Business Report 2014	ITC SME Report 2016	National Employment Report 2015	LFS Report 2015	IBES comprehensive sectoral report 2015
	Ghana Country Economic Memorandum: Ghana Rising - Accelerating Economic Transformation and Creating Jobs (2021)					
South Africa	Quarterly Employment Statistics Q1 2019	Tourism Sector Report 2019	Manufacturing Preliminary Report 2019	Construction Report by Local Government 2018	SEDA Annual Report 2017	SME Sector Report 2016
	The Economic Development in Africa Report 2024					

Table 1b: National Reports on SMEs

Countries	Reports					
Kenya	2016 SME-Basic Report	2017 Census of Business Establishments Report	Economic Survey 2019	Financial Access Report 2019	The World Bank's "Sourcing2Equal Kenya" report 2022	
Ethiopia	2015 Commercial Farming Report	2016 National Statistical Report country level	Informal SEC 2003 Report	NLFS Analytical Report for Labor Force 2013	NLFS Latest Findings 2013	SME Finance in Ethiopia: Addressing the Missing Middle Challenge (2012)
	Barriers to Finance for Agri-SMEs in Ethiopia (2022) GIZ Report					

Findings: Country Cases

Country Case 1: Ethiopia

Definition

The 2011 National Micro and Small Enterprises (MSE) Development Strategy defines a micro-enterprise as an enterprise consisting of at most five employees (or with a paid-up capital/total asset of at most US\$ 6000 for industry and US\$3000 for service), while an enterprise with 6-30 employees (or with a paid-up capital/total asset of US\$90,000 for industry and US\$30,000 for service) forms a small enterprise. An enterprise with 31-100 employees forms a medium-sized enterprise.

Nature

There are approximately 800,000 Small and Medium Enterprises across Ethiopia. The SMEs sector is dominated by males (84%) with 16% female entrepreneurs. A third of the owners have a university education, with about 58% of them having primary, secondary, or Technical and Vocational Education and Training (TVET). Some of the significant characteristics include the following.

- The businesses are mostly managed by owners.
- The majority (approximately 91%) of the entrepreneurs obtain their start-up capital through personal savings or with help from the family.

- Most SMEs focus on the domestic market.
- Most businesses are formally registered and properly licensed.
- SMEs are excluded from the main banking sector credit facilities.
- The majority (approximately 87%) of entrepreneurs had experience with related firms (as apprentices).
- The activities of micro-enterprises and small and medium manufacturing industries are assisted and coordinated by the Federal Urban Job Creation and Food Security Agency (FUJCFSA) and Small and Medium Manufacturing Industry Development Agency (SMMIDA), respectively.
- In terms of industrial contribution, over 333,000 people were engaged in all manufacturing industries surveyed in 2015/16. The total number of people employed by various manufacturing industries was reported to be more than 329,000 in 2015/16. The number of female employees has increased from approximately 53,000 to over 83,000. About 22% of the female workforce was employed by the textile industry, more than 21% by the food and beverage industry, and 12% by the rubber and plastic industry in 2015/16.

Benefits

- In Ethiopia, small businesses offer large employment opportunities to citizens. For instance, the 2018/19 National Bank of Ethiopia report showed that 110,253 new micro and small businesses were created between 2018 and 2019. The total number of people employed by these enterprises is 882,098. Furthermore, the 2019/20 National Bank of Ethiopia report showed that 111,547 new micro and small businesses were created between 2019 and 2020. The total number of employees in 2019/20 was 1,569,163.
- Small businesses also make significant contributions to the GDP growth in Ethiopia. The 2015/16 National Bank of Ethiopia report shows that the SMEs contributed approximately 16% of Ethiopia's GDP.

Challenges

Productivity and efficiency of SMEs in Ethiopia are usually constrained by a host of challenges. The 2017 ADA asbl report found that the main challenge encountered by the majority (89%) of respondents in setting-up and operating their business is limited access to finance due to inadequate collateral security.

- The report also finds that inefficient delivery services and appropriate working premises remain a challenge for SMEs in Ethiopia.
- In addition, the 2003 report on an Urban Informal Sector Sample Survey identified the following challenges specific to the informal sector.
 - Difficulty in starting an operation. The report found that factors such as lack of sufficient capital, inadequate skill, infrastructural challenges, access to raw materials, and limitations of government regulations negatively impact the growth and smooth operations of SMEs in

Ethiopia. For instance, among the manufacturing industries, more than 18% of them reported that shortage of electricity and water supply remains the major reason for not being fully operational throughout the year. In addition, about 24% of them reported shortage in supply of raw materials as a first problem for not being operational throughout the 2015/16 reference year.

- Difficulty sustaining operations. 27% of them are faced with insufficient working capital, 29.75% of them are faced a lack of adequate demand and limited market for products.
- Another challenge is health problems among business operators.

Country Case 2: Ghana

Definition

The Ghana Enterprises Authority (GEA) (formerly the National Board for Small Scale Industries (NBSSI)) defines small enterprises as enterprises that comprise less than 100 employees or have a fixed asset (excluding housing and land) of less than US\$100,000. NBSSI also classifies enterprises as follows: micro-enterprises have at most five employees, small enterprises have between 6-29 employees; medium enterprises have between 30-99 employees while large enterprises have more than 100 employees. These classifications are consistent with the Ghana Statistical Service (GSS) classification used in Integrated Business Establishment Surveys in 2018.

Nature

In 2016, the International Trade Centre released a report on the competitiveness of Ghana's SME sector. 85% of Ghanaian ventures are SMEs hence, are considered the driving force of the economy. enterprises in Ghana. Some of the major characteristics of this sector are:

- SMEs in Ghana are male dominated (62%); women own approximately 38% of the SMEs (38.7% for small, 38.0% for medium).
- The proportion of full-time and part-time male employees was 72% and 28%, respectively, while the proportion of full-time and part-time female employees was 68% and 32%, respectively. SMEs in Ghana mostly adopt labor-intensive operations.
- Another interesting characteristic is that approximately 90% of enterprises adhere to local standards and certifications.
- Only 30% of small businesses, but a much higher (76%) of medium scale businesses advertised the products.
- On ownership, Most of the SMEs are managed by owners, while predominant legal form sole-proprietorship (51%). Out Of the total establishments in Ghana, the majority are privately owned (92% for small scale and 79% for medium scale).
- Most businesses are produced in local markets. However, medium scale businesses are more likely to export products (71%) compared to are small-scale businesses.

- SMEs in Ghana mostly engage in trading, agriculture, and manufacturing.
- Most SMEs are not properly represented in banking sector credit facilities. Most of them also do not access loans from microfinance institutions, preferring to rely on capital from personal savings, family, and friends.
- The Association of Ghana Industry (AGI) initiated amendments and led policy initiatives that promoted the interest of SMEs in Ghana as an industry pressure group.
- The development of SMEs in Ghana is the responsibility of the Ghana Enterprises Authority of the Ministry of Trade and Industry 434.

Benefits

SMEs are key contributors to employment, revenue, and GDP growth in Ghana. 85% of businesses in Ghana are SMEs and their contribution to Ghana's GDP is 70% according to a 2016 SME Competitiveness Survey. In terms of revenue, the report shows that the average annual revenue for small firms in Ghana is \$26,000 (GHS 102,000), which increases to \$1,022,000 (GHS 4,037,000) for medium firms. SMEs are key contributors to employment opportunities in Ghana. The 2018 GSS IBES II Comprehensive Sectoral Report shows the following:

- The small-sized and micro-sized establishments engage 71.4% of the total workforce.
- The SMEs contribute to 35.6% of employment in the Institutional

Agricultural sector, 38.7% of crop and animal production, 72.1% of fishing and aquaculture production, and 61.8% of employment, and 10.9% of wages in the industry sector.

- In the Manufacturing sub-sector, small-sized businesses contributed GH¢4.9 billion, while medium-sized firms contributed GH¢4.5 billion to the total proceeds from sales and receipts.

Challenges

Regulatory constraints are a major source of concern for SMEs. Excessive costs incurred during start-up firms, licensing, registration, and the sorting of legal claims, and the bureaucratic nature of business registration impose extra burdens on SMEs. This limits SMEs from operating at full capacity. Moreover, SMEs in Ghana face an insufficient supply of skilled workers. This affects the ability of businesses to specialize in their operations and increases the cost of production and management complexities. In addition, entrepreneurial and managerial deficiencies are major limitations to the growth of SMEs in Ghana. The SME Competitiveness Report identifies other challenges.

- Lack of unique products. Most firms are engaged in the production of common products. This negatively impacts Ghanaian SMEs' competitive advantage and market strength, making them susceptible to market shocks and uncertainties.
- Insufficient access to electricity is another impediment to the growth of Ghanaian SMEs. The cost and lack of access to electricity affect productivity

and increase the cost of production among SMEs, making their products less competitive in both the domestic and international markets. Thus, this hinders firm growth.

- High interest rates. The report shows that most SMEs do not have access to loans from banks and micro-finance institutions to expand their working capital and scale of operations because of the high interest rate on loans. This partly reduces production capacity.
- Limited market and Internationally Recognized certifications: Even Although the survey finds that approximately 90% of all enterprises adhere to the domestic certifications or standards, most SMEs in Ghana do not adhere to internationally recognized certifications or standards. This limits the ability to export their products to a larger international market and potentially higher profit margins.
- Lack of Access to Appropriate Technology: Inadequate access to ICT and technologies and lack of knowledge of techniques impedes the expansion of SMEs. Technical knowledge, productivity, innovation, and competition among SMEs are inhibited.
- Insufficient Product Advertisement: In contrast to 76% of medium-sized enterprises, only 30% of small-scale businesses engage in any form of product advertisement. Thus, a firm's ability to increase customer numbers and control the market environment is limited.

Country Case 3: Kenya

Definition

The Kenya National Bureau of Statistics (KNBS) 2016 Micro, Small, and Medium Establishments (SMEs) Basic Report defines SMEs as businesses that engage with one to 99 employees. These are further categorized as Micro Enterprises (1-9 employees), Small Enterprises (10-49 employees), and Medium Enterprises (50-99 employees). The 2016 SMEs basic report defined employees as partly, fully, or unpaid workers in a business.

Nature

The Kenya National Bureau of Statistics (KNBS) reports that there are about 1.56 million licensed SMEs and 5.85 million unlicensed household businesses. Microsized enterprises constitute 92.2% of all licensed enterprises. Businesses operate both in the formal and informal sectors of the economy, especially in the services sector. Other characteristics include the following.

- Approximately 50% of the licensed enterprises have male as owners, and 31.4% have female owners. Regarding unlicensed enterprises, 60.7% were female owned. 16.5% licensed and 6.4% unlicensed enterprises are owned by male-female partners, respectively. Women business owners mostly engage in microbusiness.
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- Regarding the sources of start-up capital, the majority (71.9 %) of businesses revealed that start-up capital was generated from personal/family resources, while 4.2 percent of business owners obtained their start-up capital from loans from family and friends. In addition,

banking institutions finance 5.6% of SMEs, while the government caters to the 0.1% of all SMEs.

- Most SMEs are managed by owners. SMEs are mostly owned by sole proprietorships. 78.9% Of micro businesses, 37.6% of small enterprises and 26.2 % of medium- sized enterprises were owned by sole proprietors. In licensed SMEs, 30.3% of business owners have attained secondary (O' level) education, while 9.8% of business owners/operators have attained university education. Only 7.8, 1.9 and 5.2% of operators of licensed micro-, small-, and medium-sized enterprises, respectively, do have any form of educational attainment. More than 50% of all business owners' training was self-sponsored.
- About 76.7% of businesses do not receive any technological advice.
- Most businesses are produced in local markets. 56.5% Of SMEs do not market their products through advertising.
- Most SMEs employ labor-intensive production techniques.
- The Department of Micro and Small Enterprise Development (DMSSED) is a governmental agency that was established in 1992 to design and implement strategies for the development of SMEs in Kenya.
- The KNBS report on the 2017 Census of Establishments shows that retail trade, except for motor vehicles and motorcycles, had the largest number of establishments (36,917), followed by food and beverage service activities (6,600).

Benefits

- According to the KNBS 2016 SMEs Basic Report, SMEs make a greater contribution to revenue generation in Kenya. For Instance, in 2016, SMEs due to gross turnover generated KSh 706.0 billion while unlicensed enterprises generated KSh 78.2 billion.
- The SMEs sector also contributes significantly to Kenya's GDP. For instance, the returns of SMEs are valued at KSh 3,371.7 billion as compared to KSh 9,971.4 produced nationally constituting 33.8%. Regarding Kenya's gross value in 2016, the contribution of SMEs was approximately KSh 1,780.0 billion in comparison to the whole economy's share of KSh 5,668.2 billion. Manufacturing ranks the highest contributor to GDP (24.3 % of the SME's total value). Wholesale and retail trade contributed 22.8% to gross value; 15.4 and 7.3% were also contributed by transport, storage, and education services, respectively. while 10.4% of the SME's gross total value was contributed by businesses without licenses.
- The SMEs offer the highest number of employment opportunities in Kenya. SMEs employ 14.9 million employees: a larger proportion of employment opportunities thus 8.6 million (57.8%) are provided by unlicensed businesses while 6.3 million employees are recruited by licensed establishments.

Challenges

According to the KNBS 2016 SMEs Basic Report, the main challenges faced by SMEs in Kenya often emanate from cumbersome

and expensive regulatory environments, as well as interference from authorities. SMEs also face issues with higher taxation and bureaucratic registration processes. These constraints tend to impede the growth of SMEs in Kenya. Other challenges include the following.

- Lack of product advertisements. The 2016 SME report shows that a lack of advertisements affects the demand and potential profit margins of SMEs. Most SMEs do not promote their products or services. 58.3%, 35.6%, and 33.5% of licensed businesses representing micro-, small-, and medium sized enterprises, respectively, do not promote their products and services. 83.6% Of unlicensed businesses do not prioritize advertisements, and the remaining 10.2% depended on quality products and customer satisfaction.
- Kenyan SMEs also experience problems in generating resources to finance their entrepreneurial activities. The inability of entrepreneurs to present valuable collateral to financial institutions in exchange for credit facilities results in their rejection.
- SMEs in Kenya face infrastructural challenges, such as inaccessible electricity, water, internet, transportation, and communication systems, which limit their survival.

total assets (excluding land and buildings as a criterion to define SMEs). The classifications are as follows: micro enterprises are those enterprises whose total assets are less than 10 Million Naira with a workforce not exceeding 10 employees; small enterprises are those whose total assets (excluding land and building) are above 10 Million Naira but not exceeding 100 Million Naira with a total number of employees of more than 10 but at most 49, while medium enterprises possess total assets (excluding land and building) ranging from 100 million naira to 1 billion naira with a total number of employees between 50 and 199. The report indicates that in the case of dissension regarding the classification of employment and total assets, for instance, if a firm's resources are valued at 60 million naira but employs only nine workers, 60 million naira but employs nine persons), classification by employment is applicable in this scenario. Enterprises with more than 200 employees were considered large. The total assets of micro enterprises comprise a maximum of ten employees and less than 10 million naira; small enterprises have total assets ranging between 10 million naira and 100 million naira and total number of employees between figures, 10 and 49, while medium enterprises own total assets above 100 million naira but below 1 billion naira with a total number of employees between 50 and 199.

Nature

The Nigerian SME sector has the following characteristics:

- Microenterprises dominate the SMEs sector in Nigeria. The five (5) major economic sectors that SMEs in Nigeria engage in are Wholesale/Retail trade , Agriculture , Other Services ,

Country Case 4: Nigeria

Definition

The 2013 Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and the National Bureau of Statistics (NBS) Collaborative Survey Report use the number of employees and

Manufacturing, Accommodation and Food Services, representing 42.3, 20.9, 13.1, 9.0 and 5.7%, respectively. These constitute approximately 91.0% of the economic activities of all SMEs.

- The start-up capital of 68.35% of micro-enterprises was less than 5000 Naira, while that of small and medium enterprises was less than 10 million naira.
- Male ownership of SMEs was predominant in Nigeria (51.3%). Males were dominant in agriculture (84.9%), while the catering industry and accommodation (86.8%), manufacturing (68.7%), and wholesale/retail trade (64.5%) were female dominated 43.2 % of micro enterprises, and 22.75% of SMEs were owned by female entrepreneurs.
- The managerial capacity is generally low. More than 70% of the entrepreneurs do not have any form of a patent rights. A significant number of SMEs are not protected by insurance. Most SMEs operate below their optimum capacities. Most SMEs operate without a business plan, and most do not belong to any business membership association.
- 51% of employees in the SMEs sector do not have any form of formal education.
- In 2003, The Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) was founded to promote the development of the micro, small, and medium enterprise (SMEs) sector in Nigeria.

Benefits

- The economic activities of SMEs significantly contribute to revenue generation and GDP growth in Nigeria. The 2013 SMEDAN and NBS Collaborative Survey report showed that SMEs' contribution to nominal GDP was 48.47% in 2013. More recently, the NBS 2017 National Survey of SMEs showed that export contribution increased marginally to 7.64% (from 7.27% in 2013). The activities of SMEs contributed to 49.78% of GDP in 2017.

The SMEs also offer the highest number of employment opportunities. In 2013, the total number of SMEs in 2013 was 37,067,416 (Micro enterprises-36,994,578, Small enterprises- 68,168, and medium enterprises-4,670). As of December 2013, the SME sector had a total number 59,741,211 employees. (or 84.02% of the total labor force of Nigeria). More recently, the 2017 National Survey of SMEs report shows that the total number of SMEs as of December 2017 stood at 41,543,028(micro-enterprises- 41, 469,947 (or 99.8%), and SMEs: 73,081 (or 0.2%)). The total employment contribution of SMEs in Nigeria was 59,647,954 persons as of December 2017 (86.3 % of the national workforce).

Challenges

The SMEDAN and NBS Collaborative Survey report identified the following challenges faced by SMEs in their operations in Nigeria:

- Inadequate finance or credit facilities. This hinders their ability to expand their working capital and scale of operations.

- SMEs do not have access to good infrastructure, such as roads, electricity, and the infrastructure needed to effectively use information and resources. This affects the efficiency of the SMEs in Nigeria.
- Inconsistency in Government Policy
Inconsistent government policies targeted at SMEs limit the room for enterprises to have access to sustained support and guidance and further limit investment in the SMEs sector. This worsens corruption and regulatory burdens and further affects the productivity of SMEs in Nigeria.
- Most SMEs rely on obsolete technologies during their operations. This is because they lack access to innovation and technology and adequate knowledge on the adaptation of foreign technology.
- Lack of business development services. Nigeria's entrepreneurial environment lacks effective strategies to stabilize inflation and exchange rates, lessen harsh entry requirements, and promote productivity. Hence, most SMEs cannot operate at full capacity.
- Lack of market access. Nigeria's entrepreneurial climate is characterized by inappropriate rules and regulations that discourage fair competition and reduce the market strength of enterprises involved in domestic and export markets.
- SMEs operations are characterized by high and multiple tax burdens. This tends to reduce the efficiency of SME production and operations in Nigeria.

Country Case 5: South Africa

Definition

The South African National Small Business Act 102 of 1996 defines enterprises based on their number of workers. as follows: micro-sized enterprises are enterprises with at most five workers; very small-sized enterprises have at most 10 workers (or 20 workers for mining and quarrying, manufacturing, construction, gas, water, and electricity sectors); small-sized enterprises have at most 50 workers; and medium-sized enterprises have at most 100 workers (or 200 workers for mining and quarrying, manufacturing, construction, gas, water, and electricity sectors).

In terms of total annual turnover, the South African National Small Business Act 102 of 1996 defines enterprises as follows: micro-sized enterprises have less than R 0.15 million; very small-sized enterprises have less than R0.4 million to R5 million depending on the industry; small-sized enterprises have less than R2 million to R25 million, depending on the industry, and medium-sized enterprises have less than R4 million to R50 million, depending on the industry. Also, in terms of Gross Assets (excluding fixed property), the South African National Small Business Act 102 of 1996 defines enterprises as follows: micro-sized enterprises have less than R 0.10 million; very small-sized enterprises have less than R0.2 million R1.8 million depending on the industry; small-sized enterprises have less than R2 million to R4.5 million depending on the industry; and medium-sized enterprises have at most R2 million to R18 million, depending on the industry.

Depending on the industry, very small-scale enterprises do not exceed R0.4 million to R5 million, small-scale enterprises possess less than R2 million to R25 million, and

medium-scale enterprises have less than R4 million to R50 million. In addition, in terms of Gross Assets (excluding fixed property), the South African National Small Business Act 102 of 1996 defines enterprises as follows: microscale enterprises have assets valued below R 0.10 million; Depending on the industry, very small-scale enterprises have assets worth less than R0.2 million to R1.8 million; small-scale enterprises have less than R2 million to R4.5 million and medium-scale enterprises have at most R2 million to R18 million depending on the industry.

Nature

The Bureau of Economic Research (BER) 2016 report for Small, Micro and Medium Enterprise Sector (SMME) in South Africa indicated as follows:

- The majority (69%) of employers operate in the formal SMME sector of the economy. Small formal business employment is at least 5.8 million.
- Most SMMEs engage in trading. Retail, construction, and business services are the dominant sectors in South Africa within which SMMEs operate.
- The majority (71%) of SMMEs are owned by blacks, while the whites own 20%. Women own 24% of formal small enterprises and 40% of informal small enterprises.
- Most SMMEs employ labor-intensive methods of production.
- The majority (60%) of SMME owners had secondary education, 19% had tertiary education, and 4% had no form of formal education.

- The start-up capital for most SMMEs is personal savings and family support.
- Products are mostly sold in the domestic market.
- In 2016, there were 690 000 formal small businesses and 1.6 million informal small businesses in South Africa.
- The Small Enterprise Development Agency (SEDA) is an agency of the Department of Small Business Development established in December 2004 to promote entrepreneurship and develop small enterprises in South Africa through the implementation of small business strategies by the government.

Benefits

- SMMEs are key drivers of employment and innovation in South Africa. According to the 2017 Real Economy Bulletin, SMMEs were the largest source of employment in South Africa. Small businesses offer 55% of formal job opportunities in South Africa compared to 45% of large enterprises.
- There are at least 710 000 small business owners who employ a minimum of 4.3 million workers. More recently, the 2018 SEDA Annual Report pegged the total number of SMMEs in South Africa to 2.15 million, with 7.33 million workers.
- SMMEs also play a vital role in GDP growth and economic development in South Africa. For instance, the 2018 SEDA Annual Report shows that SMMEs contributed 42% to the GDP of South Africa in 2018.

Challenges

The 2016 BER SMMEs of South Africa report identifies key constraints to the successful operations of SMMEs in South Africa. The challenges include, but are not limited to,

- Lack of access to credit facilities. Most South African banks and financial institutions are less likely to provide loans to SMMEs in order to support their activities. This can be attributed to a lack of collateral security, a financially accepted business plan, poor market research, and a lack of potential markets for products. This has often resulted in the collapse and failure of most SMMEs in South Africa.
- SMMEs face challenges in terms of utility, land, and communication infrastructure. This infrastructure gap increases the cost of production and impedes the growth of enterprises in South Africa.
- Most SMMEs are unable to employ workers to expand their scale of operations because of regulatory obstacles associated with employment, such as high minimum wages and challenges associated with laying off unproductive workers. This impedes the growth of small enterprises.
- The lack of skilled employees in SMME activities in South Africa also impedes the growth of enterprises in the country.
- Bureaucratic nature of government regulation. The SMMEs in South Africa also face challenges, such as delays in obtaining operation permits due to a lack of coordination among governmental institutions. This has

also impeded the operation of SMMEs in South Africa.

- Lack of market access. Most SMMEs, especially smaller-sized enterprises and those in rural areas, cannot have a collective larger influence on the product market because of their remote location. This limited the growth of rural SMMEs in South Africa.

Discussion of Country Cases

In this section, country cases are discussed along with the definitions, nature, benefits, and challenges of the SME sector in the selected African countries. Specifically, this study's findings highlight essential characteristics, significance, and challenges faced by SMEs in Africa. This analysis evaluates the results by exploring SME definitions in various countries, financial inclusion, adaptation following COVID-19, digital transformation, regulatory challenges, and issues related to long-term sustainability.

Variations in Definitions and Their Policy Implications

This study observes significant variation in the definitions of SMEs across African economies. Countries classify SMEs according to employment size, revenue thresholds, asset valuation, and legal frameworks (SMEDAN, 2013; KNBS, 2017). In South Africa, SMEs are defined by the National Small Business Amendment Act (2004), which limits medium-sized enterprises to 200 employees (International Finance Corporation, 2019). Ghana, Kenya, and Ethiopia establish a threshold of 100 employees, whereas Nigeria employs an asset-based valuation approach (Abor & Quartey, 2010). Although these definitions correspond with

economic scales and regulatory policies, they present challenges for cross-country comparisons of SMEs. Larger employment caps in South Africa and Nigeria indicate that government support structures accommodate a broader spectrum of businesses, which may limit funding access for micro-enterprises (Benzing & Chu, 2009). In contrast, Ghana's lower SME threshold corresponds with its policy emphasis on micro-entrepreneurship (GSS, 2018). The potential benefits of harmonizing SME definitions across African regional economic blocs, such as ECOWAS and SADC, to enhance trade, investment, and policy coordination (Kuada, 2022).

Financial Inclusion and Digital Transformation

The study also highlights the significant role of FinTech in promoting financial inclusion for SMEs. African SMEs have historically faced challenges in accessing credit, primarily due to stringent collateral requirements and inflexible banking frameworks (Endris & Kassegn, 2022). The emergence of mobile banking, alternative lending platforms, and blockchain finance has markedly enhanced access to microloans and digital payments (Kuada, 2022). The study demonstrates that SMEs in Kenya and Ghana have significantly benefited from mobile money platforms such as M-Pesa and MoMo Pay, facilitating efficient business transactions, access to loans, and integration within supply chains (Ekechi et al., 2024). The study identifies financial literacy gaps and regulatory inconsistencies that hinder broader FinTech adoption.

Adaptation and Resilience of Businesses Post-COVID

The COVID-19 pandemic compelled SMEs to swiftly transition to e-commerce, digital platforms, and remote business

models (Muriithi, 2017). This study indicates that SMEs in South Africa, Kenya, and Nigeria exhibited enhanced digital adaptability by utilizing platforms like Jumia, Shopify, and Facebook Marketplace to maintain business operations (International Finance Corporation, 2019). The study indicates that, despite these innovations, numerous SMEs faced challenges in digital migration attributed to inadequate internet infrastructure, deficiencies in digital skills, and elevated operational costs (SMEDAN, 2023). South Africa implemented the SME Debt Relief Fund, whereas Nigeria offered conditional grant schemes (Atlantic Council, 2025). Future research must concentrate on long-term post-pandemic recovery strategies, especially in enhancing SME resilience to future economic shocks.

Cybersecurity Risks Associated with AI Integration

As small and medium-sized enterprises adopt AI-driven automation, cloud computing, and digital transactions, they simultaneously become targets for cyber threats (Okoye et al., 2024). This study emphasizes the increasing risks faced by SMEs regarding phishing scams, ransomware attacks, and data breaches, especially in Nigeria and Kenya, where incidents of cybercrime have escalated since 2020 (Kuada, 2022). The results demonstrate that a majority of SMEs do not possess robust cybersecurity frameworks, rendering them susceptible to financial fraud and operational disruptions (Ekechi et al., 2024). AI-powered fraud detection, automated financial management, and AI-driven marketing tools are becoming significant factors in the scalability of SMEs (Okoye et al., 2024). Future research should investigate the integration of AI in African SMEs while ensuring data security is maintained.

Regulatory and Institutional Limitations

Small and medium-sized enterprises in Ghana, Ethiopia, and Nigeria identify high taxation, bureaucratic licensing, and complex regulatory compliance as significant barriers to growth (Endris & Kassegn, 2022). The research indicates that government agencies such as SMEDAN (Nigeria), SEDA (South Africa), and GEA (Ghana) have implemented SME support schemes; however, their effectiveness is compromised by administrative bottlenecks (SMEDAN, 2023). In Nigeria and Ethiopia, numerous SMEs opt to remain informal to evade substantial tax liabilities and costs associated with bribery (Atlantic Council, 2025). Enhancing institutional transparency and minimizing regulatory obstacles must be prioritized in policy development.

Sustainability and Growth Potential of SMEs in the Long Term

This study affirms the significant contribution of SMEs to job creation and GDP growth; however, the long-term sustainability is still in question. The results indicate that numerous SMEs exhibit deficiencies in succession planning, encounter significant employee turnover, and confront restricted opportunities for expansion (GSS, 2018). Small and medium enterprises (SMEs) in Kenya and Ghana are increasingly implementing circular economy models by utilizing recyclable materials, renewable energy solutions, and sustainable supply chains (International Finance Corporation, 2019). Future research should evaluate the impact of environmental sustainability on the competitiveness of SMEs in global markets.

Table 2a: Summary of Country Cases

	Ethiopia	Ghana	Kenya
Definition	-Micro enterprises; less than 6 employees. -Small enterprises; 6 to 30 employees. -Medium-enterprise -31 to 100 employees.	-Micro- enterprises;1 to 5 employees. -Small enterprises; 6 to 29 employees. -Medium enterprises-30 to 100 employees.	Micro-enterprises; 1 to 9 employees; -Small enterprises; 10 to 49 employees; -Medium enterprises-50 to 99 employees
Nature	-Male-dominated (84%). -Mostly personal or family sources of start-up capital. -Products are mostly sold in the domestic market. -Mostly managed by owners -Mostly labour-intensive form of production	Male-dominated (62%). -Mostly personal or family sources of start-up capital. -Products are mostly sold in the domestic market. -Mostly managed by owners -Mostly labour-intensive and most businesses engage in trading, manufacturing and agricultural activities.	-Male-dominated -Mostly personal /family fund as start-up capital (71.9%). - Products are mostly sold in the domestic market. -Dominant form of business is sole-proprietorship. -Mostly labour-intensive -Service sector activities dominate. -Mostly engage in retail trading, motor trading, food and services.
Role in Economic Development	-Provides employment opportunities. -Contributes to the GDP growth of Ethiopia. -Source of revenue generation.	-Employs 71.4% of the total workforce - Contributes to 70% of GDP. -Forms 85% of businesses in Ghana. -Source of revenue generation	-Provides employment opportunities (14.9% in 2016). -Contributes to GDP growth of Kenya (33.8% in 2016). -Source of revenue generation.
Peculiar Challenges	-Limited access to finance -Limited market for products. -Health challenges -Insufficient supply of raw materials. -insufficient skilled labour.	-Lack of unique products. -Infrastructural constraints -Technological constraints -Lack of advertisement and market for products -Insufficient skilled labour -Regulatory constraints -High interest rate on loans	-Expensive regulatory climate -Higher taxation -Lack of access to finance -Infrastructural constraints

*Summary based on reports

Table 2b: Summary of Country Cases

	Nigeria	South Africa
Definition	Micro-enterprises; less than 10 employees; -Small enterprises;10 to 49 employees; -Medium enterprises-50 to 199 employees	Micro-enterprises; at most 2 employees; -Small enterprises;5 to 50 employees; -Medium enterprises-less than 200 employees
Nature	-Male-dominated (51.3%) -Mostly personal/family fund as start-up capital -Products are mostly sold in the domestic market. -Mostly labour-intensive. -Dominant economic activities are agriculture, accommodation, manufacturing, and trading	-Dominated by blacks (69%). -Mostly personal/family fund as start-up capital. -Products are mostly sold in the domestic market. -Mostly managed by owners -Mostly labour-intensive. - Most SMMEs engage in trading activities
Role in Economic Development	-Provides employment opportunities (86.3% of the total labour force in 2017). - Contributes to GDP growth of Nigeria (49.78% in 2017). -Source of revenue generation.	-Provides employment opportunities (55% of the total labour force). - Contributes to GDP growth of South Africa (42 % of GDP in 2018). -Source of revenue generation.
Peculiar Challenges	-Inability to access finance or credit facilities -lack of stable government plans -Obsolete technology - (business development services). -inaccessible market -Multiple taxations	-Lack of access to credit facilities -Inadequate infrastructural facilities -Discouraging labour laws -Lack of access to market -Lack of skilled employees

*Summary based on reports

Conclusion and Future Research Directions

Small and medium-sized enterprises (SMEs) are essential to Africa's economic development; however, they face significant structural, financial, technological, and regulatory obstacles that hinder their growth and competitive ability. This study enhances the current literature on SMEs by pinpointing significant policy gaps, technological opportunities, and trends in financial inclusion that necessitate additional investigation. In the future,

collaboration among government agencies, private sector stakeholders, and international financial institutions is essential to minimize bureaucratic barriers, enhance digital infrastructure, and establish inclusive financial systems, thereby promoting the growth and sustainability of SMEs. Effective leveraging of policy reforms and technological advancements could enable Africa's SME sector to attain global competitiveness and foster inclusive economic development in the forthcoming decades.

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