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## Editorial

Welcome to the second issue of the sixth volume of the Wisconsin Journal of Arts and Sciences (WJAS). In this edition, we continue our mission to inspire and disseminate multidisciplinary peer-reviewed research papers from academics, scholars, corporate practitioners, and experts with significant experience and expertise in their respective fields. Our goal is to establish WJAS as a leading journal in higher education within Africa and beyond. We are pleased to present a diverse array of articles that reflect the depth and breadth of contemporary research across various disciplines.

The first article in this issue is titled *“Multi-Pillar Pension Policy Implementation and Retirement Income Security: Lessons for Developing Countries.”* The researcher explores the challenges and solutions associated with implementing multi-pillar pension systems in developing countries, drawing comparisons with Chile, Mauritius, Singapore, and Ghana. This comprehensive study provides valuable insights into the effectiveness and sustainability of pension policies aimed at protecting the aged population.

The second article is titled *“Marriage and Divorce: Perspectives from the Bench.”* This article delves into the intricate legal and social dynamics of marriage and divorce, offering a unique perspective from the judiciary. The study examines the implications of legal decisions on the institution of marriage and the lives of individuals involved, providing a critical analysis of current practices and potential reforms.

*“Effects of Procurement Practices on Organizational Performance within the Private Sector: The Case of Volta River Estate Limited, Ghana”* is the title of the third article. This research examines how procurement practices impact organizational performance, using Volta River Estate Limited as a case study. It provides practical recommendations for enhancing procurement processes to achieve better performance outcomes.

*“Examining the Impact of Digitalization on the Import Clearance Process at the Tema Port, Ghana”* also investigates the transformative effects of digitalization on the import clearance process at one of Ghana’s major ports. The study provides a detailed evaluation of how digital tools and systems have streamlined operations, reduced delays, and enhanced the overall efficiency of port activities.

*“Effect of Supply Chain Management Practices on Operational Performance of Obuasi Goldfields During the Covid-19 Era”* is the title of the fifth article in this issue. The authors present a timely study on the impact of supply chain management practices on the operational performance of Obuasi Goldfields during the Covid-19 pandemic. The research offers valuable insights into how effective supply chain strategies can mitigate disruptions and sustain operations during global crises.

Finally, *“Effect of Greening the Practices of Human Resource Management on Organisational Sustainability: Evidence from Employees of Raw Materials Research and Development Council, Southwest Zone, Nigeria”* is the title of the sixth article which explores the role of sustainable HR practices in enhancing organizational sustainability. Focusing on the Raw Materials Research and Development Council in Nigeria, the study examines how integrating green HR practices can lead to long-term environmental and economic benefits.

Each of these articles contributes to the expanding body of knowledge in their respective fields, offering innovative solutions and thought-provoking discussions. We hope you find this issue both informative and inspiring, and we look forward to your continued engagement with WJAS.

We also invite you to delve into these insightful articles and join us in celebrating the contributions of our esteemed authors.

Happy reading!

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The Editor-in-Chief,

Eric Ansong, PhD



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## **Multi-Pillar Pension policy implementation and retirement income security: Lessons for developing countries**

**Elias Kwaku Megbetor \***

Department of Economics

Wisconsin International University College

Ghana

[elias.megbetor@wiuc-ghana.edu.gh](mailto:elias.megbetor@wiuc-ghana.edu.gh)

**\*Corresponding author**

### **Abstract:**

Pension policies have implications on national budgets. Therefore, there is a need for countries aspiring for adequate protection of the aged to be assisted with comprehensive pension policies. A multi-pillar pension system proposed by the World Bank is designed to achieve this goal. This paper employs a narrative literature and document review approach to data gathering, following a thematic method of analysis to evaluate the pension systems of Chile, Mauritius, Singapore, and Ghana following the recommendations of the World Bank. The comparative study also explores pension challenges faced by these countries and mitigation measures adopted. Some of the findings include inadequate pensions, sustainability threats, pension inequality, investment risks, a lack of robustness, weak supervision, and labour market distortions. In addition, the system is not affordable to private-sector employers in some of the selected countries. The paper has developed a framework for developing countries to improve participation in funded pension schemes. Further recommendations made for pension systems of developing countries include effective monitoring and supervision, flexible and regular contribution methods, ensuring the security of funds through multi-fund investment options, and introduction of automatic pension enrolment by setting a low amount affordable to the low-income worker. Where the population is aging, an extension of retirement age or maintaining workers on the job beyond retirement may be an option to improve the sustainability of funds.

**Keywords:** Social Security; Income Security; Multi-Pillar Pension Systems; Pension System Challenges; Pension System Reforms; Pension Models.

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## 1. Introduction

Withdrawing completely from the labour market due to old age requires adequate financial preparations to meet the demands of retirement. This is essential because the poor may not earn sufficient income or may simply not be in a position to save towards old age. The rich on the other hand may fail to plan or postpone retirement savings until it becomes too late. When these happen, the burden falls on the government to meet the needs of these individuals in old age. As a result, governments all over the world put in place pension programmes to ensure that the aged are financially protected. Pension arrangements usually take two main forms: funded schemes based on individuals' accumulation of financial assets and Pay-As-You-Go (PAYG) schemes which are based on financial commitments usually from the government. The nature of pension schemes depends on first, the fiscal position of the government, the macroeconomic environment of the country, the demographic structure of the population, and sometimes the population policy. Second, the scheme determines whether or not pension burdens must be borne completely by individuals, or partially or wholly by the government.

The persistent fiscal burden on government budgets especially in most developing countries has necessitated a shift away from a single-pillar pension system usually financed by the government to a multi-pillar system that shares pension responsibility with individuals or completely transfers it to them. The situation becomes worse when the elderly have to completely rely on the government for financial relief during retirement. For nations that have adopted the multi-pillar pension policy, what are their experiences? Are the aims of the system adequately met as intended? To provide answers to these questions, the World Bank (2005) has recommended multi-pillar pension systems intending to relieve governments that are fiscally overburdened. The World Bank (2005) provided a comprehensive evaluative framework to assist countries that have adopted this policy. These recommendations imply that beneficiaries of pension schemes must also be responsible for their future financial burdens.

This paper explores the multi-pillar pension implementation experiences of Chile, Mauritius, Singapore, and Ghana. The comparative analysis presents an assessment of the current pension systems taking the World Bank multi-pillar pension evaluation model as a point of departure. The paper further explores the implementation challenges of the pension systems, the measures adopted to overcome such constraints, and lessons that can be learned by developing countries.

The selection of countries for analysis is based on the following criteria- the assistance received from the World Bank's pension reform programmes, the availability of adequate information and data, practical experiences from pension system reforms, and belonging to different stages of economic development in terms of per capita Gross National Income (GNI). Whereas Chile and Singapore are classified as high-income economies, Mauritius is an upper-middle-income country, and Ghana is a lower-middle-income nation (World Economic Situation and Prospects, 2014). The income and pension system transformations of these nations leave many lessons for other developing countries.

Ghana migrated to the multi-pillar pension system recommended by the World Bank in 2008. However, it has emerged that the first batch of beneficiaries in 2020 was paid amounts far lower than what they would have received under the previous scheme (Ghana Trade Union Congress, 2020).

Chile on the other hand has been known for its adherence to the World Bank's core principle of pension regulations and related guidelines (OECD, 2013). It has also been known that the country has a sound pension supervisory framework (Obiri-Yeboah, 2014). In 2019, Chile's pension system was rated grade B with the Melbourne Mercer Global Pension Index range of 65-75. This indicates a pension system that has a sound structure with many good features (Melbourne Mercer, 2021).

Furthermore, Mauritius is among the first developing countries to have established a universal pension scheme that functions as the foundation pillar of the broader pension system (Willmore, 2007). The World Bank (2004) has lauded Mauritius for providing the most coverage of any pension scheme in Sub-Sahara Africa. The un-

funded nature of Mauritius’ universal pension scheme, together with the income maintenance scheme of the civil service is worth studying.

Lastly, the pension system of Singapore comes under scrutiny. According to the World Bank (2008), Singapore is one of the advanced developing countries that has the best pension system in Asia. The country ranked the seventh-best pension system in the world, accumulating an overall index of 69.4 in 2017 (Melbourne Mercer, 2017). The pension system of Singapore is organized on national provident fund principles. Studying the features and mechanisms of this pension system may be very useful for developing countries.

## 2. Literature Review

### 2.1 The World Bank’s Multi-Pillar Pension Modalities

The World Bank’s multi-pillar pension model flexibly applies a five-pillar design. The model outlines the range of design elements that govern pension system modalities and reform options. It is often emphasized that the model be applied circumspectly to specific countries in a manner that will yield a range of achievable options. The suggested multi-pillar pension systems in the new conceptual framework are composed of a combination of five basic elements (World Bank, 2008) that are summarized in Table 1.

**Table 1: Summary of the modalities for achieving the World Bank multi-pillar pension model**

Pillar	Objective	Form	Target groups	Funding
A non-contributory zero-pillar	Elderly poverty protection	Publicly funded pension (universal)	Lifetime poor, informal, and formal sector	Budget/general revenues
A mandatory First pillar	Elderly poverty protection and consumption smoothing	Publicly managed mandatory contributory plans (largely financed on a PAYG basis)	Formal sector	Taxed financed
A mandatory Second pillar	Elderly poverty protection and consumption smoothing through a minimum pension.	Privately managed, mandatory occupational or private contributory pension plans	Formal sector	Financial assets
A voluntary Third pillar	Consumption smoothing	Voluntary savings to occupational or private pension plans	Lifetime poor, informal, and formal sector	Financial assets
A non-financial Fourth pillar	Elderly poverty protection and consumption smoothing	Public services, family support, and personal assets	Lifetime poor, informal, and formal sector	Financial and nonfinancial assets

Source: World Bank (2005)

It is argued that developing well-supervised voluntary schemes could effectively serve as a supplement to the low income of the informal worker at retirement (World Bank, 2005). It is further argued that the mandatory first and second pillars may not yield adequate old-age income, but that a combination of Pillar Zero and a more extensive voluntary pillar may improve the pension system. Finally, public policies that support the transfer of



family wealth, through land and asset titling and inheritance laws can strengthen old-age income security for both the lifetime poor and informal workers.

## 2.2 The World Bank Multi-Pillar Pension Framework

After the consideration and application of the five-pillar pension model, the World Bank (2008) further proposes that the entire pension system design be evaluated with the aid of the criteria discussed next.

### 2.2.1 Primary Evaluation Criteria

- i) **Adequacy:** This addresses the need for the pension system to provide benefits sufficiently to the entire population to prevent old-age poverty at a country-specific level.
- ii) **Sustainability:** The framework requires that the pension system possesses a sound financial standing that can be maintained over a long period.
- iii) **Affordability:** It is required that the pension system must be within the financing capacity of individuals and their respective nations and should not impose a heavy fiscal burden on the state or unduly displace support for other social or economic needs.
- iv) **Equitability:** An equitable pension system requires that some redistribution occurs by channeling income from wealthy individuals to the lifetime poor to promote social fairness.
- v) **Predictability:** A predictable pension system requires a legal benefit formula upon which computations are based. Arbitrary determination of benefits by policymakers or managers infringes on the transparency and fairness of the system. The computation formula protects individuals against price fluctuations and market volatility.
- vi) **Robustness:** A robust pension system refers to the ability of the system to withstand major economic, demographic, and political shocks.

### Secondary Evaluation Criteria

Besides the primary criteria, The World Bank (2005) extended the pension systems framework to include secondary evaluation criteria which seek to evaluate the system's contribution to output and growth. This consideration is based on the fact that any well-functioning pension system modeled on the aforementioned criteria is capable of ensuring economic growth and stability. The relevant criteria in this respect include:

- Minimization of labor market distortions.
- Contribution to savings mobilization, and
- Contribution to financial market development.

## 3. Methodology

This research employed a document review method of data gathering, synthesis, processing, and analysis. According to Bowen (2009), analysing documents entails categorizing contents into themes similar to how focus groups or interview transcripts are analysed. This study adopted document review for reasons that conformed to Bowen (2009) which states that; documents provide stable data sources, which can be verified at any point in time if the documents are accessible. Secondly, obtaining and analysing documents is often far more time and





cost-efficient than conducting surveys or experiments. Thirdly, making use of document analysis can ensure that the research covers the topics investigated comprehensively.

The process involves attentive and careful sorting of data by the researcher with much focus on re-reading and categorizing data according to the World Bank (2005) Multi-Pillar Pension Evaluation Criteria which constituted the theme for data analysis. The study draws on pension literature for the selected countries published in academic journals and manuals, individual papers, published institutional records, newspapers, website documents, and other relevant sources which are all duly referenced. The materials were selectively structured devoid of any biases. The structure of the model and the criteria for evaluation are summarized in section 2.2.

### 4. Case Studies

This discussion presents an assessment of the current multi-pillar pension system in Chile, Mauritius, Singapore, and Ghana against the pension evaluation criteria of the World Bank (2005). This enables the researcher to compare the achievements and constraints of the pension systems of these countries.

#### 4.1 The Pension System of Chile

According to World Factbook (2020), Chile is in the advanced stages of demographic transition and is becoming an aging society. Life expectancy in the country is on par with developed countries with the 2023 figure at 80.74 years. Chile has been at the forefront of pension reforms since 1980 when it switched to a private pension system. Having shown positive signs of success during its operation, the World Bank has recommended similar policies to other countries (Rodrigo & Augusto, 2001). Chile currently has a three-pillar pension system managed by either state-owned or private firms known in English language as Pension Fund Administrators (AFPs) (ICPM, 2018). Table 2 summarizes the Chilean three-pillar pension system.

Table 2: Summary of the Chilean Multi-Pillar Pension System

Pillar	Objective	Form	Target groups	Funding
Non-contributory First pillar	Elderly poverty protection and consumption smoothing through minimum pension	Publicly funded for the elderly without pension and the poorest 60% of the population.	Lifetime poor, informal, and formal sector workers	State/Tax-financed
Mandatory Second pillar	Elderly poverty protection and consumption smoothing	Privately managed by AFPs and financed on a fully funded basis. i.e. 10% of the worker’s gross salary plus AFP charge of 0.77%-1.45% on the worker’s salary)	Formal and informal sector workers plus self-employed	Fully funded by individual/Empl oyer contribution
Voluntary Third pillar	Consumption smoothing	Voluntary contributions to AFPs or other private institutions in three Forms, namely: 1. Voluntary Pension Savings. 2. Collective Voluntary Pension Savings 3. Voluntary Savings Account	Lifetime poor, informal, and formal sector	Fully funded by individual

Source: Author (2023)

The Chilean system allows only employees to contribute a part of their income into a pension account. This means that in Chile, there are no employer contributions to workers’ pensions.



**Adequacy:** Pension policies in Chile failed to provide adequate coverage to pensioners. The AFPs make huge profits but fail to distribute more benefits to pensioners (Bond, 2016). The national pension coverage (the percentage of contributors over the total number of the employed workforce) was 71 percent while 58 percent of the contributors to the AFP system were men and 42 percent were women (Association of AFPs, 2015). Some Chileans regard the AFP as the worst thing that has happened to the Chilean pension system (Borzutzky & Hyde, 2015). Furthermore, the government's provision of the redistributive Pillar-1 (a scheme to relieve the aged poor) is largely perceived as insufficient (Borzutzky & Hyde, 2015). These deficiencies have contributed to keeping almost 20 percent of the retirees below the poverty level. According to Bradley (2016), in terms of adequacy, the Chilean pension system promised a replacement ratio of 70 percent when it was launched in 1981 while the OECD (2019) noted that the actual replacement rate in Chile for an average earner is 40 percent for men and 36 percent for women, which is far below the OECD average of 60 percent. According to the Centre for National Studies of Alternative Development (2018), the Chilean pension replacement rate has declined on average from just over 40 percent in 2006 to 27.4 percent in 2018. The decline in the replacement rate may be attributed to the low contribution rate, irregular contribution history, evasion, and unemployment.

**Sustainability:** The sustainability of the Chilean pension system raised concerns. According to Bond (2016), the AFPs deliberately pay low pensions to maintain the sustainability of the system. During public protests against the Chilean pension system in March 2019, protesters claimed that "we do not have a solidarity system. The quality of life of the elderly is not good, some are even taking their own lives, that is why we are here saying clearly no more AFP" (Telesur, 2019). In their view, the current pension system is a disadvantage to contributors and pensioners since employers are not mandated to contribute towards workers' retirement. To rectify this situation, they recommend a tripartite public system with a distribution model of finance among workers, employers, and government. This could alleviate the pressure on both workers and retirees, while at the same time make the system sustainable.

**Affordability:** One of the problems with the Chilean pension system that concerns contributors is the high administrative fees charged by the AFPs. According to Bradley (2016), what may be contributing to the high fees charged by the AFPs is the limited number of fund administrators (only six) compared to the 1990s when there were twenty of them. Subsequently, this has resulted in a lack of competition with negative implications for fees and efficient management (Bradley, 2016). It is therefore not surprising that only 7.7 percent of the self-employed were listed on the pension system (Association of AFPs, 2015). New pension administrators should be admitted to enhance competition and reduce costs.

**Equitability:** According to Fajnzylber (2012), the Solidarity Pillar (APS) brought some level of income redistribution by providing non-contributory benefits to individuals with low pensions. The APS scheme guarantees all lower-income individuals a guaranteed basic pension regardless of their contribution history. The scheme also provides old age and disability subsidies financed by general taxes. Consequently, poverty among the elderly decreased by 2.7 percent by 2015 (Mesa-Lago & Bertranou, 2016). Despite the introduction of the APS in 2008, Mesa-Lago and Bertranou (2016) opined that the Chilean pension system also enhances gender inequalities aside the differences in pensions. Women usually have unequal access to jobs, work histories, and earnings which translates into poor pension benefits. For example, from 2007 to 2014, half of the retired women obtained monthly benefits equal to or less than \$42.56 whilst men received benefits equal to or less than \$112.33 (Bertranou, 2016).

**Predictability:** This determines how benefits are computed and paid to retirees. Benefit computation in the Chilean system is based on members' contribution history, the amount accumulated in the fund, and capital market performance on invested funds. Upon retirement, retirees have the followings options to choose from: Capital accumulated can be used to buy an immediate life annuity, get temporary income with a deferred life annuity, take a complete programmed withdrawal (PW) from the pension system or it may be split partly to buy an immediate life annuity and take a programmed withdrawal later. The fund administrator later converts the invested fund into a monthly payout according to a formula determined by the government. Any remaining



amount in the account after death is paid to the next of kin (Mitchell & Ruiz, 2009). In the case of an annuity, a retiree may use the balance in his account to purchase a life annuity from a life insurance company. Although annuitization is not mandatory in Chile, almost 60 percent of all retirees are taking annuities (Iglesias-Palau, 2009).

**Robustness:** There is a high level of uncertainty in Defined Contribution (DC) pension systems because benefits depend on the rate of return earned on invested funds (Ortiz, Duran-Valverde, Urban, & Wodsak, 2018). A defined Contribution plan provides the employee the option to receive either a lump sum amount or an annuity, or a combination of both that is determined solely by the total contribution and investment outcomes. Chile also suffered from the 2008 Global Financial Crisis. The AFPs lost 60 percent of all accrued pension benefits in 2008. The result of the crisis led to the termination of contributions by some workers who had irregular, part-time, or insecure jobs. The long-term effect will most likely be old age poverty, dependence on the state-funded pillar, or a growing demand for supplementary benefits for retirees or a pension subsidy in the benefit calculation formula. During the Global Financial Crisis in 2008, the mandatory pillar of the Chile pension fund had an equity exposure of 48 percent of total assets, and it reported a negative performance of 16.4 percent (Impavido & Tower, 2009). Again, the Covid-19 pandemic in 2020 did not spare Chile's DC pension system. As of April 2021, the crisis led to emergency withdrawals of 10 percent of pension savings to help meet contributors' immediate basic needs (Kay & Borzutzky, 2022). However, one could argue that these uncertainties were extreme occurrences and would always be a possibility. Therefore, citizens must be educated to allay such mistrust.

**Labour Market Impact:** Chile's pension system has an impact on the labour market (Attanasio et al., 2011). The introduction of the redistributive pillar in the 2008 Chilean pension reforms has created a disincentive for some employees to contribute to the pension system. This is so because the pillar guaranteed low-income earners and individuals with no pension contribution history some minimum pension. This combined with the high administrative fee leads to evasion by the self-employed. For instance, it has reduced the formal labor market participation by 0.4 percent for workers above 40 years. In the same vein, it has reduced the probability of participation of women and older workers between 56 years and 65 years by 0.5 percent and 0.2 percent respectively (Attanasio et al., 2011). The Chilean pension system allows retirees to continue working for as long as they want. According to Barrientos (2002), 37.4 percent of people above 60 years still participate in the labour market. Receiving a pension, therefore, does not require one to completely withdraw from the labour market. The relatively low levels of pensions may also be a contributing factor.

**Economic Growth:** The study of Araneda (2019) observed that workers finance large corporations with their pension contributions during their working life through AFPs. AFPs invest in these corporations by investing in their stocks and bonds markets which further leads to the expansion of corporations, job creation, and economic growth.

#### 4.2 The Pension System of Mauritius

This section discusses the current pension system of Mauritius after it adopted the World Bank's multi-pillar pension recommendations in 2005, the achievements of the schemes in reducing old-age poverty, and the challenges of the system. Pre-colonial Mauritius did not have a formal pension system; as a result, the aged depended on their families for their survival. The government later resorted to a tax-financed, non-contributory old-age pensions system, which was means-tested (Meade, 1961). Means-tested pensions are those where eligibility is based on a test of the income or assets of an individual. The programme targets the poor and excludes those who earned an annual income above a certain predetermined level. A major complaint of this system was the non-transparent nature in which it was conducted. It also became a disincentive to savings for low-income workers and those who wished to continue working beyond the actual retirement age. These problems led to pension reforms in 1976 when a contributory pension scheme that covers employees of both the public and private sectors was introduced alongside the basic non-contributory universal pension scheme. The reform was necessitated by the desire to increase national savings, and also to ensure at least moderate living standards for

retirees (Willmore, 2001). According to Willmore (2001), the self-employed and employees who earned low salaries were exempted from contributing to this new scheme. This meant that not all public sector workers contributed to the scheme resulting in limited coverage. To address the challenges, the government of Mauritius adopted the World Bank’s comprehensive pension systems reforms framework in 2005. This is summarized in Table 3.

**Table 3: A summary of the multi-pillar pension scheme of Mauritius**

	<b>Basic Retirement Pension (BRP)</b>	<b>Civil Pension (CSPS)</b>	<b>Service Scheme</b>	<b>National Pension Scheme (NPS)</b>	<b>National Savings Fund (NSF)</b>	<b>Voluntary Schemes</b>	
Pillars	Zero Pillar	First Pillar			Second Pillar	Third Pillar	
Pension type	Public			Occupational	Mandatory	Occupational Voluntary	Personal Voluntary
Coverage	Universal	Civil service		Private sector	Private sector	Private sector	Private Sector
Funding	PAYG	PAYG		Funded	Funded	Funded	Funded
Contributions (% of wage)	Non-contributory	Worker only: 6%		Worker: 3% and employer: 6%	Worker: 1% and Employer: 2.5%	Worker: 5-10% and Employer: 10-20%	Determine by contract
Pensionable age	60 years	65 years					

Source: Adapted from World Bank (2005)

The non-contributory BRP cash transfer program for the aged is to protect them from extreme poverty (Güven & Leite, 2016). Because of this, the total pension coverage in Mauritius is 100 percent. No elderly individual in the country is left unprotected but at a low replacement rate of less than 26 percent compared to 60 percent for the OECD countries (World Bank, 2004). The Mauritius pension system is a good example for Sub-Saharan Africa, if fiscal challenges, the constraints of voluntary private pension schemes are addressed, and replacement rates are raised. However, the small population (1.30 million in 2023) of this country must be kept in mind. Extending universal pension coverage to a relatively small population is less complicated and more manageable compared to countries with a higher population.

According to Güven and Leite (2016), challenges inherent in the BRP and the NPS include inaccurate data on the elderly, bureaucratic bottlenecks, the lack of autonomous fund administrators, and an independent governing board responsible for funds and assets management. The authors recommended greater investment of pension funds in reliable and credible financial market instruments such as; corporate securities and foreign assets to earn higher returns on investment. Such an outcome will require efficient, robust, and transparent structures. The failure to provide adequate oversight responsibilities regarding the management and investment of pension funds



may have far-reaching consequences for pension performance (Kay, 2003). An example is the financial scandal that hit the Mauritian NPS in 2003 when a time deposit of MUR 500 million could not be traced by the Mauritius Commercial Bank due to institutional lapses (Vittas, 2003). The World Bank (2015) argues that the real challenge for the Mauritius pension system is institutional. It posits that weak supervision and institutional quality are the major factors militating against the smooth performance of the NPS. It further indicates that indexation formulas for the pension pillars (BRP and NPS) are not strictly followed to determine benefits. A well-supervised and regulated governing board is required to curb such occurrences.

**Adequacy:** The NPS aimed at a replacement ratio of a third (33.3 percent) of the average salary for continuous contributions of 40 years which is relatively low compared to the OECD average of 60 percent. The World Bank (2004) reported that Mauritius was unable to achieve this target and could only obtain a replacement ratio of 26 percent after two decades of operation. This assessment is based on the poor use of the price index which is a vital determinant of the real value of benefits payable to retirees. Soto et al. (2015) found that with a contribution rate of 9 percent, workers who retire after 40 years of work should be able to earn a replacement ratio of 33.3 percent. However, in practice, the NPS adjusts the price index downwards, which leads to a low replacement ratio. The reason for this action is to enhance the sustainability of the fund, but this contradicts standard practices. For instance, the ILO prescribes a regular adjustment of indexes that will keep the replacement ratio at least at 40 percent (Soto et al., 2015).

**Sustainability:** According to the Mauritius Commission on Population and Development (MCPD-2019), the total fertility rate has decreased from 5.86 in 1962 to 1.345 in 2023 whilst life expectancy at birth increased from 65 years in 1965 to 75.51 years in 2023. This rising life expectancy coupled with the reduction in the total fertility rate threatens the long-term sustainability of the pension scheme as it increases the liabilities of the Defined Benefits (DB) pension plan. Defined Benefit pension schemes follow a pre-determined benefit formula, and the final benefits that accrue to contributors upon retirement are not solely dependent on their contributions. It is projected that without meaningful reforms the Mauritius Nation Pension Scheme (NPS) will exhaust its assets and eventually create liabilities which will make it difficult to finance after 2060 (Soto et al., 2015).

**Affordability:** Fiscal pressure in most economies creates concerns over how much countries can spend on pension programmes. Guven and Leite (2016) identify the fiscal affordability of the basic retirement pillar (BRP) as the main challenge. This author disclosed that the high administrative cost of private pensions in Mauritius is transferred to contributors. These fees discourage workers from joining private voluntary schemes. Estimates suggest that the fees a member of a private pension plan pays can account for up to 20 to 40 percent of his or her contribution, which is discouraging and excessive. The World Bank (2015) projects that with significant changes in the demography and declining tax revenue, the Mauritian government may not have the required financial resources to afford the basic universal pension and their contribution to the NPS.

**Equitability:** An equitable pension plan may put less emphasis on work history and does not link employee earnings to pension benefits (Kaplow, 2000). The Mauritian BRP promotes equity and provides relief to the aged poor. The system grants a flat or basic pension to all residents or citizens 60 years and above, and no other condition is required for eligibility. It is therefore a universal system and is especially beneficial to the vulnerable, women, and informal workers (Clements et al., 2014).

**Predictability:** The National Pensions Act of 1976 provides for the determination of pension benefits for all publicly managed pension schemes in Mauritius. A clear payment procedure is available for the non-contributory BRP scheme. The benefits of the BRP and CSPS are indexed for price fluctuation. For the CSPS plan, benefits are tax-financed through the government budget, and contributors know how much pension they will receive upon retirement. The CSPS pays 66.7 percent of the final salary after 33.3 years of contributions. However, the fiscal affordability of this system may hamper its predictability and sustainability.

**Robustness:** Fall and Bloch (2014) observed that the aging population and the reduction in the fertility rate put Mauritius' long-term financial stability of pensions at risk and make it more vulnerable to economic or political



shocks. This can be ascribed to the fact that except for the basic pension pillar, the remaining pension contributions are either fully or partially financed by current workers; therefore, an increase in the number of pensioners without a commensurate rise in labour market participation or contribution rates, will exert undue fiscal pressures on government. According to David and Petri (2013), the current basic pension expenditure as a percentage of GDP will rise sharply by 4.5 percentage points between 2015 and 2050. This rapid rise poses a potential threat to macroeconomic stability. To address this problem the government in 2018 has increased the retirement age from 60 to 65 years for all pension pillars except for the basic pension pillar (BRP) which is still maintained at 60 years. This policy is to improve the position of pension funds to meet the pension needs of an aging population.

**Labour market impact:** The universal nature of the scheme may discourage higher-income earners from participating in contributory pension schemes (Levy & Schady, 2013). Mauritius' public sector employees are covered under a PAYG system, while the private sector has a fully funded scheme. This discrimination contributes to labour supply challenges as workers usually prefer public sector jobs to private sector ones (Deerpalsing, 2004).

**Contribution to savings and financial market development:** Pension funds usually constitute a substantial and necessary source of capital accumulation (Kangas, 2006). Mauritius pension funds have contributed significantly to the growth of the local stock market and the securities market (Mauritius Financial Services Commission, 2015). According to Yermo (2008), Mauritius pension funds improve liquidity in financial markets, and the NPS serves as an important source for housing loans to middle and high-income households and businesses.

#### 4.3 The Pension System of Singapore

Singapore is a high-income economy with a per capita GNI of US\$65,541 in 2022 (World Data Atlas, 2022). The country is currently experiencing an aging population and consequently an increased life expectancy at birth. In 2010, its life expectancy was 81.65 and this rose to 84.07 in 2023 which is one of the highest in the world. In 2019, 19.5 percent of Singaporeans were 65 years and above, and this number is estimated to rise to 32 percent and 40.1 percent by 2035 and 2050 respectively (World Population Prospect, 2019). Out of the total population of 5.92 million in 2023, 4.5 million were members of the pension fund (CPF Board, 2023). The nation operates a pension scheme that mainly revolves around a Central Provident Fund (CPF) which is widely acclaimed as one of the world's most successful DC pension schemes (Fong et al., 2010). The different pension accounts of the CPF form the multi-pillar scheme. According to Pundarik and Sunil (2014), the various components of the multi-purpose CPF accounts define how the CPF can be compared to the World Bank multi-pillar pension system except for the absence of pillar zero which is universal. Figure 1 summarises the objectives of the CPF scheme which are: improving old age income, creating easy access to homeownership, settling healthcare costs, financing citizens' tertiary education, financial protection for the family, and asset enhancement for members. It can therefore be regarded as a comprehensive social provision system.

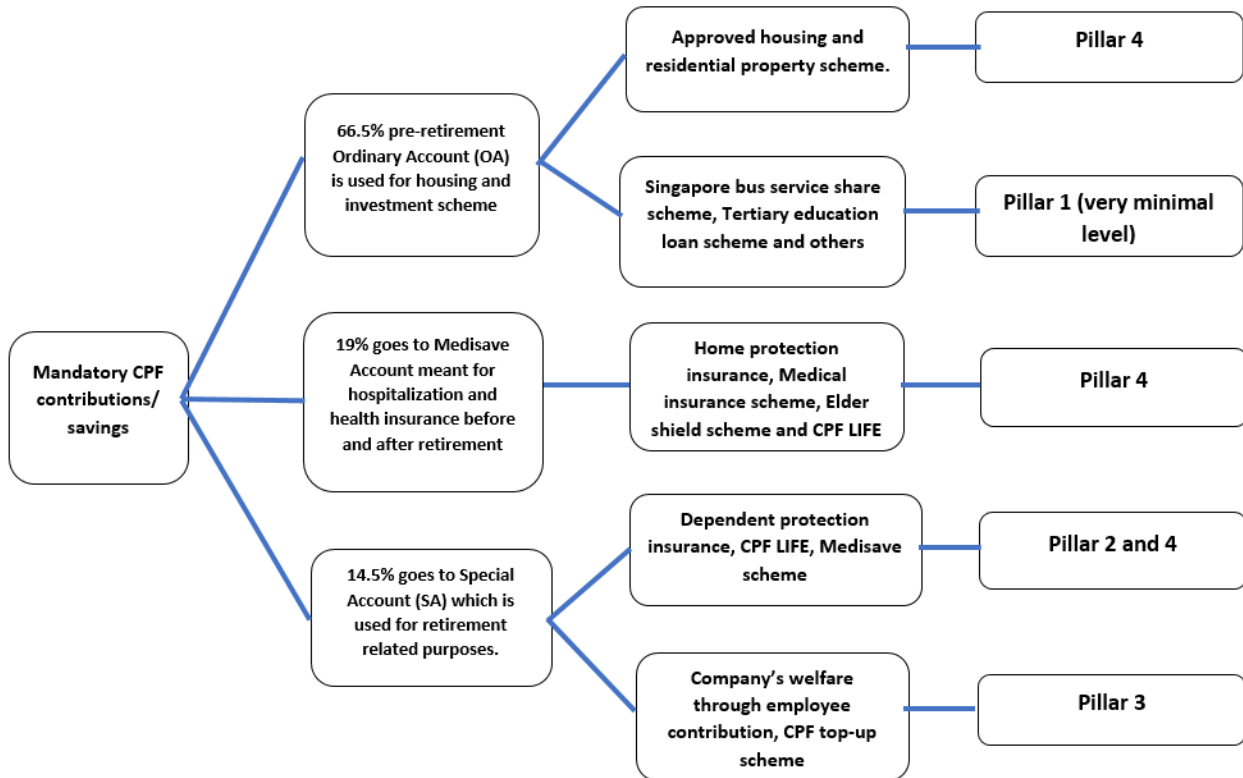


Figure 1: Singapore’s CPF compared with the World Bank’s multi-pillar pension system.

Source: Adopted from Pundarik and Sunil (2014)

The underlying principles of the CPF system are self-provision and self-reliance which emphasize that individuals have the primary responsibility for providing for their retirement needs. This relieves the state of the burden of financing pensions, thereby creating room for long-term fiscal sustainability. The CPF operates as a DC pension scheme with individual accounts fully funded by contributions from both employees and employers. Pension contributors and pensioners rely solely on accumulated funds in their CPF accounts. Employees (natives and permanent residents) must contribute to the scheme, but the self-employed may contribute voluntarily. The government however offers financial assistance to vulnerable individuals who are not capable of raising a meaningful pension contribution under the CPF scheme. Thus, a means-tested grant is added to the CPF savings account to enable low-income earners to participate in the CPF Life, a scheme that ensures that retirees receive a stable retirement income and pays a monthly annuity to pensioners (Fong et al, 2010). The CPF serves as a vehicle for savings mobilization for contributors for their retirement needs. The scheme also allows for a range of withdrawals for housing, health care, and tertiary education.

The CPF is effectively supervised and administered by a constituted board established by a statutory authority. The composition of the board ensures that all stakeholders’ interests are considered. The CPF account is summarized in Table 4.



**Table 4: A summary of the Central Provident Fund (CPF) accounts**

Account type	Uses of CPF Savings
Ordinary Account (OA)	For housing, insurance, investment, tertiary education, and topping up retirement accounts of loved ones such as parents and spouses to qualify them for monthly payments.
Special Account (SA)	For old age, contingencies and investment in retirement-related financial products. E.g. fixed deposits, treasury bills, etc.
Medisave Account (MA)	For hospitalization expenses and approved medical insurance.
Retirement Account (RA)	The 55th birthday Retirement Account (fourth account) which is automatically created

Source: Central Provident Fund Board (2019)

The design of the CPF ensures that almost every worker in the labour market is covered. It is mandatory for every worker, public or private, hired or self-employed, who earns S\$50 or higher per month to enroll in the CPF pension scheme. An account is opened compulsorily for traders who are not already CPF members before their permits are approved (Loke, 2009). These measures led to high levels of participation in the CPF.

The progressive growth of the CPF membership is due to the technological platforms and management practices adopted. The rise in the usage of electronic platforms for the payment of pension contributions resulted in a pension coverage of 94.1 percent (Asher, 2013). According to the International Social Security Association (2011), the key to the successful operation of the CPF is linked to the use of electronic submission and collection systems. Using the electronic platform has reduced human error associated with pension submissions by 42 percent in 2011 (International Social Security Association, 2011).

**Weaknesses:** The CPF system risks the possibility of too much capital withdrawal before retirement. In addition, the benefits of the state health care scheme (MediShield) are limited because it excludes people above 92 years. What this means is that these vulnerable old individuals are left to foot their health care bills without any form of insurance. Given the high life expectancy, in 2009 a CPF Life annuity scheme was introduced to address this. Finally, the CPF is also discriminatory against non-residents because it excludes them from participation.

**Adequacy:** The OECD (2017) proposed an average of 72 percent income replacement ratio (IRR) to ensure a moderate living standard. McGill, Brown, Haley, and Scheiber (2005) also suggested an IRR of at least 70 percent. It is noteworthy that despite the high mandatory saving rate at the early stage of workers' lives, many CPF account holders at the age of 55 years are unable to garner even the minimum retirement sum of S\$148,000 (in 2017). According to the World Bank (2019), too much capital withdrawals before retirement are responsible for the retirement liquidity crisis in Singapore. For instance, in March 2017, S\$200 billion was withdrawn by about 2 million members from the CPF to fund housing. This had the effect that Singaporeans are rich in housing assets but poor in cash during retirement. To boost retirement income adequacy, Koh (2014) proposed that Singapore's CPF must undergo some reforms. First, by monetizing home equity through reverse mortgages, subletting parts of one's home to earn rental income, and downsizing by moving from large housing units to smaller ones. Second, placing a limit on the CPF withdrawal for housing. Third, raising the CPF allocation rate for older people to increase the full Retirement Sum (RS).





**Sustainability:** A major challenge facing the Singaporean pension system is an aging population that may hamper sustainability (World Economic Forum, 2017). Singapore's CPF is a DC plan that pays lump sum benefits to members. This raises the question of how the country will deal with this demographic transformation. To address the problem of aging and to ensure sustainability, the country introduced a CPF Life scheme in 2009 which is also known as "Lifelong Income for the Elderly" (CPF Board, 2011). This scheme is a national annuity scheme that provides life-long retirement income security for the aged. The CPF Life is expected to make the pension scheme more sustainable, fair, flexible, and affordable (World Economic Forum, 2017). Also, low-income earners face the possibility of outliving their wealth during retirement with most DC pension plans. To address this problem the government of Singapore has added means-tested grants to the CPF savings account to enable low-income earners to participate in the CPF Life scheme (Fong et al, 2010). The special design of this scheme has helped to ensure fairness, flexibility, affordability, and sustainability in the following ways: First, the scheme permits members to choose their premiums that will correspond to their desired retirement needs. Second, pension payouts are proportional to the quantum of individual contributions and investment returns. Third, members of the scheme have the discretion to choose the age at which payouts should commence once they fall in the eligibility age of 65 years. Fourth, the scheme provides an incentive of a 7 percent rise in payouts for each year deferred from the date eligibility starts. Lastly, CPF Life allows transfer from CPF savings accounts above the minimum threshold into the accounts of next of kin such as parents and non-working spouses, to enable them to qualify for the CPF Life annuity plan (World Economic Forum, 2017).

**Affordability:** An affordable pension system requires that the system is within the financial capacity of members and the nation without compromising economic and social needs (World Bank, 2008). As a DC pension plan, as well as a national pension scheme, the comprehensive nature of the CPF allows for flexibility and ensures that members contribute according to their financial ability. One example of this flexibility is the introduction of CPF Life in 2009. The scheme automatically enrolls members to optimize the gains of risk-pooling and to realize economies of scale. The government's supervisory body, the CPF Board, and the administrator of CPF Life ensure that premiums are kept low. In addition, no limitation is set for CPF Life premiums, and members with lower savings in their retirement account have the option to participate because the government tops up the difference to make such individuals eligible. These provisions make the CPF fair, flexible, and affordable.

**Equitability:** The government of Singapore has policies enshrined in the CPF aimed at decreasing income inequality and ensuring that the population is not deprived of its share of the benefits of economic growth (Phang, 2001). The CPF aided by the government assumes the responsibility to supplement the retirement account to the tune of S\$60,000 (since 2016) to enable low-wage earners to qualify for the CPF Life annuity. In 2016, another complementary non-contributory scheme called the Silver Support Scheme (SSS) was introduced. This SSS provides income supplement only for retired Singaporeans above 65 years whose incomes fall between the bottom 20 to 30 percent. The CPF Board automatically reviews the eligibility for SSS every year.

The CPF has other redistributive features that contribute to the benefit of low-income earners. For example, since 2016, an extra 1 percentage point interest is paid on the first S\$30,000 of CPF balances for members aged 55 and above. There is also a provision for an additional 1 percentage point interest on the first S\$ 60, 000 of CPF members' account balances. These provisions help to improve the retirement earnings of those with lower account balances in their retirement account (Chan, Khai & Lim, 2016).

**Predictability:** As a DC pension scheme, the CPF benefits are shared per the total sum contributed by members and interest earnings from investments. Except for cases where contributors are unable to meet the Basic Retirement Sum (BRS) due to low-income levels, the government tops up the difference to meet the BRS which would allow members to enrol in a CPF Life to earn a life annuity.

**Robustness:** The capacity of a pension scheme to withstand demographic, economic, and political turmoil shows its robustness. The CESifo DICE report (2015) noted that regardless of the funding principles of pension schemes, there is a risk that private pension schemes may not be able to honour their pension obligations due to economic



shocks, changes in demographic structures, and asset price fluctuations. Also, bad investment outcomes due to market turbulence can adversely impact the amount of savings accumulated in individuals' retirement accounts (Chan, Khai & Lim, 2016).

The Singaporean CPF has been resilient to the demographic shock caused by the longevity and investment risks of members. These issues are cautiously addressed in many ways. Firstly, the provision of the CPF Life ensures that a stable retirement income is received and allays the fears of investment risks. Secondly, the CPF contributions are secured because the funds are invested in Special Singapore Government Securities (SSGS), which are bonds issued with an AAA credit rating. Each account is entitled to a minimum of 4 percent but a maximum of 6 percent interest per annum. This rate is higher than rates earned on bank accounts (CPF Retirement Booklet, 2019). For example, in 2019, the interest rate on CPF accounts attracted up to 6 percent per annum as against a bank fixed deposit rate of 0.92 percent per annum for the same year (Arndt, 2020). Because of this attractive rate, CPF account members prefer to leave their funds in the account if no urgent needs arise.

Furthermore, the structure of the housing loan market has paved the way for the CPF contribution rate to be applied as an instrument for macroeconomic stabilization (Phang, 2001). For example, in 1986 and 1999, the CPF was used as an economic recovery tool to address the country's economic crisis during those periods. The government reduced employers' contribution rates to assist people in retaining their jobs even though this meant a shortfall in CPF savings (Asher, 2013).

**Labour market impact:** Incentives are given to the elderly to continue working to enhance their retirement income. For example, special employment credits of up to 8 percentage points of wages are given to employers who engaged older persons above 55 years old. The introduction of a 1 percentage point additional interest on the first S\$ 60, 000 of CPF members' accounts by the government in 2008 is an incentive for individuals to work longer to build up their retirement balances.

**Savings mobilization:** According to Koh (2014), the compulsory savings by Singaporean workers through the CPF have boosted savings at the national level. This is achieved by channelling members' contributions into various accounts to take care of their various needs such as home acquisition, child education, investment, retirement, and healthcare needs.

**Financial market development:** CPF members have two options when it comes to investing their pension contributions. Fong (2020) observed that only 16 percent of CPF account holders invest part of their contributions outside the CPF board. The CPF board's investment is the largest single pool of investible funds in Singapore next to foreign reserves. The various investment portfolios by the government are managed by the Government Investment Corporation (Nesadurai, 2006).

#### 4.4 The Pension System of Ghana

The elderly population in Ghana has increased about seven-and-half times from 213,477 in 1960 to 1,643, 381 in 2010. It has been rising at an increasing annual rate that reached a maximum of 4.78% in 2020 (World Data Atlas, 2020). The country's life expectancy increased from 50.03 in 1975 to 64.9 years in 2020 (United Nations Population Prospects, 2020). According to Mba (2010), Ghana has one of the highest proportions of persons aged 60 years and over in sub-Saharan Africa. The rise in the elderly population coupled with the gradual rise in life expectancy has important implications for old age income security and the pensions of retirees.

Like the other countries under consideration in this study, the Ghanaian pension system is also assessed with the aid of the World Bank multi-pillar pension evaluation criteria. Evidence that emerged from these assessments are compared with these countries.

*The need for pension reforms in Ghana*

Public outcry about the inadequacies of pensions to maintain moderate living conditions, and the difference between pension schemes raised concerns in Ghana. Also, the Social Security Pension Schemes did not cover the informal sector, which employs over 80 percent of workers (Ghana National Pensions Act, 2008 -Act 766). These concerns led to the current three-tier pension reforms in 2008, which are discussed in the next section.

*Ghana’s current three-tier pension scheme*

Ghana’s current pension system consists of three pillars: two mandatory and one voluntary pillar. The Ghana National Pensions Act, 2008 (Act 766) specified that the full retirement age is maintained at 60 years and 55 years for those who work under hazardous conditions such as underground mining, quarry or steelworks, or any other employment that the worker stands the risk to contract industrial diseases (sections 75 & 76 of Act 766). The new system is a hybrid of Defined Benefit and Defined Contribution plans designed to generate better retirement benefits. Table 5 presents a summary of the three-tier pension system.

**Table 5: Summary of Ghana’s three-tier pension system**

<b>Tier</b>	<b>Objective</b>	<b>Form</b>	<b>Target groups/Benefits</b>	<b>Funding</b>
Mandatory Tier-one	Elderly poverty protection and consumption smoothing.	Publicly managed mandatory contributory DB plan (financed on a PAYG basis).	Formal sector workers. (Annuity payment)	11 percent of the employee’s monthly basic salary.
Mandatory Tier-Two	Consumption smoothing through lump-sum payment.	Privately managed mandatory occupational DC plan.	Formal sector workers. (Lump-sum payment). No withdrawal until retirement	5 percent of the employee’s monthly basic salary
Voluntary/Optional Tier-Three	Consumption smoothing/ asset enhancement	Voluntary savings to occupational or private pension DC plans	Informal and Formal sector (Lump-sum payment). Partial withdrawal is allowed.	i. Informal workers: No limits set. ii. Formal sector workers: Discretionary rate of basic salary

Source: Compiled by the author, 2022

It must be noted that for the Tier-One (DB) scheme, Social Security and National Insurance Trust (SSNIT) assumes the mandatory responsibility of providing pensions to workers during their retirement. However, with the Tier-Two (DC) scheme, employers make regular contributions to workers’ retirement accounts but are not mandated to provide an annuity to retired employees since the function of this tier is only to top-up pension received from Tier-One. With the Tier-Three scheme, the responsibility for ensuring adequacy lie solely with the recipient of the lump-sum amount. Contributions to the Tier-Three scheme can either be made by individual members or both individuals and employers. This pillar aims to enhance individuals’ asset levels toward



retirement. Since the implementation of the new pension reforms, some observations and challenges have been identified, which are discussed in the following sections.

**Fund Management:** As part of the transitional arrangement for the new reform, a Temporary Pension Fund Account (TPFA) was set up and managed by the Bank of Ghana to receive contributions from the Tier-Two mandatory contributory scheme. This became necessary because the private trustees, pension fund managers, and custodians who were supposed to handle the fund were not yet constituted. As of 2023, the Bank of Ghana is unable to remit the full amount of the Tier-Two funds that were deposited in the TPFA at the start of the reform process to the private fund managers due to government interference. This unnecessary delay had dire consequences on retirement income and the growth of investment portfolios.

**Supervision:** The continuous existence of other parallel pension schemes in Ghana for some selected public sector workers is a matter of concern, which also contravenes the Act that established the new pension reforms. According to the Ghana Pension Act 2008 (Act 766), within five years of the implementation of the reforms, parallel pension schemes including those of public universities, public research institutions, armed forces, police service, fire service, judges, and judicial service workers will be unified and become part of the new scheme. However, after more than a decade of pension reforms, the unification of parallel pension schemes has not yet occurred due to a lack of political will and the fear of revolt from the security forces.

**Coverage:** The Global Age Watch index (2015) reports that only seven (7) percent of those over 65 years in Ghana have pensions and that this income is inadequate to maintain a moderate living standard. This situation may be attributed to present retirees never having the opportunity to participate in a pension programme, and the existence of a large informal sector, which is inadequately covered. Coverage of the informal sector remains a major challenge for the Ghanaian pension system. The National Pension Regulatory Authority of Ghana (2018) indicates that an estimated 1.6 million workers contribute to any form of pension in Ghana, and of this number, only 1 percent is from the informal sector. Considering the high percentage of workers in the informal sector, and their level of pension enrolment, this figure is far below expectations and inconsistent with efforts to secure an improved retirement income for workers in the informal sector. This finding aligns with Dorfman (2015), who asserted that insufficient coverage of pension schemes is a challenge in South Saharan Africa.

Another factor militating against pension coverage in the informal sector of Ghana is the perception of the safety of invested funds in private institutions and companies. In recent years, investors in Ghana have suffered many financial improprieties. It is still fresh in the minds of most Ghanaians how people have lost their investments through unregulated, fraudulent, or “Ponzi” investment schemes and insolvent financial institutions. It can be argued that the insecurity of funds, irregular income, and the future of service providers are major disincentives for individuals to participate in private voluntary pension programmes. It also calls for innovative measures to build confidence in the reliability of pension funds invested in private companies.

**Adequacy:** The practicality of the computation formula of the new pension reforms was tested in 2020 when the first batch of retirees started receiving their benefits. The meagre nature of the lump sum benefits from the mandatory Tier Two led to a public outcry and the rejection of the formula by the Trades Union Congress (TUC) and other labour unions. Pensioners were disgruntled about the benefits they received and called for immediate changes in the computation formula. The September 23, 2020, edition of the Daily Graphic in Ghana published that: “the Trades Union Congress has called on the government to take responsibility for the shortage in the payment of lump sums to pensioners who started retiring under the new Ghana pensions Act, 2008 (Act 766). It was the stance of the labour union that the government topped up the shortage on pensioners’ contribution computed under the new law”.

Another factor that explains the inadequacy of pensions in Ghana is the low patronage of the voluntary pillar due to inadequate education on the scheme. According to Darko (2016), one major challenge faced by the new pension reforms is inadequate information and knowledge by the public on the different components of the scheme. The Ghanaian public sector workers do not clearly understand the components and benefits of the three-tier pension



system due to its technical nature and the requirements of the scheme. This finding is consistent with the results of Dorfman (2015) on pension system adequacy in Sub-Saharan Africa. Dorfman (2015) posits that pensions in the sub-region are inadequate, especially for workers with no supplementary pension provision, who represent the majority of the labour force.

Furthermore, the inadequate pension problem in Ghana is made worse by a strategy adopted by employers to channel workers' remuneration into allowances to reduce their share of pension obligations. This practice lowers the actual amount of pension contribution, which inevitably leads to low pensions. One way to resolve this problem is to encourage employees to negotiate for better-structured salaries. In addition, employees must ensure that employers pay their contributions regularly. However, the reality is that workers cannot easily negotiate for higher salaries because there is an excess labour supply recording 13.14 percent in 2022 (Baffour-Awuah, 2022).

**Sustainability:** The SSNIT pension scheme undergoes periodic actuarial evaluation to determine the financial sustainability of the scheme. The last available actuarial report on Ghana in 2014 (SSNIT annual report, 2016) indicates that the SSNIT pension scheme is not financially sustainable for the period to 2064. Indeed, predictions of these reports have started manifesting as the rate of change of total pension incomes fell below total pension expenses, and the rates of the differences were -15.65 and -47.98 in 2015 and 2016 respectively (SSNIT annual report, 2016). Active SSNIT membership stood at 1,734,168 as against the total membership of 5,770,128 as of December 2021 (SSNIT, 2021). Also, the latest actuarial review of the SSNIT scheme as of 31 December 2017, concluded that "the SSNIT scheme is not financially sustainable over the period covered by the projections from the report" (SSNIT, 2021). From these facts, it appears that the Tier-One scheme managed by SSNIT is facing a financial challenge. During the same period, benefit payments and administrative costs increased but contribution inflows and investment returns declined. For example, benefits payments outweighed contributions by GH¢531,314,000 and GH¢230,354,000 in 2015 and 2016 respectively (Ibid). Immediate efforts instituted by SSNIT to address these challenges are legislation to prosecute recalcitrant employers who will evade contributions, and measures to maintain a clean pension register to prevent payments to "ghost" or non-existing retirees.

**Affordability:** Pensions in Ghana are not financed by the government through taxation. Since the 1970s Ghana's macroeconomic and fiscal position has been uncertain. Despite the various economic reform agenda pursued to achieve fiscal stability, it failed to yield the desired transformations. In 2001, Ghana applied and qualified for a Highly Indebted Poor Country Initiative Assistance (debt-relief assistance) from the IMF. Worsening economic indicators in recent years attest to the uncertain performance of the Ghanaian economy. External debt stock has been rising from \$US 7.34 billion in 2005 and has jumped to \$US 28.4 billion in 2022 (IndexMundi, 2022). The debt-GDP ratio rose from 16.58 in 2008 to 39.22 in 2016. It increased further to 84.6 in 2022 (Bloomberg, 2022). The continuous depreciation of the cedi led to a deteriorating currency value from US\$ 1.00: GH¢1.00 in 2008 to \$US 1.00: GH¢12.2 in 2022 and continues to worsen (Ibid). The situation is not better from a current account perspective. The current account deficit was -\$US0.128 billion in 2021 but worsened to -\$US1.094 billion in 2022 (Historical data, 2022). The annual average inflation rates fluctuate and are relatively high. The rates were 17.45, 12.37, and 51.7 in 2016, 2017, and 2022 respectively. Against the present macroeconomic background of Ghana, it could be argued that Ghana does not have the adequate fiscal capacity to implement and sustain a poverty-prevention pension pillar.

**Equitability:** The absence of a universal pension scheme coupled with low coverage does not promote equity. This indicates that old-age poverty is still predominant in Ghana. Therefore, the government will have to reconsider social pensions without disregarding its fiscal position.

**Predictability:** A predictable pension scheme specifies how benefits are determined. Benefit calculation under the first pillar of Ghana's pension reform is well spelled out and predictable. An employee's benefit computation is determined by provisions in the Ghana Pension Amendment Act 2014, Act 883. This Act stipulates that those who contribute for the minimum period of 15 years (180 months) are entitled to 37.5 percent pension rights



(average of the three best years' salary) after that, every additional twelve (12) months contribution provides the member an annual accrual rate of 1.125 percentage points up to a maximum of 60 percent.

**Robustness:** According to Kpessa (2011), except for Tier One, which is state-managed, the private Tiers have no robust mechanisms to protect pension contributions against market volatility. The lump-sum benefits of contributors are not protected against risks and uncertainties that may come from market failures or defaults by service providers. By design, access to private schemes is not restricted, and workers can make their own choices. There are, therefore, inherent risks for contributors.

**Labour Market Impact:** The direct labour market impacts of the new pension schemes are positive. The introduction of the two additional Tiers created new jobs for citizens. Before the Three-Tier pension reforms, pension schemes were managed only by the state. But with the reforms, Tiers two and three are managed by private firms. According to the NPRA, from February 2015, the country had 25 corporate trustees, 62 pension fund managers, and 16 pension fund custodians. The total fund under the management of the private pensions at the end of 2018 was GH¢ 13.0 billion (USD 2.41 billion). These new schemes have helped to create new jobs and have simultaneously boosted the financial sector of the economy (Attah-Kruffi, 2020).

Nonetheless, the financial contributions required from employers discourage employment because it leads to higher costs of labour. To mitigate this cost, some employers have channelled workers' remuneration to allowances to reduce their basic salary which is used for the calculation of pension deductions. These actions deprive workers of the full amount of pension contributions and ultimately lead to lower pensions.

**Contributions to growth:** Despite the challenges experienced during the implementation of the new pension schemes, pension funds contributed about 4.06 percent to GDP in 2016 (NPRA, 2018). The asset value reached GH¢ 22.2 billion (USD 4.11 billion) in 2018 constituting 6.27 percent of GDP. Of the value, Tiers two and three contributed GH¢13.0 billion (USD 2.41 billion), representing 3.68 percent of GDP (NPRA, 2018). Given the drive to extend pension coverage, the proportion of pension assets to GDP is expected to rise further.

**Financial Market Development:** The investment portfolio of SSNIT's fund is divided between equities, fixed income, and alternative investments such as investment in properties (residential and non-residential) and loans, of which the latter constituted about 32.34 percent of assets in 2016. Investment Assets under Management (AUM) grew from GH¢3,972.69 million in 2012 to GH¢7,896.61 million in 2016, representing a compounded annual growth of 18.74 percent over the period (SSNIT Annual Report, 2016). However, the retention of contributions of Tier-Two funds, deposited in the Temporary Pension Fund Account in the Bank of Ghana, deprives the financial firms of the opportunity to invest such funds in a diversified manner.

## 5. Discussion of findings

Evidence gathered from this study indicates that challenges experienced by nations practicing multi-pillar pension systems include low participation rates, inadequate pensions, sustainability threats, inequalities due to the absence of redistributive pillars, and the prevalence of myopia. Myopia refers to labour supply and savings decisions by individuals that postpone savings because individuals regard retirement as far in the future and not important when they are young. Others are inadequate supervision, a lack of confidence in the financial sector, improper fund management, labour market distortions, discrimination in pension types and pensions received by public sector workers, the share of employers' contributions is not affordable, delays in the processing of benefits especially for new retirees, and limited information about the components of the pension system, particularly, the voluntary pillar. To address these challenges, the countries have adopted some mitigation measures which are outlined in Table 6. Lessons learned from this comparison are crucial for pension reforms. The comparative analysis used a criteria-based evaluation framework developed by the World Bank (2005) as a point of departure.



**Table 6: Comparison of the Pension Systems of Singapore, Chile, Mauritius, and Ghana**

Indicator	Measures adopted to improve indicator performance			
	Singapore	Chile	Mauritius	Ghana
<b>Participation rate</b>	<ol style="list-style-type: none"> <li>94.1 percent coverage.</li> <li>It is mandatory for every worker who earns at least S\$50 to enrol in the CPF.</li> <li>There exist effective electronic payment systems.</li> <li>Government tops up for those with low CPF Life accounts.</li> </ol>	<ol style="list-style-type: none"> <li>71 percent coverage.</li> <li>A solidarity pillar for the elderly poor is available.</li> <li>There exists a pension subsidy for young workers between 18-25 years.</li> </ol>	<ol style="list-style-type: none"> <li>100 percent coverage.</li> <li>Universal non-contributory cash transfer is available.</li> </ol>	<ol style="list-style-type: none"> <li>10.5 percent coverage.</li> <li>Occasional sensitization programmes.</li> </ol>
<b>Adequacy</b>	<ol style="list-style-type: none"> <li>There exists a social assistance or redistributive pillar</li> <li>Extension of retirement age from 62 to 75 years.</li> <li>Inter-generational transfer of income to poorer household members is allowed</li> <li>Special old-age employment credit is granted to employers.</li> <li>Jobs are designed to suit the aged.</li> <li>There exists an incentive for a deferred pension.</li> </ol>	<ol style="list-style-type: none"> <li>There exists a redistributive pillar.</li> <li>Extension of retirement age: 60-65 years for men and 55-60 for women.</li> <li>Workers can work beyond the stipulated retirement age.</li> <li>A proposal to adopt a tripartite model that involves contributions from employees, employers, and government.</li> </ol>	<ol style="list-style-type: none"> <li>A universal cash transfer exists.</li> <li>Extension of retirement age from 60-65 years for both men and women.</li> </ol>	<ol style="list-style-type: none"> <li>Absence of a redistributive pillar</li> <li>Introduction of privately managed Tiers.</li> </ol>
<b>Sustainability</b>	<ol style="list-style-type: none"> <li>Introduction of ‘CPF Life’ scheme</li> </ol>	<ol style="list-style-type: none"> <li>Lowering of replacement rate. But this policy compromises adequacy.</li> </ol>	<ol style="list-style-type: none"> <li>Increased retirement age from 60 to 65 years.</li> </ol>	<ol style="list-style-type: none"> <li>Legislation to prosecute recalcitrant employers who evade contributions.</li> </ol>



	<ul style="list-style-type: none"> <li>2. Increased the scope of pension coverage to a record of 94.1 percent</li> <li>3. Increased retirement age from 62 to 75 years.</li> <li>4. Grants are available for employers to redesign jobs for the elderly.</li> <li>5. There are incentives for a deferred pension.</li> <li>6. CPF Life is invested in a special long-term security guaranteed by the government.</li> </ul>	<ul style="list-style-type: none"> <li>2. There is no restriction on working beyond the stipulated retirement age.</li> </ul>	<ul style="list-style-type: none"> <li>2. Downward adjustment of computation formula.</li> </ul>	<ul style="list-style-type: none"> <li>2. Measures to maintain a clean pension register.</li> </ul>
<b>Equitability</b>	<ul style="list-style-type: none"> <li>1. Availability of a redistributive pillar.</li> <li>2. The CPF allows for intergenerational cash transfer to poorer household members.</li> <li>3. Silver Support Income Supplement Scheme is available for the poor elderly 65 years or older.</li> </ul>	<ul style="list-style-type: none"> <li>1. Availability of a redistributive pillar.</li> </ul>	<ul style="list-style-type: none"> <li>1. Universal basic cash transfer through means testing exists.</li> </ul>	<ul style="list-style-type: none"> <li>1. Absence of a redistributive pillar.</li> </ul>
<b>Affordability</b>	<ul style="list-style-type: none"> <li>1. Premium for CPF Life are kept low</li> <li>2. No limit is set for the CPF Life premium.</li> </ul>	<ul style="list-style-type: none"> <li>1. Proposal to increase the number of AFPs to reduce the high administrative costs.</li> </ul>	<ul style="list-style-type: none"> <li>1. Adjustment of the computation formula to make the redistributive pillar fiscally affordable.</li> </ul>	<ul style="list-style-type: none"> <li>1. The pension system is not budget finance.</li> <li>2. Contribution to the voluntary scheme is at the discretion of members.</li> </ul>
<b>Predictability</b>	<ul style="list-style-type: none"> <li>1. CPF benefits are shared per the total sum contributed plus interest earnings.</li> </ul>	<ul style="list-style-type: none"> <li>1. A benefit formula exists for those who opt for a monthly annuity.</li> </ul>	<ul style="list-style-type: none"> <li>1. A clearly defined payment procedures exist.</li> </ul>	<ul style="list-style-type: none"> <li>1. Pension right is spelled out for Tier-One account holders.</li> </ul>

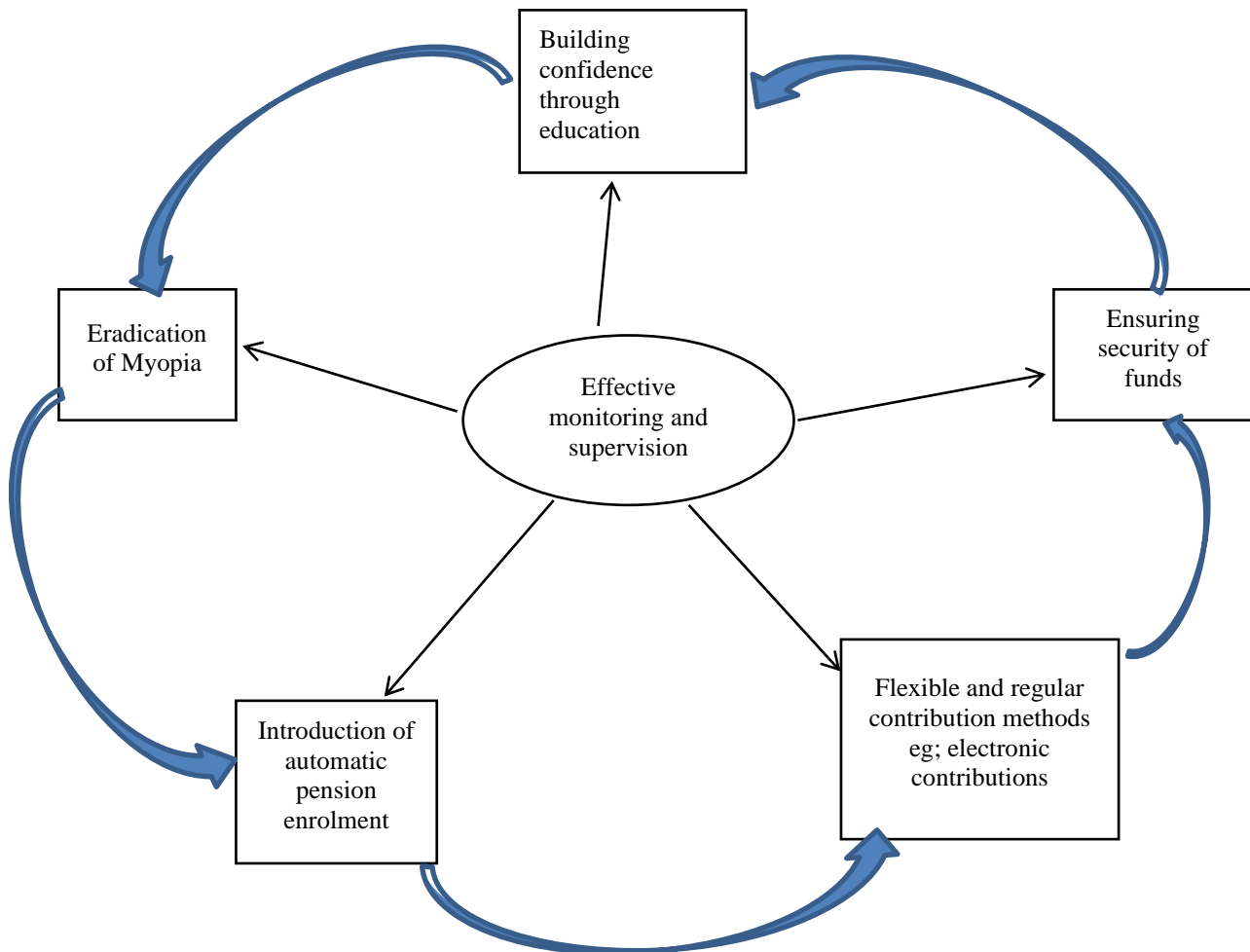




<p><b>Robustness</b></p>	<ol style="list-style-type: none"> <li>1. Introduction of a CPF Life scheme in 2009.</li> <li>2. To mitigate the aging population, citizens can work up to the age of 75 years.</li> <li>3. Special Singapore Government Securities (SSGS) bonds are issued with an AAA credit rating.</li> <li>4. The SSGS investment earns a risk-free interest rate of up to 6 percent per annum.</li> </ol>	<ol style="list-style-type: none"> <li>1. There exist multi-fund investment options.</li> <li>2. In dealing with the aging demographic structure, retirees continue working as long as they want.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increased the retirement age from 60 to 65 years.</li> </ol>	<ol style="list-style-type: none"> <li>1. Retirement age is 60 years.</li> </ol>
<p><b>Minimization of labour market distortions</b></p>	<ol style="list-style-type: none"> <li>1. Incentives are available for the elderly to continue working</li> <li>2. The first S\$60,000 for every CPF account holder attracts a 1% additional interest rate.</li> <li>3. Silver Support Scheme for those who are 65 years and above.</li> <li>4. There exists a discriminatory “Saver Scheme” for Military personnel.</li> </ol>	<ol style="list-style-type: none"> <li>1. Retirees to continue working as long as they wish.</li> <li>2. Pension subsidy is granted for workers between 18 to 25 years.</li> <li>3. There exists a discriminatory, non-contributory tax-financed pension for military personnel.</li> </ol>	<ol style="list-style-type: none"> <li>1. Workers show preferences for public sector jobs due to discriminatory pension types.</li> <li>2. Retirees can work up to 65 years.</li> </ol>	<ol style="list-style-type: none"> <li>1. Equal access to jobs by both men and women.</li> <li>2. Retirement age is 60 years for both men and women.</li> <li>3. There exists a discriminatory tax-financed scheme (CAP 30) for the security forces and some selected public sector workers.</li> </ol>

Source: Compiled by the author (2023)

In addition to the lessons learned from the solutions adopted by these countries, this paper finds that effective supervision is crucial to the realization of the goals of retirement income security. It therefore proposes a framework (See Figure 2) deemed essential for a productive pension system, particularly for developing countries where informal workers are predominant. At the centre of the building blocks is the need for effective monitoring and supervision for a successful multi-pillar pension system outcome.



**Figure 2: A framework to improve participation in a funded pension scheme**

Source: Author (2023)

## 6. Conclusion and Recommendation

Given the critical roles pensions play in maintaining the living standards of the elderly, periodic evaluation of pension systems is necessary to address economic and demographic changes and to ascertain the resilience of the system based on predetermined factors or criteria. This research analyzed the extent to which the pension systems of Singapore, Chile, Mauritius, and Ghana comply with the World Bank’s multi-pillar pension evaluation framework. This approach is supported and regarded as essential for a comprehensive assessment of pension systems. Evidence gathered for this research revealed that the pension systems of Ghana, Chile, and Mauritius



have failed to adequately meet the requirements of the critical factors proposed by the World Bank for pension systems evaluation.

Major contributions of this paper are the lessons learned from the practices of other countries, and the proposition of the model that emphasizes the need for effective monitoring and supervision for successful pension outcomes. It is hoped that lessons learned from this research may serve as an impetus for pension system reforms in these countries and other developing nations.

The study recommends that governments ensure effective supervision, security of funds, and awareness creation in all aspects of the pension system. Also, it is recommended that other proposals indicated in the framework in Figure 2 of this study be adopted to enhance the security of funded schemes. Further research should investigate the extent of affordability and strategies adopted by other developing nations that are implementing universal pension schemes with complete coverage of the elderly.

### Conflict of Interest Statement

The author declares no conflict of interest in the conduct of the study.

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### Biographical notes



#### **Elias Megbetor (PhD)**

Dr. Elias Megbetor is a lecturer at the School of Research and Graduate Studies, Department of Economics, and the School of Business of the Wisconsin International University College, Ghana. He started his professional career at Jasikan Teacher's Training College where he came out as a certified Teacher's Certificate 'A' holder. He holds a Diploma in Statistics from the Institute of Statistical Social and Economic Research (ISSER), a bachelor's degree in economics with Geography and Resource Development and a Master of Philosophy Degree (MPhil) in Economics, all from the University of Ghana, Legon. He currently holds a Doctor of Philosophy Degree (Ph.D.) in Economics (Public Sector) from the University of South Africa. His fields of specialization include Public Sector Economics, Labour Economics, Macroeconomics, Money and Banking, International Economics, and Environmental and Resource Economics.



# Marriage and Divorce: Perspectives from the Bench

**Mavis Ekuah Enyamah Kwainoe\***

University of Professional Studies, Accra

mavis.kwainoe@upsamail.edu.gh

\*Corresponding author

## **Abstract:**

The marriage contract has been described, as a sanctimonious contract. However, the seeming sanctity that characterizes this contract is whittled away by the high incidence of divorce. In Ghana, the rate of divorce amongst marital couples is rife. Whiles social pundits and theologians, advance approaches to curtailing this societal issue, there is paucity of legal learning of a comparative character on marriage and divorces in Ghana. This paper attempts to fill the void. The paper considers the jurisprudence of the Ghanaian bench on divorces in Ghana. The paper delves into a critical introspection of the marital contract in Ghana, the various incidents of marriage and divorces. The paper argues that the judiciary, and the legislature, can through the instrumentality of law help curtail the prevalence of divorces in Ghana. The paper will bring to the fore the challenges associated with the current complexity of the law governing marriage in Ghana and highlight the need for a consolidation of the many facets of the law and the reform and codification, particularly of the law regulating the distribution of marital assets during the dissolution marriages. This work is important due to the constitutional requirement imposed on the Parliament of the Republic of Ghana to reform the law regulating the distribution of marital property through appropriate legislation. This work is the first of its kind by virtue of its keen focus on the perspective of the judiciary who plays the vital role of interpreting and applying the law relating to marriage and divorce in Ghana.

## **Keywords:**

Monogamous marriage; Divorce; Judiciary; polygamous marriages; marital property

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## 1. Introduction

The legal framework governing marriage and divorce in Ghana has evolved significantly over the years, influenced by a blend of customary practices, statutory regulations, and international conventions. Understanding judicial perspectives on these matters is crucial for legal practice and policy-making. This research aims to explore the views of judges on marriage and divorce in Ghana, identify key legal challenges in adjudicating such cases, and assess the impact of judicial decisions on family law. Historically, Ghanaian marriage and divorce laws have been shaped by a confluence of customary laws and English common law, leading to a unique legal landscape. The Matrimonial Causes Act, 1971 (Act 367)<sup>1</sup> provides the statutory framework for divorce, while customary practices continue to influence many aspects of marital relations. Judges play a pivotal role in interpreting and applying these laws, balancing traditional values with modern legal principles.

This research seeks to answer several critical questions: What are the prevailing judicial perspectives on marriage and divorce in Ghana? How do judges interpret and apply family law in these cases? What are the common legal issues and challenges faced by the judiciary in adjudicating marriage and divorce cases? And how do judicial decisions influence family law and policy in Ghana? Previous studies have highlighted the complexity of family law in Ghana, emphasizing the need for a nuanced understanding of judicial attitudes and decision-making processes. For instance, Quashigah (year) notes that the judiciary's role in interpreting family law is often complicated by the coexistence of customary and statutory laws. Similarly, Dankwa argues that judicial decisions in family law cases reflect broader societal values and norms, impacting the development of legal principles<sup>3</sup>. This research will build on these insights by conducting semi-structured interviews with judges and analysing court judgments to provide a comprehensive view of judicial perspectives.

By examining the attitudes of judges towards marriage and divorce, this study aims to uncover the underlying principles guiding their decisions and the challenges they face in balancing competing legal and cultural norms. The findings will provide valuable insights for law reform, helping to harmonize customary and statutory laws and improve the administration of family justice in Ghana.

## 2. Literature review

The literature review examines the historical context, legal framework, judicial perspectives, and societal implications of marriage and divorce in Ghana, drawing on a range of sources and authorities to provide a comprehensive understanding of the topic.

Historically, the legal framework governing marriage and divorce in Ghana has been deeply influenced by a combination of customary law and statutory regulations. Customary law, reflecting the traditions and practices of various ethnic groups, has long governed personal relationships, including marriage and divorce. However, the introduction of English common law during the colonial period led to the coexistence of two legal systems, which has created a complex legal landscape (Nukunya, 2003). The Matrimonial Causes Act, 1971 (Act 367), represents a significant development in Ghana's statutory regulation of divorce, providing a framework for addressing marital disputes within the formal legal system (Kuenyehia, 2004).

The legal framework for marriage and divorce in Ghana is multifaceted, encompassing various statutes, case law, and international conventions. The 1992 Constitution of Ghana guarantees equality before the law and non-discrimination on the basis of gender, which has implications for family law and the adjudication of marriage and divorce cases (Constitution of Ghana, 1992). The Matrimonial Causes Act, 1971, outlines the grounds for divorce, including adultery, unreasonable behaviour, desertion, and separation, and sets out the procedures for filing and adjudicating divorce cases. Additionally, international conventions such as the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) influence Ghanaian law, promoting gender equality and protecting women's rights in marital relations (CEDAW, 1979).



Judicial perspectives on marriage and divorce in Ghana have been the subject of several studies, which highlight the complexities and challenges faced by judges in adjudicating these cases. Quashigah (1998) argues that judges in Ghana often grapple with the tension between customary law and statutory law, particularly in cases involving traditional marriage practices and modern legal principles. Similarly, Dankwa (1990) notes that judicial decisions in family law cases reflect broader societal values and norms, which can sometimes conflict with statutory provisions. More recent studies, such as those by Mensah (2015) and Oppong (2018), emphasize the evolving nature of judicial attitudes towards marriage and divorce, influenced by changing social dynamics and increased awareness of gender equality.

Comparative analyses with other jurisdictions provide a broader context for understanding the judicial perspectives on marriage and divorce in Ghana. For example, in South Africa, the Recognition of Customary Marriages Act, 1998, has sought to harmonize customary and statutory law, ensuring that customary marriages are afforded the same legal recognition and protection as civil marriages (Bennett, 2004). Similarly, in Nigeria, the Matrimonial Causes Act, 1970, provides a statutory framework for divorce that incorporates elements of customary law, reflecting the country's plural legal system (Ezejiolor, 2007). These comparative studies highlight the common challenges faced by countries with plural legal systems and underscore the importance of judicial interpretation in balancing customary practices with statutory requirements.

The societal implications of judicial decisions on marriage and divorce are significant, impacting families and communities across Ghana. Judicial attitudes towards marriage and divorce can influence public perceptions of family law and shape the legal landscape. Studies by Adinkrah (2012) and Anku-Tsede (2013) suggest that judicial decisions play a critical role in promoting gender equality and protecting the rights of women and children in marital disputes. Furthermore, the integration of customary law into the formal legal system can help to ensure that traditional practices are respected and upheld, while also aligning with modern legal principles.

## 2.1 Ghanaian Law on Marriage: A Brief Overview

Lord Penzance, in the landmark case of *Hyde v Hyde*, defined marriage within a Christian context as “the voluntary union for life of one man and one woman to the exclusion of all others.” This definition is rooted in the notion of Christian or monogamous marriage and implies a lifelong union between two individuals, excluding any third parties. It reflects the English conception of marriage during that era and does not account for the diverse forms of marriage recognized in other cultures and legal systems.

In contrast, the pluralistic nature of Ghana's legal system accommodates various forms of marriage beyond the Christian or monogamous framework. Ghanaian law recognizes both monogamous and polygamous marriages, reflecting the country's cultural and religious diversity. This is evident from the observation of Chief Justice Apaloo in the case of *Apomasu v Bremauo*, where he stated that “a number of decided cases show that there are, broadly speaking, two types of marriage recognized by law in this country. They are the pure customary union and the monogamous one.”

In Ghana, monogamous marriages are legally recognized under the Marriage Ordinance (CAP 127), which stipulates that these marriages are potentially monogamous. This means that individuals entering into an ordinance marriage commit to a union with one spouse at a time, reflecting the principles of exclusivity and lifelong partnership.

On the other hand, polygamous marriages are recognized under customary law and the Mohammedan Ordinance. Customary marriages, deeply rooted in the traditions of various ethnic groups, allow for the possibility of marrying multiple spouses. Similarly, marriages under the Mohammedan Ordinance accommodate the Islamic practice of polygamy, where a man may have more than one wife, provided he adheres to specific religious and legal stipulations.



The dual recognition of monogamous and polygamous marriages within Ghanaian law illustrates the country's commitment to respecting cultural and religious diversity while maintaining a structured legal framework for marital relations. This approach ensures that all forms of marriage, whether monogamous or polygamous, are afforded legal recognition and protection, reflecting the pluralistic character of Ghanaian society.

Below is a brief overview of each type of marriage recognized under Ghanaian law:

Monogamous Marriage (Ordinance Marriage):

- Governed by the Marriage Ordinance (CAP 127).
- Involves a union between one man and one woman.
- Legally binding with principles of exclusivity and lifelong commitment.

Customary Marriage:

- Governed by customary laws of various ethnic groups.
- Allows for polygamous unions.
- Reflects traditional practices and cultural norms.

Marriage under the Mohammedan Ordinance:

- Governed by Islamic law.
- Permits polygamous unions.
- Requires adherence to specific religious and legal conditions.

## 2.2 Customary Law Marriage

In the case of *Yaotey v Quaye*, Justice Ollennu provided a comprehensive definition and description of "customary law marriage" in Ghana, describing it as "a union of the man's family and the woman's family. It imposes rights and duties upon the two families. The woman's family gains the right to perform certain rites in certain eventualities and the man's family also gains the right to perform certain rites in certain eventualities." This definition underscores the familial nature of customary law marriages, highlighting a key difference from the individualistic conception of marriage prevalent in jurisdictions like Europe. Justice Ollennu emphasized that customary law marriage is not merely a union between a man and a woman but a union of their respective families.

In Ghana, customary law marriage inherently involves the families of both the man and the woman, making it a broader social contract rather than a private arrangement between two individuals. Such marriages are potentially polygamous, allowing a man to marry multiple wives as long as he can manage and maintain harmonious relationships with them, as noted in *Graham v Graham*. This potential for polygamy distinguishes customary law marriages from monogamous marriages under the Ordinance (CAP 127).

The celebration of a customary law marriage must adhere to the specific customs, practices, and usages of the community involved. Certain customary laws may prohibit marriages on grounds such as consanguinity, ensuring that the union respects familial boundaries and cultural norms. Despite the polygamous potential of customary law marriages, they can be converted into Ordinance Marriages. The *Graham* case established that upon solemnization under the Ordinance, the customary marriage ceases to exist, prohibiting the man from entering into any further customary marriages. This is because Ordinance marriages are monogamous, and any subsequent customary marriage would be void due to the differing legal implications of the two marriage forms.



Justice Ollenu outlined the essentials of a customary law marriage in *Yaotey v Quaye* and reiterated in cases like in *re Caveat by Clara Sackitey and Akorininga v Akawagre*. These essentials are:

1. Agreement by the Parties: Both parties must agree to live together as husband and wife.
2. Consent of the Man's Family: The man's family must consent to the union, either formally by approaching the woman's family to ask for her hand or informally by recognizing the woman as the man's wife and admitting her and her family to participate in family rites.
3. Consent of the Woman's Family: The woman's family must consent to the marriage, which can be formal through the acceptance of drinks (bride-price) offered by the man's family or informal by acknowledging the man as the woman's husband and admitting him to perform family rites.
4. Consummation by Co-habitation: The marriage must be consummated by the couple living together.

These essentials, however, have been subject to criticism, particularly regarding the acceptance of drinks as bride-price, which is not a universal practice across all communities in Ghana. The absence of a clear definition of "family" (whether nuclear or extended) by Justice Ollenu also raises issues, particularly when a head of the family refuses consent to the marriage. Additionally, the question of whether procreation should define consummation remains debated, highlighting the dynamic and varied nature of customary practices in Ghana.

The recognition of these complexities and the potential for legal reforms to address them is crucial. Harmonizing customary practices with statutory requirements and providing clear guidelines can help resolve ambiguities and ensure that customary law marriages are adequately recognized and protected within Ghana's legal framework.

### 2.3 Mohammedan Marriage

Part Two of the Marriages Act 1884-1985 incorporates the Marriage of Mohammedans Ordinance (CAP 129), which specifically governs Mohammedan marriages in Ghana. Asaf Fyzee, in his "Outline of Mohammedan Law," defines a Mohammedan marriage as a contract designed to legitimize intercourse and ensure the procreation of children. Fyzee emphasizes that it serves to uphold societal order and protect individuals from immoral and unchaste behavior (Fyzee, 1974).

Mulla's principles of Mohammedan Law outline the essentials of a Mohammedan marriage, highlighting its contractual nature. The requirements are as follows: (a) a proposal made by or on behalf of one of the parties to the marriage and an acceptance of the proposal by or on behalf of the other; (b) the acceptance must occur in the presence and hearing of two male or one male and two female witnesses who are sane and adult Mohammedans; (c) both the proposal and acceptance must be expressed at the same meeting; and (d) there is no valid marriage if the proposal and acceptance are expressed at different times (Mulla, 2013).

Similar to customary marriages, Mohammedan marriages are potentially polygamous, allowing a man to marry multiple wives under the stipulations of Islamic law. However, the legal validity of a Mohammedan marriage in Ghana hinges on its registration. According to the Marriages Act, a Mohammedan marriage must be registered within one week of its celebration to be considered legally valid.

The importance of registration is underscored in the case of *In re Registration of Marriage between Byrouthy and Akyere: Ex Parte Ali*, where Justice Koranteng-Addo stated that "the essence is not the fact of the ceremony but the registration that gives the marriage validity." In this case, the marriage between Abena Akyere and Mohammed Sadallah Byrouthy was declared invalid under Islamic law because it was not registered within the stipulated period. Justice Koranteng-Addo emphasized that granting an application to issue a certificate would amount to validating an invalid marriage, which is impermissible.



Similarly, in the case of *Jabeille and Another v Ashka and Another*, a validly solemnized Muslim marriage was declared null and void due to the failure to register it within the seven-day requirement. These rulings highlight the critical importance of adhering to the registration requirement for Mohammedan marriages to ensure their legal validity in Ghana.

The requirement for registration serves multiple purposes: it provides a formal record of the marriage, ensures compliance with legal standards, and protects the rights of the parties involved. However, the strict registration requirement also poses challenges. In some cases, couples may be unaware of the need to register their marriage or may face logistical difficulties in doing so within the specified timeframe. This has led to calls for more flexible registration procedures and increased public awareness to ensure that more marriages are recognized legally.

#### 2.4 Cap 127, Marriages Act [1884-1985] – Part Three, Christian and Other Marriages

Marriage under the Ordinance is inherently monogamous. For a marriage to be legally recognized under the Ordinance, all essential requirements must be strictly adhered to; otherwise, the marriage risks being declared invalid or a nullity. The case of *Appiah (Deceased); Yeboah v Appiah* demonstrates that merely intending to convert a customary law marriage into a monogamous one under the Ordinance is insufficient without fulfilling the prescribed legal requirements.

##### 2.4.1 Substantive Requirements

The substantive requirements for contracting a marriage under the Ordinance are as follows:

###### a. Prohibition on Grounds of Consanguinity or Affinity

A marriage is prohibited if the parties are related by blood (consanguinity) or through marriage (affinity). Section 74(1) of the Matrimonial Causes Act (MCA) stipulates that “A marriage may be lawfully celebrated under this Part between a man and the sister or niece of the deceased wife, but a marriage is not valid, which if celebrated in England, would be void on the ground of affinity, or where either of the parties at the time of the celebration of the marriage, is married under the applicable customary law to a person other than the person with whom the marriage is celebrated.” This provision ensures that marriages which would be considered void due to consanguinity or affinity in England are also void in Ghana.

###### b. Capacity to Enter into the Contract

The parties must possess the legal capacity to marry. According to Section 59 of CAP 127, “where either party to an intended marriage who is not a widower or a widow, is under twenty-one years of age, the written consent of the father, or if the father is dead or is of unsound mind or is absent from the Republic, of the mother or guardian of the minor. A Justice of the High Court or the Attorney-General may give consent in appropriate cases.” This section is complemented by Section 14(2) of the Children’s Act, 1998 (Act 560), which sets the minimum age for marriage at eighteen years, ensuring that minors cannot legally marry without the appropriate consent.

###### c. Understanding and Voluntary Consent

The parties must fully understand the nature of the marriage contract and enter into it freely without coercion. This requirement safeguards against forced marriages, ensuring that both parties willingly and knowingly consent to the union.

Failure to meet any of these substantive requirements results in the marriage being declared null and void. The stringent adherence to these requirements underscores the importance of ensuring that marriages under the Ordinance are legally sound and reflective of genuine consent and capacity. This legal framework aims to protect the integrity of the marriage institution, ensuring that all parties enter into it with a clear understanding of their rights and obligations.



#### 2.4.2 Procedural Requirements

Under CAP 127, the celebration of a marriage must be authorized through one of the following:

- A registrar's certificate
- A marriage officer's certificate
- A special license from the Principal Registrar of Marriages

*Registrar's Certificate:* According to Section 42 of CAP 127, a marriage under the authority of a registrar's certificate must be preceded by a notice given to the Registrar of Marriages in the district where the parties intend to marry. This notice must be provided within three months from the date of issuance and include particulars of the parties, such as their names, addresses, and marital statuses. Upon receipt of the notice, the Registrar publishes it in the Marriage Notice Book. If no objections are raised within 21 days and before three months elapse, and upon payment of the requisite fees, the Registrar will issue a certificate, provided all substantive requirements have been met. If the marriage does not take place within the specified three months, the notice and all related proceedings become null and void, necessitating a fresh notice.

*Marriage Officer's Certificate:* The Minister for Interior may appoint a Minister of Religion as a marriage officer for a particular district via an executive instrument. When parties wish to marry under the certificate of a marriage officer (typically church ministers), each must deliver a written notice to the marriage officer at least four days before the first publication of the marriage banns. This notice must include details such as the names, statuses, occupations, ages of the parties, and confirmation of consent. Following the receipt of the notice, the marriage officer publishes the banns at the parties' place of residence and their place of worship. If no caveat is raised and all procedures are satisfactorily completed, the marriage officer issues a certificate of marriage. Similar to the registrar's certificate, if the marriage is not celebrated within three months of the banns' publication, the notice becomes null and void, invalidating all actions taken under it.

*Special License from the Principal Registrar of Marriages:* A special license can be issued by the Principal Registrar of Marriages, providing more flexibility regarding the time and place of marriage. This special license is typically granted in exceptional circumstances and must meet all substantive requirements to ensure the marriage's validity.

These procedural requirements ensure the proper conduct and validation of marriages under the Ordinance, maintaining legal standards and protecting the parties' rights. By adhering to these procedures, the legal system ensures that marriages are entered into with full consent, understanding, and compliance with statutory requirements

#### 2.4.3 Special License

The need for a special license typically arises when a couple wishes to dispense with the usual publication of notices or banns. The Principal Registrar of Marriages has the authority to waive these requirements if he is satisfied, based on evidence provided, that there are no lawful impediments to issuing a certificate of the Registrar. Upon this assurance, the Principal Registrar may grant a special license, which authorizes a specified individual to celebrate the marriage. This flexibility allows the marriage to be celebrated in places other than a licensed place of worship or the Registrar's office, provided such authorization is given by the Registrar.

It is important to note that when a marriage is celebrated in a licensed place of worship by a recognized minister of the church, it must occur between the hours of 8:00 AM and 6:00 PM and be witnessed by at least two



individuals in addition to the officiating minister. Unless conducted under a special license, the marriage must take place in a building duly licensed under Section 40 of CAP 127.

Section 75 of CAP 127 asserts that a marriage celebrated under these conditions is "good and valid in law to all intents and purposes." Consequently, when a marriage certificate is produced in court, it must be presumed that the marriage was duly celebrated between the parties named in the certificate, thereby providing legal recognition and validity to the union.

This provision ensures that marriages conducted under special circumstances retain their legality and validity, thereby protecting the rights and intentions of the marrying parties while accommodating their specific needs or circumstances. The ability to obtain a special license adds a layer of flexibility to the marriage process, ensuring that the legal framework can adapt to various situations without compromising the integrity or legality of the marriage.

### *2.5 Dissolution of Marriage (Divorce)*

Dissolution of marriage, or divorce, is the formal legal process that terminates the marriage contract, effectively ending the marital relationship and nullifying the rights, duties, and obligations of the parties as husband and wife. In Ghana, the dissolution of a monogamous marriage is governed by the Matrimonial Causes Act, 1971 (Act 367). A party to a marriage who is a citizen of Ghana, domiciled in Ghana, or has been ordinarily resident in Ghana for a continuous period of three years can file a petition for divorce. Section 31 of the Matrimonial Causes Act 1971 (Act 367) states that the court will have jurisdiction where the petitioner is domiciled in Ghana, is a citizen of Ghana, or has been ordinarily resident in Ghana for at least three years immediately preceding the presentation of the petition.

It is crucial to comply with the procedural requirements for invoking the court's jurisdiction in divorce proceedings to avoid dismissal. The law mandates that the court's jurisdiction must be invoked through a petition, not a writ of summons. The Court of Appeal, in *Republic v High Court, Sekondi; Ex Parte Perkoh II*, held that non-compliance with the procedural rules for invoking jurisdiction is fatal to the suit. The court emphasized that failure to follow the prescribed procedure for originating the process would not be treated as a mere irregularity but as a fundamental defect.

The only ground for divorce under CAP 127 is the irretrievable breakdown of the marriage. To satisfy the court that the marriage has irretrievably broken down, the petitioner must establish one of the factors specified under Section 2(1) of the Matrimonial Causes Act, which include:

- a. The respondent has committed adultery, and the petitioner finds it intolerable to live with the respondent.
- b. The respondent has behaved in such a way that the petitioner cannot reasonably be expected to live with the respondent.
- c. The respondent has deserted the petitioner for a continuous period of at least two years immediately preceding the presentation of the petition.
- d. The parties have lived apart for at least two years, and the respondent consents to the divorce.
- e. The parties have lived apart for at least five years.
- f. The parties are unable to reconcile their differences.

A petition for divorce can generally be presented only after two years of marriage. However, the law allows for an earlier petition if the petitioner can prove substantial hardship or depravity by the other spouse within the first two years of marriage. To commence a petition for divorce within this period, the petitioner must obtain the



court's leave by filing a motion on notice with a supporting affidavit. The affidavit must detail the substantial hardship suffered by the petitioner or the depravity of the respondent. Additionally, if there are children involved, the affidavit must include their names, ages, living arrangements, and any attempts at reconciliation.

Importantly, Section 10 of the Matrimonial Causes Act provides that a petition cannot be dismissed on the grounds of collusion between the parties or any conduct by the petitioner. The section ensures that the court's focus remains on the grounds for divorce rather than on technical defenses that could otherwise bar the petition.

### *2.5.1 Dissolution Under Customary Law Marriage*

Customary law marriages in Ghana, like statutory marriages, can also be dissolved, albeit through different processes and considerations. Customary law allows for the dissolution of marriage through various means, which reflect the customary norms and practices of the respective ethnic groups.

*Unilateral Dissolution:* One significant aspect of customary law marriage is the ability for a marriage to be dissolved unilaterally if one party unreasonably refuses the other party's request for dissolution. This principle was upheld in the case of *Ginburro and Another v Kaba* (1971) 2 GLR 416 HC, where the court recognized that a marriage could be ended if one party persistently and unreasonably turned down a request for dissolution from the other party. This mechanism provides an avenue for individuals to exit a marriage that they find untenable without the need for mutual consent.

*Statutory Exceptions for Polygamous Marriages:* Section 41 of the Matrimonial Causes Act, 1971 (Act 367) provides an important statutory exception for parties in polygamous marriages, allowing them to petition for divorce under the Act. This provision is particularly significant because it extends the legal framework of the Matrimonial Causes Act to include polygamous marriages, which are traditionally governed by customary law. It ensures that individuals in polygamous marriages have access to the same legal remedies and protections as those in monogamous marriages.

*Procedure for Dissolution:* To dissolve a customary law marriage under the Matrimonial Causes Act, a petitioner must attach an application to their petition seeking the court's leave to file for dissolution under the Act. This procedural step is crucial as it affords the petitioner the opportunity to apply for certain legal benefits that might not be available under customary law dissolutions. These benefits can include equitable distribution of marital property, spousal support, and child custody arrangements, which are typically provided under statutory law but may be lacking in customary practices.

This integration of customary law marriage dissolution into the statutory framework under the Matrimonial Causes Act aims to provide a more comprehensive legal recourse for individuals. It recognizes the evolving nature of marital relations and the need to ensure that all parties, regardless of the type of marriage, have access to fair and just legal remedies.

### *2.5.2 Dissolution Under Mohammedan Marriage*

The dissolution of Mohammedan (Muslim) marriages in Ghana is governed by principles of Islamic law, as well as statutory provisions when applicable. According to Mulla's Principles of Mohammedan Law, a Muslim marriage may be dissolved through several means, each reflecting the religious and cultural context of the marriage.

*Judicial Dissolution:* Muslim marriages that are registered under the Marriage of Mohammedans Ordinance (CAP 129) can be dissolved through judicial processes. The parties may apply to the court for the marriage to be dissolved, following similar procedural requirements as those outlined in the Matrimonial Causes Act, 1971 (Act





367). This provision ensures that registered Muslim marriages are afforded the same legal scrutiny and formal procedures as other types of marriages, providing a structured and legally recognized process for dissolution.

*Talaq (Pronouncement of Divorce by the Husband):* One of the distinctive features of Mohammedan marriage is the ability of the husband to unilaterally dissolve the marriage by pronouncing "talaq" or "I divorce thee." According to Mulla's Principles of Mohammedan Law, if the words are express and well understood as implying divorce, the marriage is effectively terminated. This form of dissolution, known as talaq, does not require judicial intervention and can be executed at the will of the husband. It is based on the belief that marriage in Islam is a contract that can be terminated by one party, in this case, the husband, under certain conditions.

*Court-Ordered Dissolution:* While talaq allows for unilateral divorce by the husband, there are also provisions for the wife to seek dissolution through the court, especially in cases where the marriage is registered. This typically involves filing a petition for dissolution based on specific grounds, such as cruelty, desertion, or failure to provide maintenance. The judicial process ensures that the rights of the wife are protected and that the dissolution is conducted fairly and justly.

*Conditions and Procedures:* For talaq to be valid, certain conditions must be met. The pronouncement must be clear and unequivocal, and the husband must be of sound mind and not acting under compulsion or intoxication. Additionally, Islamic law prescribes a waiting period (iddah) following the pronouncement of talaq, during which reconciliation efforts can be made, and the wife cannot remarry. This period also serves to confirm that the wife is not pregnant, which would have implications for paternity and inheritance rights.

### 3. Distribution of Matrimonial Properties Upon Divorce

One notable achievement of the courts in Ghana is the development of jurisprudence concerning the distribution of matrimonial properties upon divorce. In the landmark case of *Arthur v Arthur*, the Supreme Court defined "matrimonial property" as any property acquired during the subsistence of the marriage, irrespective of whether it was acquired by the husband, wife, or both. This broad definition underscores that any property obtained during the marriage is characterized as matrimonial property, deserving consideration in divorce proceedings.

The contentious issue, however, is the method of distributing such properties. Historically, courts required proof of substantial contribution, especially from the female spouse, to justify a claim to matrimonial property. This approach was exemplified in *Quartey v Martey*, where Justice Ollenu held that under customary law, the proceeds of joint efforts and any property acquired by the man with such proceeds were the individual property of the man. This customary law position, which prioritized the husband's ownership of property, conflicted with the spirit of equality enshrined in the 1992 Constitution.

Article 18 of the 1992 Constitution recognizes the property rights of all persons in Ghana, while Article 17(1) mandates equal treatment without discrimination. Specifically, Article 22(2) and (3) of the Constitution provides:

- (2) Parliament shall, as soon as practicable after the coming into force of this Constitution, enact legislation regulating the property rights of spouses.
- (3) With a view to achieving the full realization of the rights referred to in clause (2) of this article
  - (a) spouses shall have equal access to property jointly acquired during marriage;
  - (b) assets which are jointly acquired during marriage shall be distributed equitably between the spouses upon dissolution of the marriage.



Although Parliament has yet to enact comprehensive legislation to regulate spousal property rights as mandated, the Supreme Court of Ghana has proactively interpreted these constitutional provisions to ensure equitable distribution of matrimonial properties. In several recent decisions, the Supreme Court has established a presumption of equal (50-50) distribution of matrimonial property upon divorce. This presumption, however, is not absolute. It allows for adjustments based on the equities of each case, recognizing that one party may be entitled to a greater share if they can prove that fairness and justice require it.

This approach marks a significant shift from the previous position, ensuring that the contributions of both spouses, whether financial or non-financial, are acknowledged and rewarded. The courts' interpretation aligns with the constitutional principles of equality and non-discrimination, promoting fair and just outcomes in divorce proceedings.

#### **4. Reflections: Can There Be Implied/Constructive Marriages in Ghana?**

In his paper presented at the 2015 Bench and Bar Conference titled “Who is a Spouse for the Purposes of Inheritance to Property in Ghana?”, Justice Brobbey argued convincingly that only a marriage celebrated before witnesses, as stipulated under Section 31 of the Evidence Act, 1975 (NRC 323), can be considered valid. He posited that any other marriage recognized by the courts based on conduct or implied circumstances was decided *per incuriam* (through a lack of due regard to the law) and therefore does not constitute good law. Justice Brobbey maintained that marriages recognized by courts based on cohabitation or reputation conflict with statutory provisions and are thus null.

However, this perspective raises several legal and practical issues that warrant closer examination:

##### **4.1 Rebuttable Presumptions Under Section 31 of NRC 323**

Section 31 of the Evidence Act, which deals with rebuttable presumptions, does not conclusively determine the validity of a marriage in Ghana. The provision establishes that the fact of a marriage can be presumed if certain conditions are met, subject to rebuttal by contrary evidence. This means that while the presence of witnesses and formal ceremonies can support the presumption of a valid marriage, the absence of such elements does not automatically invalidate a marital union if there is substantial evidence to the contrary.

##### **4.2 Recognition of Superior Court Decisions**

The 1992 Constitution recognizes the decisions of the Superior Courts as part of the common law of Ghana. As such, unless these decisions are reversed or set aside, they remain binding and valid law. This includes judicial interpretations that recognize marriages based on cohabitation and reputation. Courts have, in various instances, validated marriages where the parties have lived together and conducted themselves as husband and wife in the eyes of society.

##### **4.3 Societal and Cultural Considerations**

In Ghana, particularly in rural communities, the concept of marriage often extends beyond formal ceremonies to include the lived reality of cohabitation and communal recognition. Many people view marriage as the act of living together and raising a family rather than merely the ceremonial aspects. Disregarding such unions on the



basis of a lack of formal celebration could undermine the social and cultural fabric that recognizes and supports these relationships.

The case of *Gorleku v Pobee and Another* illustrates this point. The respondent claimed to be the lawfully wedded wife of the deceased, having cohabited with him as man and wife for 19 years, publicly recognized by their community. The applicants denied that any customary rites had been performed to formalize the relationship. Despite this, the Court of Appeal found sufficient evidence to support the existence of a valid customary marriage. The court noted that the couple's cohabitation, participation in communal events as a married couple, and the deceased's public declarations were adequate to establish a valid customary marriage.

While formal statutory requirements for marriage are clear, the recognition of implied or constructive marriages reflects the practical realities and social norms within Ghanaian society. The courts have taken a pragmatic approach, acknowledging that lived experiences and societal recognition often substantiate marital unions. This approach ensures that the law remains relevant and just, accommodating the diverse ways in which marriages are perceived and practiced across different communities in Ghana. Thus, it is essential to consider both statutory provisions and societal contexts when evaluating the validity of marriages, ensuring that legal frameworks align with the lived realities of the people they serve.

## **5. The Present Law on Distribution of Marital Property: The Need for Reiteration**

The era of *Quartey v Martey* is definitively over, marking a significant shift in the jurisprudence surrounding the distribution of marital property upon divorce. However, the courts have maintained the principle that the evidence presented must sufficiently demonstrate why a divorced spouse should benefit more from a particular matrimonial property. This nuanced approach ensures fairness and justice in the division of assets, reflecting both the contributions of each spouse and their intentions regarding property ownership.

Under current Ghanaian law, any property acquired during the subsistence of a marriage is generally considered matrimonial property. This includes properties acquired by either the husband, wife, or both parties. The Supreme Court, in cases like *Arthur v Arthur*, has established that such properties are subject to distribution upon divorce, typically operating under a presumption of equal (50-50) sharing. However, this presumption is not absolute and can be rebutted by compelling evidence.

The courts recognize situations where the fifty-fifty sharing formula may not apply. For instance, if both parties agreed during the marriage that a particular property should be given to one spouse for specific reasons, this agreement would be honored. Similarly, if one spouse has always treated a property as their personal property, and the other spouse acknowledges and does not contest this, the courts are likely to respect this arrangement. This approach aligns with principles of fairness and acknowledges the autonomy of spouses to make binding agreements regarding their property.

Evidence plays a crucial role in these determinations. The sufficiency of evidence must show that one spouse's claim to a greater share of the property is justified based on their contributions or the mutual understanding between the spouses. Such contributions can be financial, such as paying for the property, or non-financial, such as homemaking or supporting the other spouse's career, which indirectly contributes to the acquisition of the property.



While the presumption of equal distribution of marital property upon divorce provides a starting point, the courts remain attentive to the specific circumstances and agreements between spouses. The need for clear, sufficient evidence to support claims for a greater share ensures that the distribution of marital property is both equitable and reflective of the realities of the marital relationship. This approach balances the need for fairness with respect for individual contributions and agreements, ensuring that the distribution of assets upon divorce is just and equitable.

This comprehensive analysis of marriage and divorce in Ghana highlights the complexities and nuances inherent in the country's legal framework. The findings underscore the need for a multifaceted approach to reform that considers statutory requirements, customary practices, and the evolving societal norms. Based on the insights gained, several specific and actionable recommendations can be made to enhance the effectiveness and fairness of marriage and divorce laws in Ghana.

### 1. Harmonization of Customary and Statutory Laws

One of the primary issues identified is the tension between customary and statutory laws. To address this, it is crucial to harmonize these legal frameworks. This can be achieved by:

- **Drafting Legislation:** Parliament should draft and enact comprehensive legislation that integrates customary practices within the statutory framework, ensuring clear guidelines for the recognition and dissolution of customary marriages.
- **Education and Awareness:** Implement nationwide education campaigns to inform the public, particularly in rural areas, about the legal requirements and implications of both customary and statutory marriages.

### 2. Improving Access to Legal Services

The disparity in access to legal services, especially in rural areas, poses a significant barrier to justice. Practical steps to mitigate this include:

- **Legal Aid Expansion:** Expanding the scope and reach of legal aid services to ensure that individuals in rural and underserved areas have access to legal advice and representation.
- **Mobile Legal Clinics:** Establishing mobile legal clinics that travel to remote areas, providing legal services and education to communities that are otherwise hard to reach.

### 3. Strengthening Judicial Training and Interpretation

To ensure consistent and fair application of the law, ongoing training for judges and legal practitioners is essential. This can be achieved by:

- **Continuous Professional Development:** Implementing mandatory continuing education programs for judges and lawyers on the latest developments in family law and human rights.
- **Judicial Guidelines:** Developing comprehensive guidelines for judges on handling cases involving both customary and statutory marriage and divorce, emphasizing the principles of equality and non-discrimination.



#### 4. Legislative Reforms for Equitable Distribution of Marital Property

The current approach to the distribution of marital property, while progressive, requires further refinement to ensure fairness. Recommendations include:

- **Statutory Clarity:** Enacting legislation that clearly defines the criteria for equitable distribution of marital property, including the recognition of non-financial contributions such as homemaking and childcare.
- **Presumption of Equality:** Codifying the presumption of equal (50-50) distribution of marital property in statute, with provisions allowing for deviations based on clear and compelling evidence.

#### 5. Enhancing Procedures for Marriage Registration and Divorce Petitions

To streamline the processes and reduce the administrative burden, the following steps are recommended:

- **Simplified Registration Processes:** Simplifying the procedures for marriage registration and making the process more accessible, including online registration options.
- **Support Services for Divorce Proceedings:** Providing support services such as counseling and mediation to assist couples in resolving disputes amicably before resorting to litigation.

#### 6. Recognition of Constructive and Implied Marriages

Given the societal realities in Ghana, there is a need to recognize constructive and implied marriages where formal ceremonies may not have taken place. Practical steps include:

- **Legal Recognition:** Amending the Evidence Act to explicitly recognize cohabitation and public acknowledgment as sufficient grounds for establishing a marriage.
- **Judicial Training:** Training judges to appropriately assess and recognize implied marriages based on the evidence of cohabitation and societal recognition.

##### 5.1 Implementation of Proposed Reforms

Implementing these recommendations requires a coordinated effort involving multiple stakeholders, including the government, judiciary, legal practitioners, and civil society organizations. Specific actions include:

- **Legislative Action:** Engaging with Parliament to prioritize and pass the necessary legislative reforms.
- **Stakeholder Collaboration:** Establishing working groups comprising representatives from the judiciary, bar associations, and civil society to drive the implementation of reforms.
- **Public Engagement:** Conducting public consultations and educational campaigns to ensure broad-based support and understanding of the new legal provisions.



By taking these practical steps, Ghana can create a more equitable and effective legal framework for marriage and divorce, reflecting the diverse needs and realities of its population while upholding the principles of justice and fairness.

## 6. Conflict of Interest Statement

The authors declare no conflicting interest in the conduct of the study.

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## Biographical notes



### Mavis Ekua Enyamah Kwainoe

Ms. Kwainoe is a law lecturer at the University of Professional Studies, Accra (UPSA) and Wisconsin International University College, Accra. Before joining academia, she was a District Magistrate, a State Attorney and Legal Practitioner in Accra. In addition to her academic work, she is the Managing Partner of the law Office of Kwainoe, Blue Lagoon, Accra. She graduated from the University of Cape Coast with a B.A. (Hons) degree in Business Management, and further obtained an LL.B (Hons) from the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi and the Ghana School of Law, Accra. She was called to the Ghana Bar in 2009. She obtained an LL.M. in International and Comparative Law from the George Washington University Law School, USA where she was a Thomas Buergerthal Scholar, and a recipient of the Justice Thurgood Marshall Civil Liberties Award.



# Effects of procurement practices on organizational performance within the private sector: the case of Volta River Estate Limited, Ghana

**Ntummy Esther Lartey\***

Department of Operations Management and Information Systems  
Wisconsin International University College  
Ghana  
esther.bekoe@wiuc-ghana.edu.gh

**Charles Edem Gidi**

EGAS Capital Ltd  
Ghana  
cgidi@egascapitaltd.com

**Obed Owusu Akoto**

Right to Dream Foundation  
Ghana  
obed.akoto@righttodream.com

**\*Corresponding author**

## Abstract:

The aim of the study was to examine effects of procurement practices on organisational performance within the private sector, the case of volta river estate limited. Descriptive survey design was adopted for the study. A total of 120 staff were randomly selected from staff volta river estate limited representing management in: Production, Procurement, Finance and Sales and Marketing departments. An adapted questionnaire was used for the study. The study revealed that responded agreed to procurement practices. Procurement planning was the most practice by respondent and procurement ethical procurement practice was the least practise by the respondents. Additionally, the findings of the study discovered that organisation carefully analyses the cost that they are buying goods and service, organisation focuses how much they spent, where, when, and why, and standards are followed to ensure good service delivery. Overall, responded agreed to organisational performance. The study found that procurement planning, ethical procurement practice, procurement performance measurement were positive predictors of organisational performance. Moreover, procurement planning has the highest prediction, followed by procurement performance measurement, and ethical procurement practice was the least predictor. The study concluded that procurement practice has an effect on organisational performance within the private sector. Procurement planning had the highest effect on organisational performance, whereas, the effect of procurement performance measurement, and ethical procurement practice on organisational performance was low within the private sector.

## Keywords:

Procurement practice; Organisational behaviour; Private sector; Volta River estate limited.

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## 1. Introduction

In this period of globalization, procurement remains a key function for any organization, whether private or public. All procurement processes, regardless of their complexity, follow a laid-down procedure that requires proper management to ensure value for money and uphold the integrity and sanctity of the purchasing process. According to Arrowsmith (2010), public or private procurement refers to the activities of purchasing goods, services, and works needed to perform organizational functions. Odhiambo and Kamu (2003) define it as the purchasing, hiring, or obtaining by any contractual means of goods, consultancy services, and construction works by public entities. The Ghana Integrity Initiative (2007) states that procurement significantly influences a country's state in terms of the production and consumption of goods and services, money supply, and directly affects individuals' daily lives. An efficient procurement system must have a workforce that is professionally competent and possesses the requisite savoir-faire for the job (Organization for Economic Cooperation and Development-Development Assistance Committee, OECD-DAC, 2006).

Procurement practices are vital functions in the public sector since the procurement process is generally a critical part of organizational spending. Carr and Smeltzer (1997) state that procurement practices comprise the actions taken by the purchasing organization to navigate and integrate its performance to increase productivity by reducing cost and time. Weele (2010) describes procurement as the practice of selecting vendors, strategic vetting, setting up payment terms, negotiating contracts, and the actual purchasing of goods. Lim (2014) elaborates that procurement is a process entailing acquiring goods, services, and work that are vital to an organization. Worldwide, public procurement has become a topic of concern and debate and has undergone reforms, restructuring, rules, and regulations (Kabega et al., 2016).

Organizational performance is the actual output or outcomes of an institution compared to its intended outputs or goals and objectives (Upadhaya et al., 2014). Organizational performance can be measured through cost reduction, the quality of goods/services delivered, productivity, and lead time (Mchopa et al., 2014; Richard et al., 2009). Hamon (2003) states that Performance Measurement (PM) is the most critical factor for effective management and that identifying and measuring the influence of Supply Chain Management (SCM) on it enhances organizational performance. However, performance in supply chain management research often lacks sufficient motivation. The indicators of organizational performance include financial targets attained and labour force satisfaction. Similarly, Ho (2008) noted that organizational performance could also be estimated based on an institution's effectiveness and efficiency.

The linkage of procurement to organizational performance highlights the importance of embracing best practices for organizational success. Procurement is widely practiced in many industries globally (Hussein & Shale, 2014). Kabega et al. (2016) reiterated that various public institutions in both developing and developed countries have instituted procurement reforms involving laws and regulations, but inadequate regulatory compliance remains a major challenge. Public institutions are significant spenders, managing massive budgets (Roodhooft & Abbeele, 2006). Additionally, Mahmood (2010) restates that public procurement was estimated to represent 18.42% of the world Gross Domestic Product (GDP). Public procurement is recognized as essential in-service delivery and accounts for a high proportion of total expenditure (Basheka & Bisangabasaija, 2010).

The procurement sector is a major part of the domestic market in Ghana, accounting for about 50-70% of the national budget (after personal emoluments), 14% of GDP, and 24% of total merchandise imports (World Bank CPAR, 2003). This indicates that procurement consumes a significant portion of public expenditure, as asserted by Thai (2009). In 2005, procurement expenditure constituted about 40% of the total public expenditure in Malawi, 22% in South Africa, and 70% in Uganda (Development Assistance Committee, OECD, 2005).

Ghana's Procurement Act (Act 663) outlines the process through which entities embark on the procurement process. However, questions arise about how these processes are being followed to achieve operational goals and



objectives. Are these processes meeting the principles of cost-effectiveness, fairness, competitiveness, equitability, and transparency? Handfield et al. (2011) noted that numerous public entities have started to reevaluate their purchasing processes to implement new measures that will improve functionality and significantly impact performance based on expenditures. Mensah (2013) asserted that an efficient and effective public procurement process in terms of lead-time reduction, cost reduction, high-quality products, continuity of supply, stakeholder satisfaction, and profit growth is crucial for institutions in Ghana.

Various scholars have found a relationship between procurement practices and organizational performance (Mutuku, Agusioma, & Wambua, 2021; Mwangi & Mwangangi, 2018; Mokogi, Mairura, & Ombui, 2015; Wanjiru & Kiarie, 2018; Mensah & Tuo, 2013). Most of these studies focused on the public sector, with only Wanjiru and Kiarie (2018) finding a significant influence in the private sector. Although Mensah and Tuo (2013) revealed that procurement processes are key to the performance of public institutions, there is still limited knowledge about procurement practices and organizational performance in Ghana, especially within the private sector.

This study sought to:

1. Assess procurement practices within the private sector.
2. Identify organizational performance within the private sector.
3. Examine the effect of procurement practices on organizational performance within the private sector.

## 2. Review of related literature

### 2.1 Procurement Practice

Procurement is the act of acquiring goods, services, or works from an external source (Esagala, 2014). It is essential that the goods, services, or works procured are appropriate and obtained at the best possible price to meet the acquirer's needs in terms of quality, quantity, time, and location. Corporations and public bodies often establish procedures to promote fair and open competition for their business while minimizing exposure to fraud and collusion. Almost all purchasing decisions consider factors such as delivery and handling, marginal benefit, and price fluctuations. Procurement typically involves making purchasing decisions under conditions of scarcity. When precise information is available, it is good practice to use economic analysis techniques such as cost-benefit analysis or cost-utility analysis. A crucial distinction must be made between analyses without risk and those with risk. Where risk is involved, either in the costs or the benefits, the concept of expected value may be employed.

Coggburn (2017) found that states' procurement practices possess varying degrees of reform characteristics, and that interest group diversity, legislative professionalism, results-oriented management, and regional effects each have significant relationships with state procurement practices. Additionally, several "classic" explanations of state policy are not significantly related to state procurement practices. In a similar study, Wanja and Achuora (2020) established that four sustainable procurement practices (reverse logistics, green specification, green inventory management, and green tendering) significantly positively affect procurement performance through cost reduction, a cleaner environment, and increased quality of supplies. Okuku and Oloko (2024) showed that procurement planning and information technology affect project performance. Additionally, Kanny et al. (2022) found that procurement process management has a significant positive impact on hotel performance in Sri Lanka.

### 2.2 Organisational Performance



Organizational performance includes the actual output or consequences of a company as measured toward its Organizational performance encompasses various outcomes that align with the supposed outputs (or goals and objectives) of a firm. According to Richard et al. (2009), organizational performance can be categorized into three main areas: (a) financial performance (e.g., profits, return on assets, return on investment); (b) product market performance (e.g., sales, market share); and (c) shareholder return (e.g., total shareholder return, economic value added). The term "organizational effectiveness" is broader and captures what businesses do, produce, and accomplish for the various constituencies with which they interact. Specialists in strategic planning, operations, finance, legal, and organizational development are concerned with organizational performance, as it is closely tied to the concepts of effectiveness and efficiency.

Wong et al. (2020) measured organizational performance based on six perspectives: career motivation, employee attendance, employee recruitment, employee retention, organizational commitment, and productivity. The results showed that career motivation, employee attendance, employee recruitment, and employee retention were significantly associated with work–life balance arrangements. Similarly, Emmanuel and Nwuzor (2021) found that job quality, effective service delivery, and customer rating have a positive and significant relationship with organizational performance, while time management did not significantly explain organizational performance.

In another study, Mohammad (2021) explored the impact of specific HRM practices on organizational performance in a Middle Eastern emerging market. The authors found that recruitment, training, and internal promotions have a positive and significant effect on performance. However, contrary to expectations, performance appraisal and rewards and benefits were not linked with performance.

### 2.3 Procurement Practices and Organizational Performance

A system of procurement is considered an essential element of the supply chain system in any given institution. Typically, an organization's procurement process includes both operational and strategic activities, though the priorities in these operations tend to differ (Turban et al., 2000). Key activities in procurement strategies include procurement products, supplier management, purchase order requisitions, and growth. Most organizations decentralize their procurement tasks through processes that align with the core strategies of procurement. Grouping purchasing practices helps organizations consolidate their efforts, leading to greater discounts and better service from suppliers, accelerated information flow between suppliers and buyers, reduced administrative hours, and more time for employees to perform their duties. This approach also enables quicker responses to competition in new market entrants, thereby improving the potential for new ventures (Eng, 2004). Effectively managing procurement functions is crucial for achieving the goals of both the private and public sectors.

Operationally, effective procurement systems enhance precautionary measures and auditing by allowing auditors and staff to countercheck and trace order transactions through the system. This shortens delivery times, reduces delays in mail documents, eliminates time zone obstacles, and reduces inventory levels and costs. Chong and Ooi (2008) assert that a well-prepared and implemented procurement process increases the likelihood of inventory reduction, better customer service, cost reduction, and faster inventory turnover. Major procurement benefits include short-term goals leading to increased productivity, inventory decline, and reduced lead time. In relation to long-term goals, these factors contribute to market share expansion and the integration of external procurement activities (Li et al., 2006).

Mutuku et al. (2021) examined the influence of contract management practices and procurement policies on the performance of the Machakos County government. The study found that contract monitoring, and procurement policies positively influenced the performance of Machakos County. Wanjiru et al. (2018) indicated that procurement management, in terms of procurement planning, order process management, supplier management, and outsourcing, positively and significantly influences the performance of retail chain stores in Nairobi County, Kenya. Additionally, Mutuku et al. (2021) investigated the role of strategic procurement practices on the

performance of the Nyandarua County Government, specifically examining the influence of buyer-supplier relationships. The study established that the buyer-supplier relationship had a weak but significant positive relationship with the performance of the county government. Similarly, Mensah and Tuo (2013) revealed that the procurement process affects procurement performance. Hamiza et al. (2024) examined the effect of procurement practices on the performance of private universities in West Nile, Uganda, discovering that procurement planning and supplier selection were statistically insignificant predictors of private university performance.

## 2.4 Theoretical review

The Principal-Agent Theory serves as the foundational model for this study. Economists developed this model to address issues related to principal-agent relationships, where agents are tasked with carrying out responsibilities on behalf of principals (Heath & Norman, 2004). The Principal-Agent Theory (PAT) involves understanding how an individual or entity (the agent) acts in the interest of another (the principal). The assumptions and propositions of PAT align closely with issues concerning procurement and performance.

In managing supplier quality, buyers in agency relationships are likely to encounter potential risks. Naturally, buyers expect good and improved quality goods and services from suppliers. However, suppliers might be hesitant to invest significantly in quality. Zu and Kaynak (2012) observed that differences between buyers and suppliers often result in each party focusing solely on their self-interests. PAT outlines how procurement managers perform procurement practices on behalf of private entities. Poor relationships between principals and agents can negatively impact relationships between suppliers and institutions.

This study, therefore, used this model to determine the role of procurement practices and the performance of organizations within the private sector in Ghana.

## 2.5 Research Framework

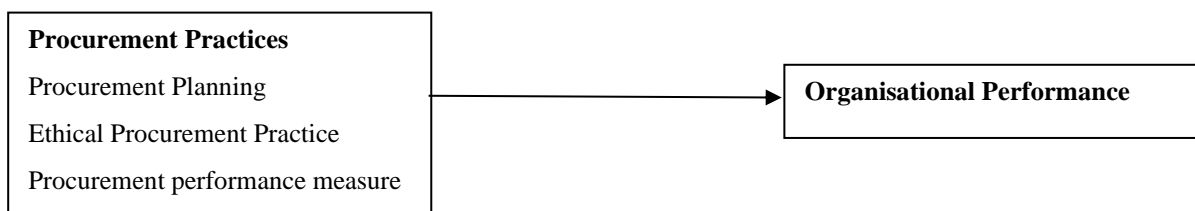


Figure 1: Conceptual framework (Source: Authors' construct (2024))

As indicated in Figure 1, the model proposes that procurement practices (procurement planning, ethical procurement practice, procurement performance measure) will have an effect on organisational performance.

## 3. Research Methodology

This study adopted a descriptive survey design to collect data at a particular time from a sample selected from a larger population. The data collected described the situation as it was at the time of the study. A cross-sectional survey of Volta River Estate limited was conducted to establish the relationship between procurement practices and their effect on organizational performance.



Burns and Grove (2003) define sampling as the process of selecting a group of people, events, or behaviours to study. A total of 120 staff members were randomly selected from the Volta River Estate Limited, representing management in the Production, Procurement, Finance, and Sales and Marketing departments. Neuman (2007) suggests the general principle that the smaller the population, the larger the ratio of the sample size to population size should be, for example, a ratio of about 30:100 (30 percent) for smaller populations (under 1,000). This study targeted over 78.95 percent of the total population.

An adapted questionnaire was used for the study. The Procurement Practice Scale (PPS) and Organisational Performance Scales (OPS) were adapted from Ahmed (2019). The Procurement Practice Scale ( $\alpha = 0.85$ ) consisted of three dimensions: procurement planning, ethical procurement practices, and procurement performance measurement, with reliability scores between 0.73 and 0.82. The PPS is a five-point Likert scale ranging from strongly agree, agree, neutral, disagree, to strongly disagree. Additionally, the Organisational Performance Scale ( $\alpha = 0.79$ ) was also a five-point Likert scale with the same range of responses.

Data on the demographic characteristics of respondents were analysed using frequencies and percentages. Data related to research objectives one and two were analysed using means and standard deviations. Data for research objective three was analysed using SEM path analysis with 1,000 bootstrap samples. The data was processed and analysed using SPSS version 25 and AMOS software version 21.

## 4. Results

### 4.1 Demographic Characteristics of Respondents

The demographic characteristics analysed in this study include the respondents' gender, education level, departments they were attached to in their various private institutions, and the number of years served, as shown in Table 1. The findings revealed that 57% of the respondents were male, while 43% were female. This implies that although the majority of employees were male, the sample also included females, indicating no gender bias in the sample size. The findings also suggest that males dominate employment opportunities in private institutions. Additionally, 66% of the staff had bachelor's degrees, indicating that the majority possessed the basic qualifications to work in their roles.

Regarding departmental affiliation, a significant number of respondents belonged to the procurement and management departments (62%), which are key participants in procurement activities. Furthermore, 51% of the respondents had worked for more than 5 years, suggesting they were well-versed in procurement practices in their respective institutions.

Table 1: Demographic Characteristics

		Frequency	Percentages
Gender	Male	68	57
	Female	52	43
	<b>Total</b>	<b>120</b>	<b>100</b>
Education	Diploma	12	10
	Degree	79	66
	Masters	29	24
	Total	120	100
Department	Procurement	42	35
	Management	32	27
	Administration	31	26
	Accounts	15	12
	<b>Total</b>	<b>120</b>	<b>100</b>

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Job duration	1-4 years	35	29
	5-8 years	61	51
	9-12 years	14	12
	Above 12 years	10	08
	<b>Total</b>	<b>120</b>	<b>100</b>

Source: Field Data (2024)

4.2 Procurement Practices in Volta River Estate Limited

The aim of this research objective was to assess the procurement practices in Volta River Estate Limited. Respondents were required to express the extent they agree or disagree with procurement practices in volta river estate limited on a 5-point Likert scale. For the purpose of the analysis the mean scores of all items under each dimension were summed up and divided by the number of items under each dimension to get the mean of means. The overall mean of means was calculated by adding the mean scores of all items together and then dividing the sum by the total number of items. The mean score of the responses were compared with the average mean of 3.0 (thus  $[1+2+3+4+5]/5 = 3.0$ ). Mean score less than 3.0 indicate that respondents agreed to the statement, whereas mean score more than 3.0 indicate that respondents disagreed to the statement. Details are found in Table 2.

Table 2: Procurement Practices

Dimension	Mean	SD
Procurement Planning	3.57	.87
Ethical Procurement Practice	3.20	.69
Procurement Performance Measurement	3.72	.73
Mean of means	3.50	.76

Source: Field Data (2024)

From Table 2, respondents responded high to the procurement performance measurement ( $M = 3.72, SD = .87$ ) and procurement planning ( $M = 3.72, SD = .73$ ). Among the dimensions, responses were low for the dimension ethical procurement practice ( $M = 3.20, SD = .69$ ). Generally, responded agreed to procurement practices ( $M = 3.50, SD = .79$ ). This implies, when it comes to procurement practices, respondents highly adhered to procurement performance measurement and procurement planning. Hence, respondents were less adherence to ethical procurement practice.

4.3 Organisational Performance in Volta River Estate Limited

The purpose of this research objective was to examine the organisational behaviour in Volta River Estate Limited. Respondents were required to express the extent they agree or disagree with organisational performance in volta river estate limited on a 5-point Likert scale. For the purpose of the analysis the mean scores of all items under each dimension were summed up and divided by the number of items under each dimension to get the mean of means. The overall mean of means was calculated by adding the mean scores of all items together and then dividing the sum by the total number of items. The mean score of the responses were compared with the average mean of 3.0 (thus  $[1+2+3+4+5]/5 = 3.0$ ). Mean score less than 3.0 indicate that respondents agreed to the statement, whereas mean score more than 3.0 indicate that respondents disagreed to the statement. Details are presented in Table 3.

Table 3: Organisational Performance

Statement	Mean	SD
Organisation focuses how much they spent, where, when, and why	3.56	.96
Organisation carefully analyses the cost that they are buying goods and service	3.81	.82
Organisation manages the cost to avoid unnecessary spending	3.41	.93

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There is feedback to employees on the task of their performance in quality.	3.12	.53
Standards are followed to ensure good service delivery.	3.51	.68
The organization delivers the service timely to customer	3.23	.74
Organisation always purchases goods and service at the least cost than estimated value	3.02	.83
Value for money is always attained by the entities.	3.31	.71
Organisation resources are economically utilized	3.33	.62

Source: Field Data (2024)

The result from Table 3 indicated respondents agreed to the statement “organisation carefully analyses the cost that they are buying goods and service” (M= 3.81, SD= .82), “organisation focuses how much they spent, where, when, and why” (M= 3.56, SD= .96), and “standards are followed to ensure good service delivery” (M= 3.51, SD= .68). Overall, responded agreed to organisational performance.

4.4 Effect of Procurement Practices on Organisational Performance in Volta River Estate Limited

This objective sought to determine whether procurement practices will have effect on organisational performance. Before testing this objective, a confirmatory factor analysis was performed to confirm the validity and reliability of the variables. Table 4: present details of confirmatory factor analysis of procurement practices.

Table 4: Confirmatory Factor Analysis of Procurement Practices

HMTM Values	Dimension	Items	Loadings	Lower	Upper	P	AVE	$\alpha$
PP-EP = 9.12 PP-PPM = 9.05 EP-PPM = 9.23	Procurement Planning (PP)	Q1	.562	.459	.670	.002	.502	.753
		Q2	.490	.372	.607	.002		
		Q3	.679	.595	.750	.003		
		Q4	.687	.598	.768	.002		
		Q5	.672	.594	.750	.002		
	Ethical Procurement (EP)	Q6	.730	.631	.799	.004	.511	.839
		Q7	.719	.643	.791	.002		
		Q8	.709	.621	.779	.002		
		Q9	.731	.651	.794	.002		
		Q10	.685	.602	.758	.002		
	Procurement Performance Management (PPM)	Q11	.675	.587	.746	.003	.506	.834
		Q12	.741	.663	.805	.003		
		Q13	.713	.625	.781	.002		
		Q14	.660	.546	.745	.002		
		Q15	.775	.708	.828	.003		

Overall reliability ( $\alpha = .901$ )

As presented in Table 4, all the 15 items of the procurement practice were higher than 0.5 (Hair, Black, Babin & Anderson, 2009), thus all the items were retained. Also, the all the all the Average Variance Extracted (AVE) values for the various dimensions exceeded 0.50 which confirm the establishment of convergent validity (Fornell and Larcker (1981). Moreover, the results also revealed sufficient evidence of discriminant validity (based on internal structure). All the HTMT values were greater than 0.90, suggesting that divergent validity was established. The reliability of the respective dismissal were higher than 0.7, specifically, the factor loadings of the various dimensions were between the 0.75 to 0.83. The overall reliability of procurement practices was 0.9.

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Additionally, the result of the fit indices revealed that the indicators met the recommended fit indices. For instance, CMIN/Df = 2.36, RMSEA = .06, CFI = .94, SRMR = .06, AIC = 271.198, and ECVI = .82 were all in the ranges of the recommended indices. Based on this, it was concluded that the data collected for the model was fit. Table 5 presents the details of the confirmatory analysis of organisational performance.

Table 5: Confirmatory Analysis of Organisational Performance

Items	Loadings	Lower	Upper	P	$\alpha$
Q1	.571	.466	.688	.001	.837
Q2	.489	.358	.612	.002	
Q3	.706	.619	.776	.002	
Q4	.688	.601	.774	.001	
Q5	.636	.553	.713	.001	
Q6	.641	.550	.716	.002	
Q7	.505	.355	.616	.002	
Q8	.627	.529	.701	.003	
Q9	.573	.450	.668	.002	

From Table 5, the result indicated that 9 items under organisational performance yielded factor loadings more than 0.55 (Hair, Black, Babin & Anderson, 2009). Moreover, the reliability of the organisational performance was higher than 0.7, thus the reliability confident of organisational performance was 0.84.

Again, the result of the fit indices revealed that the indicators met the recommended fit indices. For instance, CMIN/Df = 2.80, RMSEA = .07, CFI = .94, SRMR = .06, AIC = 111.606, and ECVI = .34 were all in the ranges of the recommended indices. Based on this, it was concluded that the data collected for this model was fit.

4.4.1 Path Analysis

This objective sought to determine whether procurement practices will have effect on organisational performance. The SEM path analysis with 1000 bootstrap samples, with bias corrected confident intervals. The exogenous (predictor) variables were the sub-dimensions of procurement practices (procurement planning, ethical procurement practice, procurement performance measurement) which were measured on continuous basis. The criterion variable was organisational performance which was also measured on continuous basis. Details of the results are presented in Table 4 and Figure 1.

Table 4: Regression Model for Organisational Performance

Model	B	SE	CR	P	95% Confident Interval	
					Lower	Upper
(Constant)	16.73	2.74	6.11	.003	11.50	21.35
Procurement Planning	4.39	.92	4.79	.001	2.71	6.24
Ethical Procurement Practice	2.11	.830	2.55	.01	.58	3.85
Procurement Performance Measurement	2.92	.92	4.79	.006	.77	4.53

Significant,  $p < .05$ ;  $R^2 = .26$ . Criterion: Organisational Performance



The result in Table 4 shows that procurement planning, ethical procurement practice, procurement performance measurement together explained 26% of variance in enterprise performance. The results further revealed that procurement planning  $B = 4.39$ , Boot 95% CI (2.71, 6.24), ethical procurement practice  $B = 2.11$ , Boot 95% CI (.58, 3.85), procurement performance measurement  $B = 2.92$ , Boot 95% CI (.77, 4.53) were significant predictors of organisational performance. All the predictors were positive. Moreover, procurement planning has the highest prediction, followed by procurement performance measurement, and ethical procurement practice was the least predictor. This outcome suggests procurement planning, ethical procurement practice, procurement performance measurement have an effect on organisational performance. This means procurement practice has an effect on organisational performance in volta river estate limited. Figure 1 presents the structure path model.

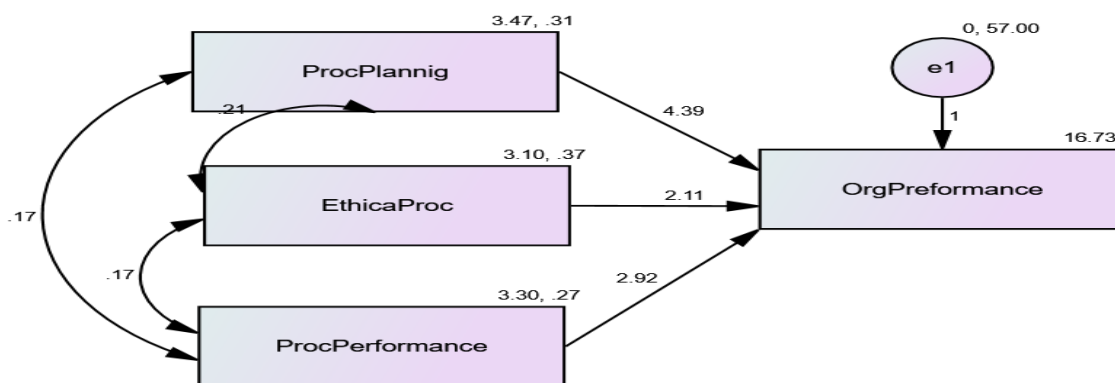


Figure 1: Path Model for Organisational Performance

## 5. Discussion of findings

The discussion section is organised according to the three objectives of the study.

### 5.1 The procurement practices within the private sector

The study revealed that respondents agreed to procurement practices. Procurement planning was the most practice by respondents and procurement ethical procurement practice was the least practice by the respondents. The results of the study were in line with previous studies (Coggburn, 2017; Wanja & Achuora, 2020; Okuku & Oloko, 2024; Kannu, et al 2022). For instance, Coggburn (2017) found that states' procurement practices possess varying degrees of reform characteristics, that interest group diversity, legislative professionalism, results-oriented management, and regional effects each have significant relationships to state procurement practices, and that several "classic" explanations of state policy are not significantly related to state procurement practices. In a similar study, Wanja and Achuora (2020) established that the four sustainable procurement practices (reverse logistics, green specification, green inventory management and green tendering) significantly positively affect procurement performance through reduction of cost, clean environment and increased quality of supplies. Okuku and Oloko (2024). showed that procurement planning, and information technology affected project performance. Also, Kannu, et al (2022) procurement process management have a significant positive impact on the hotel performance in Sri Lanka.



## 5.2 Organizational performance within the private sector

Additionally, the findings of the study discovered that organisation carefully analyses the cost that they are buying goods and service, organisation focuses how much they spent, where, when, and why, and standards are followed to ensure good service delivery. Overall, responded agreed to organisational performance. The finding of this study collaborates with available literature (Wong et al., 2020; Emmanuel & Nwuzor, 2021; Mohammad, 2021). Wong et al. (2020) measured organisational performance based on six perspectives, including career motivation, employee attendance, employee recruitment, employee retention, organisational commitment, and productivity. The results showed that of the six perspectives, only career motivation, employee attendance, employee recruitment, and employee retention were significantly associated with the work–life balance arrangement. Similarly, Emmanuel and Nwuzor (2021) discovered that quality job, effective service delivery, customer rating has positive significant with organization performance while time management was unable to explain organization performance. In another studies, Mohammad (2021) explore the impact of specific set of HRM practice on organisational performance in a Middle Eastern emerging market. The authors found that recruitment, training, and internal promoting from within have a positive and significant effect on performance. However, contrary to expectations, we found performance appraisal and rewards and benefits not linked with performance.

## 5.3 The effect of procurement practices on organizational performance within the private sector

The study found that procurement planning, ethical procurement practice, procurement performance measurement were positive predictors of organisational performance. Moreover, procurement planning has the highest prediction, followed by procurement performance measurement, and ethical procurement practice was the least predictor. This means procurement practice has an effect on organisational performance in Volta River Estate Limited. The result of the current study was consisted with similar study (Mutuku et al., 2021; Wanjiru et al., 2018). Thus, Mutuku et al. (2021) determine the influence of contract management practices and procurement policies practices, on performance of Machakos County government. The study found out that Contract Monitoring and, Procurement policies had a positive influence on the performance of Machakos County. Wanjiru et al. (2018) also indicated that procurement management in terms of procurement planning, order process management, supplier management and outsourcing positively and significantly influences performance of retail chain stores in Nairobi County, Kenya. Moreover, in Mutuku et al.'s (2021) study, it was established that buyer supplier relationship had weak positive but significant relationship with the performance of the county government. In a similar study, Mensah and Tuo (2013) revealed that procurement process affects procurement performance.

On the other hand, the results of the study contradict with Hamiza et al. (2024) who examined the effect of procurement practices on the performance of private universities in West Nile, Uganda. They discovered that procurement planning and supplier selection proved to be statistically insignificant predictors of private university performance.

## 6. Conclusion

Based on the results of the study, the study concluded that private institutions follows procurement practices. The most practice were procurement panning and procurement performance measurement. Ethical procurement practice was the least practice within the private sector. The study further concluded that carefully analyses the cost that they are buying goods and service, focuses how much they spent, where, when, and why, and standards are followed to ensure good service delivery were performed within the private sector. More so, the study



concluded that procurement practice has an effect on organisational performance within the private sector. Procurement planning had the highest effect on organisational performance, whereas, the effect of procurement performance measurement, and ethical procurement practice on organisational performance was low within the private sector.

### 6.1 Recommendations

Based the results of the study, the study recommends that management of Volta River Estate Limited should focus on procurement planning and procurement performance measurement since the results showed that they have greater impact on organisational performance. Again, the study recommends that management of Volta River Estate Limited should train staffs on ethical procurement practice in order to increase organisational performance.

### 6.2 Suggestions for future studies

Further studies can be done on attitudes of staffs towards procurement practices. The study can also be replicated in other organisations who follow procurement practices, since variations in internal policies might have impact on the results.

## Conflict of interest

The author declares no conflicting interest in the conduct of the study.

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### Biographical notes



#### **Esther Ntummy Lartey**

Esther Ntummy Lartey is a Lecturer in the disciplines of Logistics, Procurement and Supply Chain Management at Wisconsin International University College, Graduate Level. She specializes in Logistics and Supply Chain Management. She is the Logistics Director at Senama Logistics (Part Time). She is also a consultant and owns Esmarkesbe Consult, a Supply Chain consulting firm. She has been a speaker in her discipline and has made presentations at many conferences and programs including international conferences in Africa and Asia. Having developed a keen interest in research and development, she has introduced and helped promote a number of business development exercises in the Institutions like Central University and Wisconsin International University College.



#### **Charles Edem Gidi**

Charles Edem Gidi has over three decades of experience in banking and investment banking, with specialty in corporate finance, accounting and business strategy, having worked as the Managing Director of EGAS Capital Limited and Renaissance Africa Group (Gh) Ltd (licensed investment banks). He is currently the Board Chairman for Serene Insurance Company and Frerol Rural Bank. He chairs the Renal Transplant Centre Implementation Committee (a collaboration between the First Sky Group and the Korle Bu Teaching Hospital) and the First Sky Energy Project Implementation Committee (A 50 MWp Solar Farm in the northern part of Ghana). He is also a member of the Board of Volta Serene Hotel Ltd. Charles holds an MBA in Finance from the University of Ghana Business School, a B.Com and Dip.Ed. from the University of Cape Coast, and is a member of the Institute of Chartered Accountants (Ghana).



#### **Obed Owusu-Akoto**

With a background in Logistics and Supply Chain Management, Administration, Human Resources, and Protocol Management, Obed Owusu-Akoto has developed expertise in team leadership, communication, and problem-solving. In his role as Head of Football Administration at Right to Dream Academy, he is responsible for overseeing the day-to-day administrative operations of the academy, ensuring smooth coordination and execution. He has an MSc. in Logistics and Supply Chain Management from Wisconsin International University College, Ghana.



# Examining the impact of Digitalization on the Import Clearance Process at the Tema Port, Ghana

**Esther Addy\***

Department of Operations Management & Information Systems  
Wisconsin International University College, Ghana  
1190039@wiuc-ghana.edu.gh

**Eric Ansong**

Department of Operations Management & Information Systems  
Wisconsin International University College, Ghana  
eric.ansong@wiuc-ghana.edu.gh

**\*Corresponding author**

## Abstract:

Governments are using the possibilities of information and communication technology to provide better services to citizens by breaking down bureaucratic hurdles, reducing corruption, and providing employees with the necessary technological tools to improve their performance. The paperless port system is one such invention. The purpose of this study was to examine the impact of digitisation on the import clearance system at Tema Port as well as identify the factors that drive digitalisation with particular reference to UNIPASS/ICUM. The study was guided by the quantitative research approach. Purposive sampling was utilised to acquire data from 150 employees using questionnaires based on the study's objectives. The data was analyzed using multiple regression analysis technique. It was discovered that using UNIPASS improved document processing at the Tema port, saved time, and reduced human participation. In relation to the factors that drive digitalization, it was discovered that formal and informal connection structures had a substantial negative influence on the adoption of the UNIPASS system to the port, whereas technological support infrastructure had a considerable positive relationship with the adoption of the system. As a result, the study recommends that an upgrade in technological support infrastructure at the Tema port will improve the UNIPASS system and optimise its benefits. The study's originality lies in it being one of the novel studies to examine the issue of digitalization at the Port of Tema with specific focus on the UNIPASS System.

## Keywords:

Digitalization; Import Clearance process; Paperless Port system; Ghana.

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## 1. Introduction

International trade has expanded significantly over the past century and remains a cornerstone of the global economy, according to the United Nations Conference on Trade and Development (UNCTAD) (Djanitey, 2018). This growth in trade volumes is largely attributed to industrialization, trade barrier reduction, and digitalization. Most developing nations, thus, have digitalized government-to-citizen or government-to-business operations that benefits processing, customs clearance, or the issue of licenses and passports (World Bank Group, 2016; Bhatnagar, 2014). Digitalization helps to shift the paper-based reporting system in ports into an electronic format, which helps to speed up trade while also lowering costs, which is especially beneficial in West Africa, which has landlocked countries. In terms of seaports, digitalization provide advantages such as faster information interchange, reduced document processing time, less errors, lower document transfer costs, and increased information accuracy (Carlan et al., 2017).

Tema, Ghana's port, is a major West African port and a gateway to the landlocked countries of Mali, Burkina Faso, and Niger (Aryee et al., 2021). The port anticipates that with the introduction of a brand-new container terminal in the month of June 2019, it will be able to firmly establish itself as the port of call of choice for large boats bound for West Africa. Following a global trend toward the digitalization of port operations and trade facilitation, the port is at the centre of public debate regarding the implementation of new digital platforms that will transform the port authority's, government agencies', and other stakeholders' modes of operation. This trend follows a global movement toward the digitalization of port operations and trade facilitation. The office of the Vice President of Ghana made an announcement in September 2017 that the government of Ghana would be implementing a paperless port system in order to combat corruption. However, the vice president's office failed to mention that plans and programmes to digitalize import clearance had been ongoing since 1998. The public's curiosity has been sparked throughout the course of the past two decades by a checkered history of successes and failures in the application of digital technology. This is due to the high expectations placed on the digital transformation of customs clearing operations (Aryee et al., 2021).

People have been worried about how long it takes for products and cargoes to be cleared at the port, which has mostly been blamed on the use of paper-based methods (Osei-Owusu et al., 2020; Wu, et al., 2022; Addo & Avgerou, 2021). But with the arrival of new technology, like the paperless system at the Tema ports, many of these delays have been cut down or eliminated (Senyo et al., 2021). Eye on Port (2018) did a study in which stakeholders in the port industry said that one year after it was put into place, it had improved the process of clearing at the ports and helped clearing agents get the customs classification valuation report (CCVR) in 24 hours instead of 3 days under the old system.

Going paperless has assisted in the eradication of the majority of the problems that were initially associated with doing business at the ports of Ghana prior to 2003, including corruption, delays in the clearance of goods, leakages in government revenue, bureaucracy, and inefficient processes that were traditionally characterised by copious amounts of paperwork (Agbozo, 2017; Agyemang, 2016). While this success was achieved only few years after its introduction, researchers have not examined the current situation to determine whether those benefits or merits are still applicable. Instead, the focus of research has shifted to how stakeholder interests influence decisions and outcomes in the introduction of digital platforms at the port (Aryee et al., 2021), as well as on the impact of these technologies on the port's employees (Amegboe, 2019). There is therefore an issue gap in this field, addressing this issue gap is crucial as it helps to identify the knowledge gaps that need to be addressed to advance the field. By identifying this gap in existing knowledge. This research article is to investigate the impact of digitization on the import clearance procedure at Tema Port, focusing on the Tema Port's paperless project.

The study was guided by the following objectives:

1. To investigate the benefits that are associated with the paperless port system in Ghana.



2. To investigate the factors that have an impact on the digitalization process, with a particular focus on UNIPASS/ICUM.

This research goes beyond most current studies on port paperless systems, which often solely look at the GCNet or UNIPASS/ICUMS systems. This study addresses the point of dispute between freight forwarders and clearing agents on the efficacy of the two methods in determining which one allows for faster clearance processes. The study was also undertaken to describe the benefits of Ghana's port paperless system. The port paperless system has aided in the ease of conducting business at Ghana's ports, as well as in removing some of the obstacles associated with several port improvements in Ghana. As a result, this study was conducted to assess the current condition after five years of going paperless, and it also inspired many people in the port and harbour fraternity to use Ghana ports. There is little question that the findings will assist the Ghanaian government in addressing existing concerns regarding its use and in streamlining policies to assure its continued use.

## 2. Background and related literature

### 2.1 A Brief Overview of the Development of Ports and Customs Procedures in Ghana

Ghana's seaports began to grow long before the 15th century. Trade brought the country into contact with the rest of the world and made it possible for ships and boats to arrive at different spots along the coast. Many forts and castles can be found in coastal towns as proof of this (Oduro, 1999). But Accra didn't start being used as a port until the early 1600s, when a breakwater was built there (Ghana Ports and Harbours Authority, 1991).

#### *Historical Development of Takoradi Port*

A lighter age harbour was built along Sekondi's west shore in 1911, and it was finished in 1914 (GPHA, 1991). Ships calling at this port were anchored offshore, with lighters and surfboats transporting their cargoes (GPHA, 1991). Due to the severe surf that resulted in the loss of life and goods, as well as the general slow rate of operations, this port quickly became inappropriate and unable to handle the century's rapidly rising trade. The necessity for a deep seaport at Takoradi, some 4.5 kilometres west of Sekondi, was obvious. Governor Sir Gordon Guggisberg devised and carried out the plan (Oduro, 1999). The port's construction began in December 1919 and was completed in 1927. On April 3, 1928, the Honourable Sir J. H. Thomas, Secretary of State for the Colonies in the United Kingdom, officially opened the port (GPHA, 2002). Takoradi was chosen and recommended as a good site for a deep seaport following a hydrographic investigation done by the Gold Coast governor. After the port's completion, it handled approximately one million tonnes of both imports and exports cargoes per year. Since its inception in 1928, the Takoradi Port has witnessed significant infrastructure improvement (Ghana Ports and Harbours Authority, 2002).

#### *Historical Development of Tema Port*

The colonial authority commissioned Sir William Halcrow and partners from the United Kingdom to investigate a proposal to establish an aluminium business powered by a hydroelectric station on the Volta River basin in 1949. The decision of Tema was influenced by the necessity for a deep-water port in the country's east. The port's construction began in 1954, with the first cargo arriving in 1958. The port opened to regular trade in January 1962, with the ceremonial declaration issued on February 10th, 1962. (GPHA, 1991).

The Tema port is located on the Greenwich Meridian, 5.4 degrees north of the equator. It is roughly 30 kilometres east of Accra, Ghana's capital. The port covers an area of 3,904,754 m<sup>2</sup> and has a quay length of 2,196 m. The port has a coverage storage area of 53,270m and open storage of 97,200m. Reefers at the port have plug-in refrigerated containers. The port offers bunkering services as well as dry dock facilities (Owusu-Mensah, 2007). The Tema port handles approximately 80% of all imported products in Ghana. The principal commodities





handled by the ports include clinker, oil products, aluminium, automobiles, container freight, rice, wheat, and alumina (Gyebi-Donkor, 2006).

## 2.2 Digitalization in Custom Clearance in Ghana

The single window approach gained traction in customs clearance in the new millennium. It was defined by the World Customs Organization (WCO) as “a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single-entry point to fulfil all import, export, and transit-related regulatory requirements” (United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), 2005, p.7). Users might potentially save time, which is a primary indicator of efficiency, if the information is provided in an electronic format, as this would mean that individual data items would only need to be submitted once.

Countries reap higher benefits, as stated by the World Customs Organization (WCO), when they utilise information and communication technology (ICT) and dataset standards that are broadly accepted by important public and commercial partners (World Customs Organization (WCO), 2012). Blockchain technology is currently emerging as the next key technology to improve trade facilitation. One example of this is the TradeLens platform that Maersk has developed (Milne, 2018), and CargoX is a company that provides digital shipping documents.

Many ports have transitioned from manual to digital operations for the benefit of security and commercial facilitation, deploying powerful scanners to detect illegal products and fraudulent statements. Case studies provided by De Wulf & Sokol (2004) illustrate a widespread motivation for customs processes to be digitised. Turkey, The Philippines, Uganda, Mozambique, Morocco, and Peru have all digitised their customs processes as part of larger policy shifts. It was also necessary for Turkey to bring its customs legislation and administrative processes up to EU standards, in addition to the aforementioned adjustments. In 1998, Ghana began pursuing customs reform to complement a first trade reform aimed at enhancing the country's business climate. What these countries have in common is that politicians pushed for reforms that led to a drop in revenue, particularly at the customs office.

## 2.3 The Ghana national single window

To facilitate commerce between businesses in Ghana, the government has established the Ghana National Single Window (GNSW), an internet portal providing access to numerous business-related services. The Ghanaian government and the logistics industry can share information securely on this trade platform. As a result of this platform, data no longer needs to be entered repeatedly; instead, it can be electronically exchanged and reused, leading to quicker and more accurate findings and facilitating simpler compliance with standards set by the Ghanaian government (Aryee et al., 2021).

eTax Services, TradeNet Services and eRegistrar Services comprise the GNSW. Using TradeNet, the logistics industry may electronically share trade related paperwork with any party participating in the trade-related processes. Through eTax, taxpayers can apply for an I.D., update their information, file their taxes electronically, and pay any outstanding balances due. To import products into Ghana, one must first obtain a tax identification number. By using eRegistrar, investors can quickly and easily register their businesses and pay any related fees online. Any company planning to import products into Ghana must first register their business and obtain a unique automated tax identification number (Aryee et al., 2021).



In addition, the GNSW has an eMDA module that electronically connects shippers the Ghana Integrated Cargo Clearance System (GICCS) as well as with Ministries, Departments, and Agencies (MDAs). eMDA enables ministries, departments, and agencies to submit, process, approve, and distribute a wide range of trade related data online. GICCS, on the other hand, has modules for manifest filing and payment processing. Container transfer, cargo tracking, and delivery order submission are all components of the logistics module (Aryee et al., 2021).

#### 2.4 Stages of Digital Transformation in Tema Port

##### *Gateway Project*

After reviewing Ghanaian trade reforms implemented in the 1990s, the World Bank and other interested parties concluded that they need the backing of changes in other sectors to fulfil their aims. This resulted in the development of a project known as the “Ghana Trade and Investment Gateway Project”. Ghana Immigration Service, Ghana Ports and Harbours Authority, Customs Excise and Preventive Service, Ghana Free Zones Board and Ghana Investment Promotion Centre were among the agencies targeted for transformation and improvement as part of the project. These organizations interact with businesses, trade and people coming into and going out of the country (De Wulf & Sokol, 2004).

##### *Global Communications Network (GCNet)*

A fundamental goal of Ghanaian policy is to position the country as the premier destination for international investment in West Africa. Due in large part to the efforts of the Gateway project, the Port Authority has been reclassified from a service port to a quasi-landlord port, allowing for increased private involvement in port operations and the launch of the Global Communications Network (GCNet).

The Ghana Revenue Authority's Customs Division owns 20%, the Ghana Shippers Council owns 10%, and two local banks own 5% each of the joint venture company GCNet (Asuliwonno, 2011). Both the TradeNet Electronic Data Interchange and the Ghana Customs Management System (GCMS) are systems that GCNet set up and manages on behalf of the Ministry of Trade and Industry (De Wulf & Sokol, 2004). GCNet is a single-window platform where all stakeholders, including government agencies and private service providers, may input and access data, and it was designed after Singapore's successful TradeNet. There was an increase in revenue collection from customs duties and a decrease in the time it took to process containers at the Tema port, as reported by De Wulf (2004), who also claims that businesses benefited from the automation, simplification, and enhancement of a number of customs and import processes.

The GCNet also made it possible to submit manifests more quickly and efficiently as well as to facilitate the transmission of data and supporting documentation to the appropriate port authorities in a timely manner via the Internet. Also conceivable was the redirection of consignments from transit via GC2Net, which prevent them from being illegally redirected to other markets where they would not be subject to the appropriate tax and charge reporting (Asuliwonno, 2011; Bainiah, 2008). The establishment of GCNet signalled the beginning of the digital revolution of Ghana's import clearance operations. The digitization of customs processes, on the other hand, was not without its drawbacks. According to De Wulf (2004), the project didn't get off the ground until 2002, when the government had settled down and given its blessing to the idea of automating customs operations. This was due to a combination of factors, including changes in legislation to accommodate automation in customs operations, changes in government around the time of incorporation and commitment issues on the part of the newly formed government and customs leadership. By integrating the systems of other government agencies involved in the approval process, GCNet's eMDA platform made the process more efficient. It was an early version of the now common single-window approach. Despite resistance from some of its owners, the company continued to expand the system and invest in its infrastructure. Since 2003, Ghana Communications Network



(GCNet) has been working with West Blue consultancy, now known as Customs World of Dubai, to facilitate trade via Ghana's ports. The government of Ghana has requested that GCNet cease operations at the ports of Ghana on June 30, 2020, even though its mandated contract is set to expire in 2023. This led to the development of a new system known as the UNIPASS/ICUMS (Integrated Customs Management System).

### *UNIPASS/ICUMS*

Ghana Link Network Limited was awarded a single window contract for \$40 million over ten years to facilitate paperless services at the port in March 2018. Proponents of the new UNIPASS system, which claims to have been modelled after the successful Customs UNI-PASS International Agency (CUPIA) in Korea, have made a number of claims about the system's effectiveness (Choo & Nam, 2016). UNIPASS stands out from the crowd since it offers a complete customs management solution. In the words of Ashley (2020), "the end-to-end customs system makes it difficult for anyone to tamper with figures". In other words, UNIPASS is a standalone upgraded comprehensive customs system that can operate in any context. According to Osei-Owusu et al. (2020), UNIPASS is divided into three sub-divisions that adhere to internationally acknowledged practices: business processing component, infrastructure components and support to the business processing component.

Time-based business frameworks, typically consisting of a single portal and non-conform business frameworks, are the focus of the system's business processing component. Intriguingly, this aspect of the system is also related to the actual customs frameworks, which portray the online connectivity activities inherent to the customs process. Cargo management, a clearance system, duty collection, audit inquiry, and surveillance are all functions of the business processing component.

As the name implies, support to the business processing components supporting the UNIPASS business processing component which is built on robust frameworks that speed up and simplify customs clearance. These frameworks are linked to the UNIPASS business processing component element and include, the Performance Management System (PMS), the Customs Data Warehouse (CDW), the Law Compliant System (LCS) and the Integrated Risk Management System (IRMS).

The third and final part of UNIPASS is the system's physical infrastructure, which includes the policies and procedures in place to regulate and monitor customs networks for optimal efficiency in data handling. Some of the frameworks related with the infrastructure component are IT governance and EWACS. Under the old system, various agencies oversaw valuation, classification, risk management, and payment, which led to financial losses for the government and extra time spent on holding up shipments at Ghana's ports. The UNIPASS system, according to Mante –Kodjo (2020), will guarantee a faster turnaround time. Furthermore, it will limit the ability to ship goods from one port to another for the sake of a certain operation and finally, it will ensure that commodities are cleared from the ports within 24 hours of arrival (Ghana Ports and Harbours Authority (GPHA), 2020). Ashley (2020) made a case for two advantages linked with the implementation of the UNIPASS system. First, it will increase trading activity within Ghana's borders and ports, close all loopholes connected with lost national revenue, and ensure that customs clearance is completed as quickly and efficiently possible. Second, because of UNIPASS / ICUMS, the Ghanaian economy will flourish and be seen as a viable trading partner on the international stage by organisations like the World Bank and the International Monetary Fund. The question today is, if UNIPASS/ICUMS will help to assure swift customs clearance at Ghana's ports and borders, why is there such a controversy and resistance? This research aims to address these and other issues.

### 2.5 Empirical Review

This portion analyses similar findings by other researchers in digitalization in the maritime industry. Osei-Owusu et al. (2020) conducted a study titled "Port Paperless System in Ghana, the Way Forward: GCNET or UNIPASS/ICUMS". The study attempted to dive into what the issues were regarding using the UNIPASS/



ICUMS and then propose remedies to avoid any repeat occurrences anytime a new system or programme for clearing cargo at Ghana's ports is introduced. The authors used the qualitative method of investigation to achieve this goal. According to the study, the UNIPASS/ICUMS experienced various issues, including a lack of training, a lack of piloting or simulation due to the hurried style with which the project was launched, and a high cost to the importer due to improper contracts and duplication of services. While the findings of this study are significant, they were undertaken between April and June 2020, when GCNet was asked to shut down and roughly simultaneously with the installation of UNIPASS/ICUMS, therefore most of the issues are considered as standard connected with the introduction of any new system or project. As a result, another investigation into its functioning is required to determine whether the challenges highlighted in this study still exist, which is what this current study tries to address.

Amegboe (2019) in his research investigates the impact of Tema Port's paperless technology on productivity. This study employed a quantitative research approach to show how the paperless port system has improved productivity at the Port of Tema. Purposive sampling was utilized to get data from 85 employees, with questionnaires being employed to collect information based on the study's objectives. According to the findings of the study, the IT infrastructure and staff training are the two most important elements influencing employee performance. In addition to knowing how the paperless port system works and being able to use a computer, it was discovered that none of the other two characteristics had an impact on staff performance. In addition, the research showed that the paperless port system faces difficulties in the following areas: stakeholders' understanding of paperless processing, network and internet issues, coordination between customs, banks and other stakeholders; the General Accounting Office, process integration; security concerns; support/training for staff and clients and complex procedures and document requirements. The challenges in this study were limited to just employee performance. Other challenges in service delivery and clearance process were left out and hence the need for the present study to fill the gap.

Domi's (2019) research evaluates the impact of information technology on guaranteeing the efficiency of Customs Division operations. The study is quantitative in nature, with a sample size of fifty (50) people picked at random. The study concludes that the state has seen an increase in revenue collection and an improvement in the clearing process due to the usage of ICT. According to the results of the study, the time it takes to clear products has decreased significantly due to the increased efficiency of document processing since the use of IT in the clearing process. Despite the positive effects of IT on Customs Service clearing processes, some challenges were identified, including regulatory agencies' reluctance to accept IT; officials' and agencies' reluctance to adopt new ways of doing things; problems with eradicating all forms of human intervention; a lack of sufficient infrastructure and a lack of staff training. The study concentrated on the Ghana Revenue Authority's customs division, necessitating the current investigation to determine the benefits and obstacles related with the implementation of the UNIPASS or ICUMS at the Tema Port.

## 2.6 Conceptual Framework and Hypotheses development

The Technology–Organization–Environment (TOE) Framework, developed by Tornatzky and Fleisher (1990), is a comprehensive and widely recognized model used to understand the factors influencing the adoption of technological innovations within organizations. This framework posits that, three primary contexts – technology, organization, and environment – play crucial roles in shaping the adoption and implementation of new technologies. By providing a structured approach to analysing how internal and external factors interact, the TOE Framework helps organizations identify the drivers and barriers to technological innovation. The technological context involves the existing technologies within the organization as well as the new technologies available in the market, including their perceived benefits, complexity, and compatibility (Baker, 2012). The organizational context refers to the internal characteristics of the organization, such as its size, structure, resources, and culture,

as well as its readiness to embrace new technologies and the level of support from top management (Lippert & Govindarajulu, 2006). Finally, the environmental context encompasses the external environment in which the organization operates, including industry characteristics, market structure, regulatory environment, and the competitive landscape (Oliveira & Martins, 2010). Each of these contexts encompasses a set of characteristics that can either facilitate or impede the adoption process.

The TOE Framework has been applied in numerous studies across various domains to understand the adoption of different technological innovations. For instance, Ansong and Boateng (2018) used the TOE Framework to investigate the factors influencing the adoption of telecommuting practices in a developing country, highlighting the relevance of technological, organizational, and environmental factors in shaping adoption decisions. Their study underscored the importance of considering a holistic view of these factors to develop effective strategies for technology adoption. Similarly, Thong (1999) utilized the TOE Framework to study the adoption of information systems in small businesses, demonstrating how organizational characteristics such as firm size and management support play a crucial role in technology adoption. Zhu, Kraemer, and Xu (2003) applied the framework to e-business adoption, showing the impact of environmental factors such as competitive pressure and regulatory support.

By conceptualizing the TOE Framework in this study, we aim to generate hypotheses on the determinants of Tema Port's digitalization. Understanding how these three contexts influence the adoption of digital technologies at Tema Port can provide valuable insights for developing effective strategies to enhance the port's digital transformation. This comprehensive approach not only helps in identifying potential challenges but also in leveraging the strengths of each context to facilitate a smoother adoption process. The holistic nature of the TOE Framework ensures that all critical aspects influencing technological adoption are considered, providing a robust foundation for strategic planning and implementation.

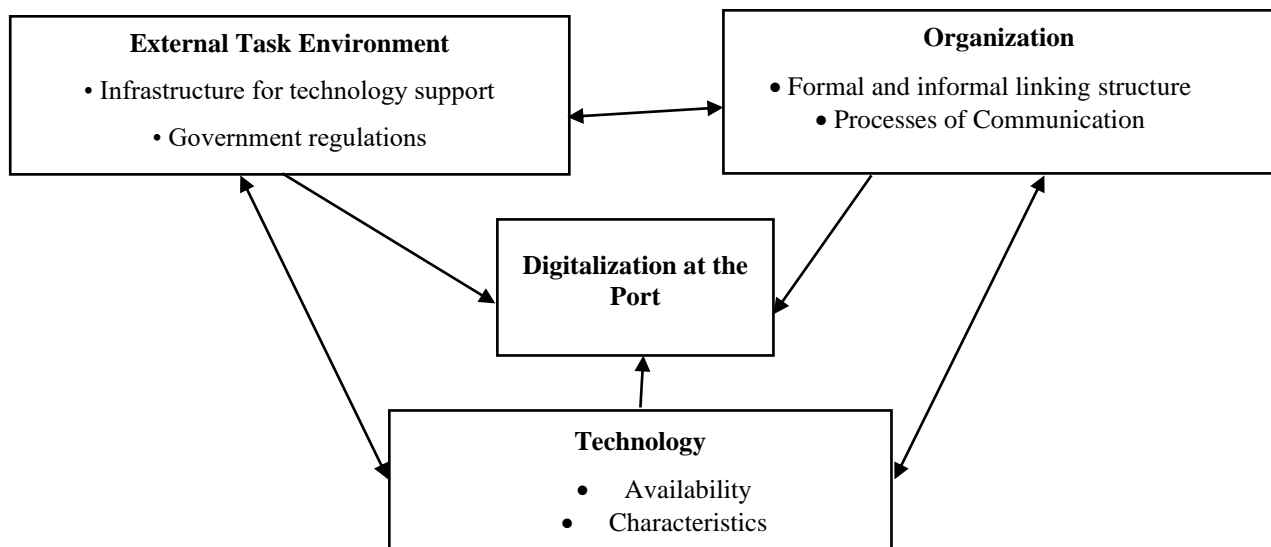


Figure 1: Conceptual framework of the Study

Source: Author's construction (2024)



### *The Technological Context*

All relevant technologies, including those in use internally and those accessible on the market but not yet implemented, are included in the technological context of a company. The company's current technology stack sets the limits on the types and rates of technological innovation that may be implemented, making it a crucial factor in the adoption process (Collins et al., 1988). Existing innovations that are not yet being used by the firm have an effect on innovation by establishing the boundaries of what is possible and by showing firms how technology can help them to evolve and adapt. In conclusion, before introducing an innovation, businesses need to carefully consider what kind of internal shifts will occur as a result. Innovations can have varying degrees of influence on a business and the industry in which it operates. As a result, the study hypothesizes that:

*H1: The availability of technology in a firm influences the adoption process of UNIPASS/ICUMS at the Tema port.*

### *The Organizational Context*

Structures of employee connections and internal means of communication are examples of elements that make up a company's organisational setting. There are a number of ways in which the context affects choices about adoption and execution. To begin, the importance of the company's structure to the innovation adoption procedure has been studied.

Adoption is associated with naturally occurring, decentralised structures (Burns & Stalker, 1962). Teams are highly valued, employees' responsibilities are flexible, and both vertical and horizontal channels of communication are fostered in these types of organisations. Organizational communication processes can either foster or inhibit innovation. Top-level management can help spur innovation by creating a culture that welcomes new ideas and rewards those that contribute to the company's mission and long-term vision (Tushman & Anderson, 1986). Top-level management's leadership behaviours and communication processes can help foster an innovative culture by outlining innovation's place in the company's overarching strategy, stressing its significance to lower-level employees, formally and informally rewarding innovation, highlighting the company's innovative past, and assembling a talented executive team that can paint an inspiring picture of the company's future. Thus, the study hypothesis that:

*H2: Formal and informal linking structures influence the adoption of the UNIPASS/ICUMS at the Tema Port.*

### *The Environmental Context*

The legislative climate, the organisational make-up of the relevant industries, and the presence or absence of relevant technical service providers all contribute to the overall environment. There are a number of ways to look at the structure of industries. To some extent, technological backbone affects creative activity. When it comes to customs networks, for instance, UNIPASS's infrastructure section deals with the processes set up to enable the smooth functioning and control of those networks, which in turn ensures the efficiency of information management. Finally, the impact of government regulation on innovation can be either good or harmful. For instance, the World Bank and other stakeholders' evaluation of Ghana's post-coup trade liberalisation efforts in the '90s sparked the creation of digital transformation in Tema. Thus, the study hypothesis that:

*H3: Technology support infrastructure influence the adoption of the UNIPASS/ICUMS at the Tema Port.*

In summary, these three factors - technological, organizational, and environmental settings – create “both constraints and opportunities for technological innovation” (Tornatzky & Fleischer, 1990, p.154).



### 3. Research Methodology

The study adopted a quantitative research design. A quantitative research design operates on inductive logic rather than deductive reasoning, and for that matter, is highly influenced by the quest for generalization, replicability, and numbers (Creswell & Creswell, 2005). Hence, it is suitable to be used in answering the objective of this study.

#### 3.1 Study population and area

The study's target population is all Tema Port employees who utilize the Paperless Port System, which is projected to be around 2500 people. This population has been chosen because the focus of the study is on the paperless port system hence, users of the system automatically form part of the population

#### 3.2 Sampling

The study utilized a purposive sampling technique to identify and select cases with a lot of information in order to make the most use of few resources” (Patton, 2016, p32). “This entails discovering and sifting through individuals or groups of persons who are particularly informed or experienced regarding a certain topic of interest” (Creswell, 2014). Concerning this study, the researcher was able to gather the necessary number of participants for essential data by making effective use of the constrained amount of time and resources that were available thanks to the implementation of this technique.

#### 3.3 Data collection instrument

Standardised questionnaires were used, the researchers were able to collect quantitative data for the study. The questions included both closed-ended responses. Questionnaire to the respondents were divided into five sections. The first section consists of questions targeted at collecting respondents profile data while sections two to five consist of specific questions seeking responses to the research questions. Responses consist of selection from a list or rating / scaling using five-point scales. The use of structured questionnaires to collect data from respondents is considered most convenient due to the need to get as many responses as possible while being cognizant to keep the time taken to fill it as short as possible (Leckelt, et al., 2018). The purpose of the questionnaire was to collect information about the impact that digitalization had on the import clearance process from the permanent staff working at the Tema port. Table 1 provides the breakdown of the constructs used to collect data.

Table 1: *Constructs used to collect data*

Constructs	Number of Items	Source (s)
Adoption of Information Technology	4	Osei-Owusu et al. (2020)
The availability of technology	4	Amegboe (2019)
Technology Support Infrastructure	4	Amegboe (2019)
Formal and Informal Linking Structures	3	Aryee et al. (2021)

Source: Author's construction (2024)

#### 3.4 Data Processing and Analysis

Questionnaire data were entered into an Excel spreadsheet after being coded (Microsoft office, 2019). Before importing it into STATA 15.0 for statistical analysis, the data was cleaned. Validity and reliability analyses were



performed using SPSS. Frequencies and percentages were used to describe the categorical variables, while means and standard deviations illustrated the continuous ones. The chi squared test of independence was used to compare the means of categorical independent variables and the outcome variable, whereas the t-test was used to compare the means of continuous independent variables. It is possible to evaluate the impact of each independent variable on the dependent variable by employing a multiple regression model. According to the recommendations of Saunders et al. (2012), all statistical analyses are performed at the 5% significant level.

### 3.5 Model Specification

The model for the study is illustrated as:

$$\text{Digitalization adoption} = \beta_0 + \beta_1E + \beta_2O + \beta_3T + e$$

E = Environment

O = Organisation

D = Digitalization adoption

T = Technology

$\beta_0$  = Constant

e = Error term

## 4. Analysis of results

### 4.1 Background of Respondents

This section presents the demographic details of the respondents. In this study, 56.67% of respondents/workers were females while 43.33% were males. Majority 57.33% of the workers fell between the ages of 31-35 and 57.33% were below 30 years. All the workers had tertiary education. Most of the workers 28.67% at the Tema port worked as ICT support officers and cashiers while 14.67% worked as clearing clerks, and logistics officers and managers, both recorded a percentage of 14% each. The majority of workers at Ghana Ports and Harbours Authority have worked for at least 2 to 5 years, representing 57.33%, 14% have worked for 5 to 10 years at the port, and those who have worked for less than 1 year were 28.67%. The background of the respondents is summarized in Table 2.



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Table 2: Background of Respondents

Characteristics	Frequency	Percentage (%)
Gender: Female	85	56.67
Male	65	43.33
Age: 31-35	86	57.33
Below 30	64	64.67
Educational level: Tertiary	150	100.00
Role at the port: Clearing Clerk	22	14.67
ICT support officer	43	28.67
Logistics officer	21	14.0
Manager	21	14.0
Cashier	43	28.67
How long have you worked at the port: 2-5 years	86	57.33
5-10 years	21	14.0
Less than 1 year	43	28.67

Source: Survey Data (2024)

4.2 Benefits of port process digitalization

The benefits linked with Ghana's paperless port system as the first objective of the study, the researcher examined the benefits that were linked with the paperless system at the Tema port. It was found that, the use of UNIPASS enhanced document processing at the Tema port. This was corroborated by 85.33% of the respondents while 14.67% had an opposing view that the UNIPASS did not enhance document processing at the port. Respondents were also asked how long it took them to clear a container prior to the introduction of UNIPASS, it was revealed by 43 28.67% that, they could clear a container within an hour, and others 28.67% indicated that it took the port 10 to 12 days. It was also found that 14.67% indicated that it took them 7 to 9 days while the remaining 28% indicated that, it took them 1 to 3 days.

However, with the introduction of UNIPASS, 42.67% of the respondents indicated that, it took them within an hour to clear a container, while 28.67% indicated that, it took them 1 to 3 days, 14% indicated it took them 4 to 6 days and the remaining 14.67% indicated it took them 7 to 9 days to clear a container.



**Table 3: The Benefits Linked with Ghana's Paperless Port System**

Characteristics	Frequency	Percentage (%)
The implementation of UNIPASS allowed for more efficient processing of documents at the port:		
No	22	14.67
Yes	128	85.33
When UNIPASS wasn't around, how long did it take to clear a container:		
Within an hour	43	28.67
1-3 days	42	28.0
7-9 days	22	14.67
10-12 days	43	28.67
Since UNIPASS came out, how long does it take to clear a container:		
Within an hour	64	42.67
1-3 days	43	28.67
4-6 days	21	14.0
7-9 days	22	14.67

Source: Survey Data (2024)

In order to ascertain how digitalization impact clearance process at Tema port, mean scores and standard deviation were used. Any mean score between 1.0 to 1.80 is deemed strongly disagree, 1.81 to 2.61 as disagree, 2.61 to 3.40 as neutral, 3.41 to 4.20 as agreed, and 4.21 to 5 as strongly agreed (Rooshdi et al., 2018). When asked if the UNIPASS system has made it easier to find information about exporters and importers, respondents were neutral. and also neutral with regards to whether the efficiency of customs clearance operations has increased, with a mean (M) and standard deviation (SD) of 3.12 and 1.47, and M = 3.13 and SD = 1.26, respectively.

Customs clearance operations have become more efficient. Respondents agreed that adopting the UNIPASS system has resulted in significant time savings and decreased need for human intervention. (M = 3.42 and SD = 0.91). As a result of the deployment of UNIPASS, respondents agreed that clearance procedures have been streamlined (M = 3.71 and SD = 0.70) and respondents also indicated that, with the advent of UNIPASS, Customs and all other parties engaged in the clearance of products can share vital information. (M = 3.55 and SD = 1.30).

Additionally, it was also found that, respondents remained neutral on if the state has been able to collect more money because of UNIPASS, (M = 2.85 and SD = 1.13); neutral on if the use of UNIPASS has made report preparation easier (M = 3.27 and SD = 1.29); neutral on if the use of UNIPASS has made it simpler to track down those responsible for criminal activities. (M = 3.28 and SD = 0.71) and also neutral on how easy it is to communicate with co-workers and customers (M = 3.27 and SD = 1.04). Respondents agreed that the introduction of UNIPASS has reduced congestion at the port (M = 3.55 and SD = 1.30).

Table 4. The Benefits of Paperless Port System

Characteristics	Mean	Std. Deviation	Ratings
The adoption of the UNIPASS system has made access to information about exporters and importers easier	3.12	1.470	Neutral
The speed with which customs clearance is done has gotten better.	3.13	1.255	Neutral
The use of the UNIPASS system has resulted in time savings and a reduction in the amount of human participation.	3.42	.907	Agree
Clearance procedures have been reduced as a direct result of the implementation of the UNIPASS system.	3.71	.700	Agree
With the help of UNIPASS, Customs and everyone else involved in the clearance of goods can now share important information.	3.55	1.303	Agree
The use of UNIPASS has resulted in greater revenue collection for the state.	2.85	1.134	Neutral
The application of UNIPASS has simplified the process of report preparation.	3.27	1.288	Neutral
Because of the usage of UNIPASS, it is now much simpler to track down evidence of criminal conduct.	3.28	.706	Neutral
It is now simpler to communicate with one's co-workers as well as one's clients.	3.27	1.042	Neutral
With the help of UNIPASS, the port has become less crowded.	3.55	1.303	Agree

Source: Survey Data, 2024

### 4.3 Factors that influence port process digitalization

Analysis for the second research objective is presented in this section.

First, descriptive statistics was carried out on the data. Descriptive statistics are necessary in quantitative statistical analysis, especially before doing exploratory factor analysis or multiple regression analysis Pallant (2011), which contains the central tendency metrics such as the median, mean, and mode (Hair et al., 2010). Additionally, descriptive statistics give brief summaries of the data in the research. Descriptive statistics, Dispersion metrics include the standard deviation, kurtosis, and skewness. According to Pallant (2011), the descriptive statistics of the measures enable the researcher to determine the extent to which the participants agreed or disagreed with the various items on the questionnaire. A total of 25 items representing the five components were demonstrated to the participants. The dependent variable is UNIPASS/ICUM Adoption, whereas the independent variables are Formal and informal linking structures, Technology Support Infrastructure, and Technology Availability/characteristics. Table 5 shows the various codes that were utilized.

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**Table 5: Variable Coding Scheme for Data Analysis**

Variable	Code
Formal and informal linking structures	FILS
Technology Support Infrastructure	TSI
Technology Availability/ Characteristics	TA/C
UNIPASS/ICUM Adoption	UNIPASS/ICUMA

The descriptive statistics analysis is presented in summarized in Table 6.

**Table 6: Descriptive Analysis**

Factors	N	Mean	Std. Deviation
FILS	150	13.71	4.308
TSI	150	13.56	3.945
TA/C	150	10.85	3.343
UNIPASS/ICUMA	150	14.56	4.133

Source: Survey Data (2022)

*Exploratory Factor Analysis (EFA)*

The data was subjected to Exploratory Factor Analysis (EFA) using the Statistical Package for Social Sciences (SPSS) version 25. According to Norris and Lecavalier, EFA is a statistical method used mostly to uncover the underlying properties of a large group of variables (2010). The primary purpose of EFA is to discover the underlying relationships between variables in this study. The Kaiser-Meyer-Olkin (KMO) and Bartlett's Tests were employed in this example to determine if the data was eligible for factorization. Table 7 displays the results of the KMO and Bartlett's tests.

**Table 7: KMO and Bartlett's Test**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.631
Bartlett's Test of Sphericity	Approx. Chi-Square	178.145
	df	21
	Sig.	.000

Source: Survey Data (2022)

*Principal Component Analysis*

Principal Component Analysis (PCA) is used in multivariate analysis to identify the inherent structure of the dataset (Abdi & Williams, 2010). As a consequence, it is recognized as one of the most successful strategies for understanding dataset variance. To put it another way, PCA aids in the visualization of genetic distance and relatedness between variables in a study. The 25 elements were factored using the Principal Component Analysis (PCA) approach with Varimax Rotation.

According to Hair et al. (2010), items should have loadings more than 0.60 in order to be kept for analysis; however, in the social sciences, lower loadings greater than 0.40 may be acceptable for data analysis. In the context of this inquiry, all 25 variables had loadings greater than 0.60 as shown in Table 8.

**Table 8: Exploratory Factor Analysis (EFA)**

Rotated Component Matrix <sup>a</sup>			
	Components		
	1	2	3
FILS1	.899		
FILS2			.674
FILS3	.868		
FILS4			.743
TSI1			.801
TSI2	.783		
TSI3	.978		
TSI4	.786		
TA/C1	.767		
TA/C2			.801
TA/C3	.682		
UNIPASS/ICUMA1	.795		
UNIPASS/ICUMA2	.732		
UNIPASS/ICUMA3	.833		
UNIPASS/ICUMA4			.926

a. 3 factors extracted.

Source: Survey Data (2022)

Note: FILS =Formal and informal linking structures, TS =Technology support and TA = Technology availability.

*Reliability Test*

In addition to the Exploratory Factor Analysis, Table 9 offers measures of internal consistency, such as Cronbach's alpha ( $\alpha$ ) of the variables. According to Hair et al. (2010), the most popular measure of internal consistency is Cronbach's alpha ( $\alpha$ ), and the Cronbach's alpha coefficient should be greater than 0.7. However, in an exploratory investigation, a 0.6 threshold should suffice. Table 9 shows that the Cronbach's alpha coefficients for all variables are more than 0.6. This shows that the factor components are internally reliable, allowing for further investigation of the dataset.

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Table 9: Reliability Test

Variables	Loadings	Number of Items	Cronbach's Alpha ( $\alpha$ )
Formal and informal linking structures		4	.948
FILS1	.899		
FILS2	.674		
FILS3	.868		
FILS4	.743		
Technology Support Infrastructure		4	.941
TSI1	.801		
TSI2	.783		
TSI3	.978		
TSI4	.786		
Technology Availability/ Characteristics		3	.937
TA/C1	.767		
TA/C2	.801		
TA/C3	.682		
UNIPASS/ICUM Adoption		4	.908
UNIPASS/ICUMA1	.795		
UNIPASS/ICUMA2	.732		
UNIPASS/ICUMA3	.833		
UNIPASS/ICUMA4	.926		

Source: Survey Data (2022)

*Multiple Regression Analysis*

The above components were validated and assessed using multiple regression analysis. This was done after ensuring that none of the regression assumptions had been violated. The technique of multiple regression analysis was selected because of its ability to predict the variables presented as well as examine the proportionate influence of each variable. As a consequence, traditional multiple regression was performed, which is allowed when the purpose of the study is to better understand the connection between a dependent variable and independent variables (Pallant, 2011).

The link between digitalization and import clearance process was assessed using regression analysis. Formal and informal linking structures, technology support infrastructure, technology availability/characteristics and UNIPASS/ICUM were the independent variables, while UNIPASS system adoption was the dependent variable.

The correlation coefficient R-square in Table 10 is 0.8178 in the model summary. This indicates that the independent components are well suited to the Adoption of the UNIPASS system at the port. When the components change by 0.8178 units, the adoption of the UNIPASS system will increase by 81.78% on average. As a consequence, the linkages between the constructs are tight and explained the dependent variable. Furthermore, with Adjusted R-Square of 0.8128, the digitalization predicts 81.28% of the variance in adoption of the UNIPASS system. To put it another way, the model almost accounts close to 100% of the variance in the adoption of the UNIPASS system.

**Table 10: Regression Analysis of Factors That Influence Digitalisation Adoption**

<b>Number of obs</b>	= 150			F(4, 145)	=162.70
R-squared	= 0.8178	Adj R-squared	= 0.8128	Prob > F	=0.0000
<b>Adoption of UNIPASS system</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>t</b>	<b>P&gt;t</b>	<b>[95% Conf. Interval]</b>
FILS	-10.57463	.9060707	-11.67	0.000	-12.36544 - 8.783815
TSI	2.086989	.4415399	4.73	0.000	1.214304 2.959675
TA/C	9.664652	1.867644	5.17	0.000	5.973328 13.35598
UNIPASS/ICUMA	2.781287	.9963157	2.79	0.006	.8121094 4.750465
	4.465185	1.720419	2.60	0.010	1.064847 7.865524

**Source: Survey Data (2022)**

For the first hypothesis, the regression analysis showed that formal and informal linking structures have a significant negative impact on the adoption of the UNIPASS system at the Tema port. When formal and informal linking structures and technology support infrastructure increase by -1057units, adoption associated with the UNIPASS system will decrease by 10.57% on average. H1 is therefore accepted.

For the second hypothesis, it was discovered that technology support infrastructure has a significant positive impact on the adoption of UNIPASS. An improvement of 0.0290 units in technology support infrastructure at the Tema port, it will improve the UNIPASS system adoption by 2.09%. In this regard, H2 is also accepted.

Additionally, technology availability at the port has a positive and significant impact on the adoption of the UNIPASS system. When the technological infrastructure within the country is improved by 0.0967 units, it will increase the operations of the UNIPASS system by 9.67%. The third hypothesis is also accepted.

## 5. Discussion of findings

### 5.1 The Benefits that are Associated with the Paperless Port System in Ghana

The benefits that are linked with the paperless system at the Tema port are discussed here.

It was found that the use of UNIPASS system enhanced document processing at the Tema port. This indicates that the UNIPASS system has improved document processing, which made it easier to clear goods on time. Because with the paper system, it takes a long time to process importers and exporters' documents and also faces a challenge of bureaucracy, but this new paperless system has come to resolve all these bottlenecks at the port. This agrees with Domi's (2019) findings who indicated that, document processing has greatly improved in terms of time required to clear products since the introduction of IT to clearing activities in ports. The paperless approach has helped to cut the time spent at the port clearing goods.

The paperless system has arrived to improve freight clearance at Ghana's Tema port. Several companies-controlled valuations, classification, risk management, and payment in the old system, resulting in income leaks



and unnecessary delays in cargo clearance at Ghana's ports. This confirms the results of a study by Eye on Port (2018), which found that a year after implementing UNIPASS, the clearing process at the ports had greatly improved and clearing agents were able to receive customs classification valuation reports (CCVR) in 24 hours, down from three days under the previous regime.

The study also discovered that the number of people required to process a transaction at the port had reduced after the implementation of the digitalization at the port. This agrees with a study by Osei-Owusu et al. (2020) who found that, since implementing UNIPASS/ICUMS, the Port Paperless System (PPS) has drastically cut down on the number of people needed to complete inspections at the ports from 13 to 3. If the information is electronic, individual data items only need to be provided once, potentially saving users time, which is a major indicator of efficiency. Clearance procedures have been made easier because of UNIPASS. It was also said that with the help of UNIPASS, important information can now be shared between customs and everyone else involved in the clearance of goods. According to De Wulf (2004), numerous customs and import processes is automated, simplified, and enhanced, resulting in cost savings for enterprises, improved customs revenue collection, and faster processing of container traffic at the Tema port.

While respondents were neutral about whether the introduction of the UNIPASS has improved revenue collection, Ashley (2020) argued that it has boost economic activity inside Ghana's borders and ports, shut any loopholes associated with the loss of national income, and guaranteed that customs clearance is performed as fast and effectively as possible. UNIPASS / ICUMS can guarantee that economic development is transferred into the Ghanaian economy and that the Ghanaian economy has a high potential for international recognition from organisations such as the World Bank and the International Monetary Fund.

## 5.2 Factors that have an impact on the digitalization process at the Tema Port

The factors that influence the digitalization process at the port was also investigated using the TOE framework. Three hypotheses were developed and tested using the multiple linear regression analysis technique in this regard.

The first factor was the technological context. DePietro et al. (1990) refers to technical framework to include the organization's essential internal and external technologies. Equipment, processes, and so on are all examples of the kind of technologies we're talking about here. The results of this study prove that improvement in technology support infrastructure will improve the UNIPASS system. This finding is corroborated by extant literature on import clearing process (Domi, 2019).

With regards to the organizational context, the firm size, human resources, managerial structure, number of slack resources, centralization level and employee connection are all examples of elements that make up an organization's context. The results of the study prove that an improvement in the organizational context, in other words the availability of formal and informal linking structures improves the UNIPASS system. This results in consistent with findings in extant literature (e.g., Amegboe, 2019; Osei-Owusu et al., 2020).

Finally, the firm's competitors, available technology in the environment, regulatory environment and macroeconomic position all make up what is known as the environmental context. The study found that, technology availability at the port has a positive and significant impact on the adoption of the UNIPASS system. This finding is supported by a study by Kim et al. (2010) who examined issues related to e-payment at the port from the customers' viewpoint.

## 6. Conclusion and recommendations

The research looked at the benefits of the paperless system at the port of Tema. It was found that the use of UNIPASS has improved the way documents are handled at the Tema port, saved time, and cut down on the





number of people who need to be involved. Also, the study found that the use of UNIPASS has streamlined the clearance process and made it possible for customs and everyone else involved in the clearance of goods to share important information. The use of UNIPASS has also cut down on traffic at the port.

The research also identified factors that influence digitalisation, with specific reference to UNIPASS/ICUM at the Tema port. It was revealed that technological, organizational and environmental factors influenced the adoption of the UNIPASS system. To be more specific, the regression analysis showed that formal and informal linking structures had a significant impact on the adoption of the UNIPASS system while the technology support infrastructure had a significant positive impact on the adoption of the UNIPASS system.

### 6.1 Conclusions

The primary goal of the study was to ascertain whether digitization had any impact on Tema Port's import clearance process. It has been determined through a review of the relevant literature that the adoption of digitalization for all customs clearing processes is crucial for the optimization of customs operations and the enhancement of tax revenue collection by the state. This research investigated the positives of Ghana's paperless port system and the elements that affect digitalization, particularly as they relate to UNIPASS/ICUM. The research demonstrates that customs clearance processes are more efficient and that document procession times have decreased because to the implementation of the UNIPASS system. The customs clearance process has improved. Time and effort have been conserved using the UNIPASS system. Clearing procedures have been simplified thanks to the implementation of UNIPASS, which allows Customs and all other parties involved in the clearance of products to share essential data in real time.

Again, the study found several factors that influence digitalization. Among those factors technology support infrastructure was found to have a significant positive impact on the benefits of the UNIPASS system to the port. Thus, the study concludes that, an improvement in technology support infrastructure at the Tema port, will improve the UNIPASS system and maximize the benefits that comes with it.

### 6.2 Recommendations

The following suggestions are given to enhance the utilisation of digitalization in import clearing operations. These recommendations are made in accordance with the findings of the study.

According to the findings of the study, the presence of a technology support infrastructure has a considerable and favourable influence on the clearance operations at the Tema port. As a consequence of this, ensuring that the information technology department at Tema Port has sufficient personnel is essential to the delivery of high-quality services.

It is recommended that efforts be made to provide appropriate IT resources for workers, such as extremely quick and up-to-date computers and other accessories, to optimise their operations. This could include things like a printer.

In addition, the provision of high-speed internet connectivity and the employment of well-educated individuals in information technology roles to supervise IT departments must be seen as absolutely essential to the operations of the Tema port.

### 6.3 Limitations and Suggestions for Future Research

The study was limited to workers and Tema port in the Greater Accra region of Ghana. Further research can include the Takoradi port in Ghana to better understand the whole phenomenon of the study regarding the benefits of the UNIPASS system.



## Conflict of interest

The authors declare no conflicting interest in the conduct of the study.

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## Biographical notes



### **Esther Addy**

Esther Addy recently graduated from the School of Research and Graduate Studies of Wisconsin International University College, Ghana with a Master of Science (MSc) degree in Logistics and Supply Chain Management. Esther is an entrepreneur and a nutritionist. Her current study, focuses on examining the impact of digitalization on the import clearance process at Tema port.



### **Eric Ansong**

Eric Ansong holds a PhD degree in Information Systems from the University of Ghana. He is a Senior lecturer of Management Information Systems and the head of the department of Operations Management and Information Systems at the School of Research and Graduate Studies of the Wisconsin International University College, Ghana. His research interests include technology adoption, innovations in education, Digital business strategies and ICT4D. He has published a number of research articles in peer-reviewed academic journals and has presented papers in international conferences. His ORCID is <https://orcid.org/0000-0002-0262-3485>.



# Effect of Supply chain management practices on operational performance of Obuasi Goldfields during the Covid 19 Era

**Esther Ntummy Lartey\***

Department of Operations Management and Information Systems  
Wisconsin International University College  
Ghana  
esther.bekoe@wiuc-ghana.edu.gh

**Charles Edem Gidi**

EGAS Capital Ltd  
Ghana  
cgidi@egascapitaltd.com

**Mavis Offeibea**

Department of Operations Management and Information Systems  
Wisconsin International University College  
Ghana  
ofeibeaasamoah@yahoo.com

**\*Corresponding author**

## **Abstract:**

The study investigated the impact of supply chain management practices on the operational performance of Obuasi Goldfields during the COVID-19 pandemic era. A descriptive cross-sectional survey was adopted for the study. A total of 108 staff were randomly selected from the total staff Obuasi Goldfields representing: Senior Managers, Managers, and Assistant Managers. The study purposively sampled staff who were present at the time of the COVID-19 pandemic. A questionnaire was used for collecting data for the study. The results of the study revealed that information sharing level was the most practice, followed by strategic supplier, and customer relationship in terms of supply chain management practices in Obuasi Goldfields during covid-19 era. The study further discovered that supply chain management practices had an impact on operational performance at Obuasi Goldfields during covid-19 era. Based on the results it was concluded that information sharing level, strategic supplier partnership, and customer relationship were practiced as supply management practices at Obuasi Goldfields during Covid-19 era.

## **Keywords:**

Management Practices; Operational Performance; Supply Chain; Covid-19 Pandemic and Optimal Performance.

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## 1. Introduction

The emergence of the Coronavirus Disease (COVID-19 pandemic) in Wuhan, China, and its subsequent spread globally caused widespread panic across all spheres of human life (Aksoy & Koçak, 2020). This unprecedented event highlighted the unpreparedness of the modernized world, with its sophisticated systems, for any pandemic. The rapid spread of the highly infectious and deadly virus led to numerous governmental decisions aimed at curbing its spread. Almost every country imposed temporary restrictions on movement within its territorial boundaries, and some even implemented travel bans during peak periods in 2020. Gałaś et al. (2021) posited that the COVID-19 pandemic wreaked havoc on the world's political, economic, financial, and social structures. Over the past year, the pandemic's effects have been far-reaching; it has hampered communication, trade, and access to a wide range of goods, and it has nearly halted tourism and services (Gałaś et al., 2021). Furthermore, it has reduced product demand and sales, and halted many economic activities, including mining, which is the subject of our research.

The supply chain management practices of numerous firms have been greatly disrupted due to the pandemic (Meyer et al., 2021). Many firms have had to adapt to the new situation, facing changes that will likely persist long after the pandemic has passed. Since the inception of the pandemic in 2020, the supply chain management of many firms has been significantly impacted (Meyer et al., 2021). Mentzer et al. (2001) defined a supply chain as a “set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer.” Singh and Verma (2017) described a supply chain as a web of businesses, people, activities, information, and resources connecting the point of origin of a product or service to the final customer. Essential activities of a firm, such as inventory planning and purchasing, are encompassed within supply chain management, necessitating efficient procedures to achieve objectives. Effective supply chain procedures enable a company to cut costs, ensure quality, and manage risks within its supply chain (Ogunyemi et al., 2016). Essentially, supply chain management ensures that a firm plans, sources, makes, delivers, and returns products.

Organizational performance, defined as the actual output or outcomes of an institution compared to its intended outputs or goals (Upadhaya et al., 2014), can be measured through cost reduction, quality of goods/services, productivity, and lead time (Mchopa et al., 2014; Richard et al., 2009). Hamon (2003) emphasized that performance measurement is critical for effective management and that identifying and measuring the influence of supply chain management (SCM) on performance enhances organizational outcomes. However, performance does not receive sufficient attention in supply chain management research. Organizational performance indicators include financial targets and labor force satisfaction. Additionally, Ho (2008) observed that organizational performance could be estimated based on institutional effectiveness and efficiency.

Wincewicz-Bosy et al. (2021) noted that mining involves extracting raw materials from the Earth's crust and entails a full life cycle from exploration to production to closure, with provisions for potential post-mining land use. These activities indicate multiple players within the supply chain system in the mining sector. This study aims to examine the major supply chain practices within the mining sector in Ghana since the COVID-19 pandemic. Despite improved information and communication systems and technologies providing more opportunities for coordinating supply chain activities across the mining sector, bottlenecks remain within the Ghanaian mining sector's supply chain management system (Wincewicz-Bosy et al., 2021).

Scholars have identified effective supply chain management practices during the COVID-19 era (Raj et al., 2022; Butt, 2021; Heidary, 2022). However, these studies were conducted in other sectors, not in mining. Additionally, researchers have found relationships between supply chain management practices and operational performance (Siagian & Johono, 2022; Afrifa et al., 2021; Pono & Munizu, 2021). These studies primarily focus on the effectiveness of supply chain management practices on operational performance during the post-COVID-19 era.



Therefore, the current study addresses the impact of supply chain management practices on operational performance during the COVID-19 era, specifically focusing on the following objectives:

1. Assess the supply chain management practices at Obuasi Goldfields during the COVID-19 era.
2. Evaluate the impact of supply chain management practices on the operational performance of Obuasi Goldfields during the COVID-19 era.

## **2. Literature Review**

### **2.1 Supply Chain Management and the COVID 19 Pandemic**

The COVID-19 pandemic began in Wuhan, China, on December 31, 2019. As of August 17, 2020, there were approximately 22.1 million documented cases worldwide. The pandemic's emergence in China, one of the world's main manufacturing and distribution centres, significantly impacted the supply of finished and semi-finished products to nations reliant on China for trade. The COVID-19 pandemic has underscored the fragility of global supply networks due to raw material shortages, disruptions in manufacturing and transportation, and the effects of social distancing (Paul et al., 2021). The network of enterprises involved in transactions of intermediate products and services was severely disrupted as supply and demand for goods and services plummeted due to 'lockdown' policies that restricted on-site labour and consumer purchasing activities. Paul et al. (2021) noted that "the interruptions in the supply chain were mostly the result of lockdown measures developed and implemented by various governments throughout the world as a health plan to reduce the impact of the pandemic's spread on the human population." These lockdown measures led to border closures, production halts, restrictions on the movement of people and goods, and logistical challenges. This had a significant impact on the success and overall performance of many supply chain management businesses.

Raj et al. (2022) examined how the COVID-19 pandemic affected global supply chains at an unprecedented speed and scale. Their results suggest that the inconsistency of supply (PIS) is the challenge that correlates most strongly with other factors. Butt (2021) explored the countermeasures taken by buying and distributing firms to address supply chain disruptions caused by COVID-19. The findings reveal that buying firms are adopting agile production methods, focusing on tier-1 supplier risk, enhancing inbound material visibility, and temporarily closing production facilities to respond to the challenges posed by the pandemic. Furthermore, distribution centres are modifying their inventory policies, evaluating alternative outbound routes, and sourcing supplies to manage disruptions in their business operations amid the COVID-19 outbreak. Heidary (2022) examined the effect of the COVID-19 pandemic on global supply chain operations using a system dynamics approach. The results showed that global supply chains need more effective strategies to cope with global disruptions, with improving the flexibility of production capacity being one of the key strategies that global supply chain managers should pursue.

### **2.2 Operational Performance**

Operational performance is defined as the achievement of a company's operations in terms of quality and productivity (Kafetzopoulos & Psomas, 2015). It encompasses the company's operational concepts, management practices, and the strengths and weaknesses of its activities (Tseng & Liao, 2015). Essentially, operational performance measures the output and productivity of a process (Hussein Zolait et al., 2010). This measurement aims to determine whether a process is effective or needs improvement to maximize profit (Saunila et al., 2014).



Achieving superior operational performance is a gradual process. It is indirectly related to the financial performance of an organization (Zhang & Xia, 2013; Radnor & Barnes, 2007). Operational performance is assessed across four dimensions: quality, cost, delivery, and flexibility (Nabass & Abdallah, 2018; Chavez et al., 2013). The main objective of operations is to reduce costs and enhance efficiency in day-to-day activities. Operational performance also indicates how efficiently an organization can convert large amounts of raw materials into innovative and high-quality finished goods on time, with minimal waste (Prajogo et al., 2012; Green et al., 2011; Zhu et al., 2008).

Previous studies have mentioned that quality management programs and just-in-time processes act as moderators that influence the supply chain, subsequently impacting operational performance (Baird et al., 2011; Kannan & Tan, 2005). Other studies have highlighted the importance of operational performance in various aspects. For instance, Prajogo et al. (2014) emphasized the role of green products in achieving operational performance. Additionally, reducing defects and energy/waste (Petkova & Dam, 2014; Blome et al., 2014) and increasing productivity positively affect operational performance (Huq et al., 2014).

### 2.3 Supply Chain Management and Operational Performance

Supply chain management positively influences performance outcomes (Hussein Zolait et al., 2010). Effective supply chain integration regulates the efficient flow of goods by minimizing the time interval between customer demand and delivery. Supply chains where partners share relevant and accurate information are more effective than those lacking these characteristics (Siagian et al., 2021; Tseng & Liao, 2015; Vafaei-Zadeh et al., 2020). The ability to respond to changing customer needs and competitor actions is crucial (Fayezi & Zomorodi, 2015). Organizations that effectively manage their supply chains can compete more effectively and increase their competitive advantage (Kim & Cavusgil, 2009). Collaboration with supply chain partners allows companies to respond rapidly to market changes, enhancing operational profits (Yu et al., 2019). Optimizing the use of internal resources through effective supply chain management helps maintain competitiveness and improve operational performance (Siagian et al., 2021).

Siagian and Johono (2022) investigated the influence of supply chain integration on operational performance through supply chain responsiveness and innovation capability during the COVID-19 era. They found that supply chain responsiveness and innovation capability positively affect operational performance. Afrifa, Amoah, Fianko, and Dzogbewu (2021) also examined the impact of supply chain management on operational performance in health institutions. Their results showed a direct positive relationship between internal integration and operational performance, as well as between supplier integration and operational performance. Pono and Munizu (2021) aimed to examine the role of supply chain practices on operational performance and company competitiveness. Their study reported that supply chain practices positively impact operational performance. Additionally, supply chain practices also positively impact operational performance indirectly through the role of company competitiveness as a mediating variable.

## 3. Research Methodology

This study adopted a descriptive survey design to collect data from a sample selected from a larger population, describing the situation as it was at the time of the study. A cross-sectional survey of Obuasi Goldfields in the Obuasi Municipality, Ghana, was conducted to establish the relationship between supply chain management practices and their effect on operational performance.

Burns and Grove (2003) define sampling as the process of selecting a group of people, events, or behaviors with which to conduct a study. A total of 108 staff members were randomly selected from Obuasi Goldfields, including



senior managers, managers, and assistant managers. The study purposively sampled staff who were present during the COVID-19 pandemic.

An adapted questionnaire was used for data collection. The Supply Chain Management Scale (SCMS) and Operational Performance Scales (OPS) were adapted from Nawaz (2019). The SCMS ( $\alpha = 0.73$ ) comprised three dimensions: strategic supplier partnership, customer relationship, and information sharing, with reliabilities of 0.73, 0.71, and 0.76, respectively. The SCMS is a five-point Likert scale ranging from strongly agree to strongly disagree. The operational performance scale ( $\alpha = 0.83$ ) was also a five-point Likert scale ranging from strongly agree to strongly disagree.

Data on the demographic characteristics of respondents were analyzed using frequencies and percentages. Data for the first research objective were analyzed using means and standard deviations. Data for the second research objective were analyzed using SEM path analysis with 1000 bootstrap samples. The data were processed and analyzed using SPSS version 25 and JAMOVI software version 23.

#### 4. Analysis of results

##### 4.1 Demographic Characteristics of Respondents

The results in Table 1 showed that a total of 108 managers of different ranks participated in the study, which was conducted at Goldfields Mining Company. In terms of gender majority ( $n = 67, 62\%$ ) were males. The position of participants in the company includes Senior Managers, Managers, and Assistant managers involved in procurement and supply chain management in the institution. Majority of participants were managers ( $n = 41, 38.0\%$ ). In terms of years of service, the highest proportion of participants had worked in the organization for a period ranging from “3 – 6 years”. Details are presented in Table 1.

Table 1 – Demographic Characteristics of Respondents

Variable	Sub-scale	Frequencies	Percentage%
Gender	Male	67	62.0
	Female	41	38.0
Job-Title	Senior Managers	31	28.7
	Managers	41	38.0
	Assistant Managers	36	33.4
Years In Service	Under 2 years	1	9.0
	3 – 6 years	43	39.8
	7 – 10 years	37	34.3
	Above 10 years	27	25.0

Source: Field Survey (2024)

##### 4.2 Supply Chain Management Practices at Obuasi Goldfields During The Covid-19 Era

This research objective aimed to assess the supply chain management practices in Obuasi Goldfields during the COVID-19 era. Respondents were required to express the extent they agree or disagree with supply chain management practices on a 5-point Likert scale. For the purpose of the analysis, the mean scores of all items under each dimension were summed up and divided by the number of items under each dimension to get the



mean of means. The overall mean of means was calculated by adding the mean scores of all items together and then dividing the sum by the total number of items. The mean score of the responses was compared with the average mean of 3.0 (thus  $[1+2+3+4+5]/5 = 3.0$ ). A mean score less than 3.0 indicates that respondents agreed with the statement, whereas a mean score of more than 3.0 indicates that respondents disagreed with the statement. Details are found in Table 2.

*Table 2: Supply Chain Management Practices of Goldfields Mining Company During Covid-19 Era*

<i>Items</i>	<i>M</i>	<i>SD</i>
<i>Strategic Supplier Partnership</i>		
We consider quality as our number one criterion in selecting suppliers	4.11	.460
We regularly solve problems jointly with suppliers	3.96	.546
We have helped our suppliers to improve their product quality	4.05	.741
We have continuous improvement programs that include our key suppliers	4.10	.785
We include our suppliers in our planning and settings activities	4.00	.761
We actively involve our key suppliers in new product development processes	4.03	.716
<i>Mean of means</i>	<i>4.04</i>	<i>.668</i>
<i>Customer Relationship</i>		
We frequently interact with customers to set reliability, responsiveness, and other standards for us	4.18	.577
We frequently measure and evaluate customer satisfaction	2.93	.846
We frequently determine future customer expectations.	4.22	.703
We facilitate customers' ability to seek assistance from us.	4.18	.624
We periodically evaluate the importance of our relationship with our customers.	1.87	.917
<i>Mean of means</i>	<i>3.48</i>	<i>.733</i>
<i>Information Sharing Level</i>		
We inform trading partners in advance of changing needs.	4.18	.490
Our trading partners share proprietary information with us.	4.13	.657
Our trading partners keep us fully informed about issues that affect our business	4.05	.702
Our trading partners share business knowledge of core business process with us	4.05	.661
We and our trading partners exchange information that helps establishment of business planning	4.18	.624
We and our trading partners keep each other informed about events or changes that may affect the other partners	4.21	.698
<i>Mean of means</i>	<i>4.13</i>	<i>.639</i>

Source: Field Survey (2024)

From Table 2, the results indicate that respondents agreed to strategic supplier partnership (M = 4.04, SD = 0.668). For instance, respondents agreed to consider quality as their number one criterion in selecting suppliers (M = 4.11, SD = 0.460), and continuous improvement programs that include their key suppliers (M = 4.10, SD = 0.785). Moreover, respondents generally agreed to customer relationship (M = 3.48, SD = 0.733). Thus,

respondents frequently determine future customer expectations (M = 4.22, SD = 0.703). However, respondents disagreed to periodically evaluate the importance of their relationship with their customers (M = 1.87, SD = 0.917). Additionally, respondents agreed to information sharing level (M = 4.13, SD = 0.639). For example, respondents agreed to the statement “we and our trading partners keep each other informed about events or changes that may affect the other partners” (M = 4.21, SD = 0.698), and “we inform trading partners in advance of changing needs” (M = 4.18, SD = 0.490).

Among the dimensions of supply management practices, respondents scored high on information sharing level (M = 4.13, SD = 0.639), followed by strategic supplier partnership (M = 4.04, SD = 0.668), and customer relationship (M = 3.48, SD = 0.733) which was had the least score among the dimensions.

### 4.3 Impact of Supply Chain Management Practices on Operational Performance

This objective sought to determine whether supply chain management practices will have an impact on organisational performance. The SEM path analysis with 1000 bootstrap samples, with bias corrected confident intervals. The exogenous (predictor) variables were the sub-dimensions of supply chain management practices (information sharing level, strategic supplier partnership, and customer relationship) which were measured on a continuous basis. The criterion variable was organisational performance which was also measured on a continuous basis. Details of the results are presented in Table 3 and Figure 1

*Table 3: Regression Model for Operational Performance*

Model	B	SE	CR	P	95% Confidence Intervals	
					Lower	Upper
(Contant)	0.891	0.134	6.654	<.001	0.629	1.154
Information Sharing	0.298	0.0406	7.33	<.001	0.218	0.378
Strategic Supplier	0.288	0.0492	5.85	<.001	0.191	0.384
Customer Relationship	0.201	0.0600	3.35	<.001	0.083	0.318

Significant,  $p < .05$ ;  $R^2 = .53$ . Criterion: Operational Performance

The results from Table 3 revealed that information sharing level, strategic supplier partnership, and customer relationship together explained 53% of the variance in operational performance. The results further showed that information sharing level B = 0.298, *Boot 95%CI* (0.218, 0.378), strategic supplier partnership B = 0.288, *Boot 95%CI* (0.191, 0.384), and customer relationship B = 0.201, *Boot 95%CI* (0.083, 0.318) were significant predictors of operational performance. All the predictors were positive predictors of operational performance. Moreover, information sharing has the highest prediction, followed by strategic supplier and customer relationship. The results imply, information sharing level, strategic supplier partnership, and customer relationship have an impact on operational performance. This suggests that supply chain management practices have an impact on operational performance at Obuasi goldfields during COVID-19 era. Figure 1 presents the structure path model.

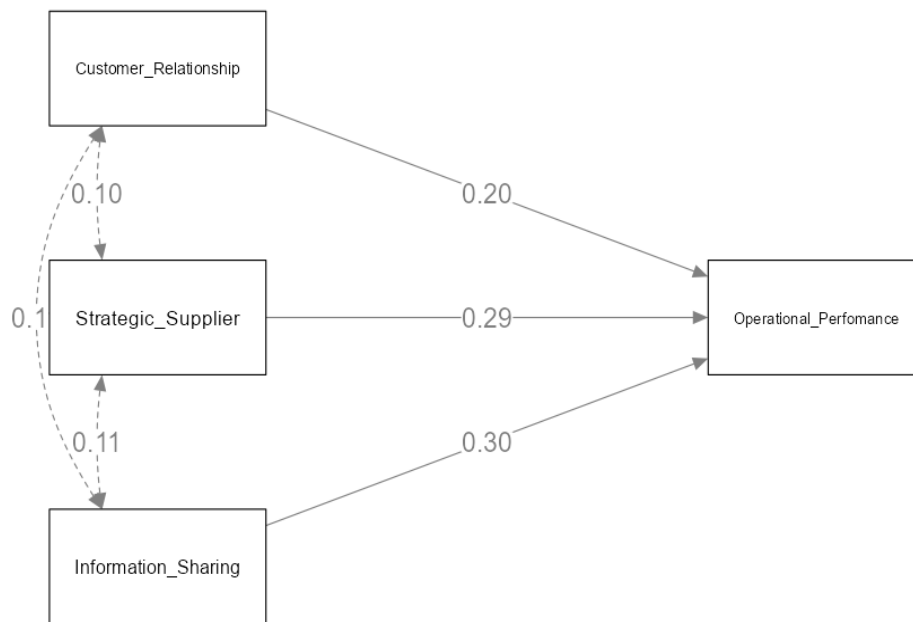


Figure 1: Path Model for Operational Performance

### 5. Discussion of findings

The results of the study revealed that information sharing was the most practiced aspect of supply chain management at Obuasi Goldfields during the COVID-19 era, followed by strategic supplier partnerships and customer relationships. These findings are consistent with previous literature (Raj, Mukherjee, de Sousa Jabbour & Srivastava, 2022; Butt, 2021; Heidary, 2022). For instance, Raj et al. (2022) examined how the COVID-19 pandemic affected global supply chains at an unprecedented speed and scale. Their results suggest that inconsistency of supply (PIS) is the challenge that correlates the most with other factors. Butt (2021) explored the steps and countermeasures taken by buying and distributing firms to address supply chain disruptions caused by COVID-19. The results reveal that buying firms are moving to agile production, focusing on tier-1 supplier risk, enhancing inbound material visibility, and temporarily closing production facilities to respond to the challenges posed by COVID-19. Furthermore, distribution centres are modifying their inventory policies, evaluating alternative outbound routes, and sourcing supplies to manage disruptions caused by the COVID-19 outbreak. Heidary (2022) examined the effect of the COVID-19 pandemic on global supply chain operations using a system dynamics approach. The results showed that global supply chains need more effective strategies to cope with global disruptions, with improving the flexibility of production capacity being one of the important strategies that global supply chain managers should pursue.

The findings of the study revealed that supply chain management practices significantly impact operational performance at Obuasi Goldfields during the COVID-19 era. Information sharing had the highest impact on operational performance, followed by strategic supplier partnerships, while customer relationships had a minimal impact. These results align with existing literature (Siagian & Johono, 2022; Afrifa et al., 2021; Pono & Munizu, 2021). For example, Siagian and Johono (2022) investigated the influence of supply chain integration on operational performance through supply chain responsiveness and innovation capability during the COVID-19 era. They found that supply chain responsiveness and innovation capability positively affect operational



performance. Afrifa et al. (2021) examined the impact of supply chain management on operational performance among health institutions, finding a direct positive relationship between internal integration and operational performance, as well as between supplier integration and operational performance. Pono and Munizu (2021) aimed to examine the role of supply chain practices on operational performance and company competitiveness, analysing the impact of company competitiveness on operational performance. Their study reported that supply chain practices positively impact operational performance and that this impact is also mediated by company competitiveness.

## 6. Conclusion and Recommendations

Based on the results it was concluded that information sharing level, strategic supplier partnership, and customer relationship were practiced as supply management practices at Obuasi Goldfields during COVID-19 era. Among these practices, the most practice of the supply management practices was information sharing level and the least practice was customer relationship. More so, the study further concluded that supply chain management practices (information sharing level, strategic supplier partnership, and customer relationship) have an impact on operational performance at Obuasi Goldfields during COVID-19 era. Information sharing had a greater impact on operational performance, while strategic supplier partnership, and customer relationship had a significant impact on operational performance.

### 6.1 Recommendations

Based on the findings of this study, several recommendations can be made to enhance supply chain management practices and operational performance at Obuasi Goldfields and similar organizations.

First, it is essential to enhance information-sharing practices. Developing robust communication systems that facilitate real-time data exchange among all stakeholders will improve forecasting, planning, and response to supply chain disruptions. Regular training sessions for staff should emphasize the importance of information sharing and equip them with the necessary skills to use information systems effectively.

Strengthening strategic supplier partnerships is another critical area. Implementing a formal Supplier Relationship Management (SRM) program will foster closer relationships with key suppliers, including regular performance reviews and joint improvement initiatives. Additionally, collaborating with suppliers to develop and implement risk management plans will help address potential disruptions in the supply chain.

Improving customer relationship management is equally important. Establishing robust feedback mechanisms to gather customer insights and adapt services and products accordingly will enhance customer satisfaction. Utilizing customer data analytics to offer personalized services can further strengthen customer relationships.

Increasing supply chain flexibility is vital to adapt to changing conditions. Investing in flexible manufacturing systems will allow quick adjustments to demand and supply chain conditions. Diversifying the supplier base can also reduce over-reliance on a single supplier, providing more options in case of disruptions.

Finally, monitoring and evaluating supply chain performance is essential. Establishing clear metrics to regularly assess the performance of supply chain practices will ensure ongoing effectiveness. Benchmarking against industry standards can identify areas for improvement and help maintain a competitive edge.

By implementing these recommendations, Obuasi Goldfields can enhance its supply chain management practices, leading to improved operational performance and a stronger competitive position in the market.



## Conflict of interest

The authors declare no conflicting interest in the conduct of the study.

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### **Biographical notes**



#### **Esther Ntummy Lartey**

Esther Ntummy Lartey is a Lecturer in the disciplines of Logistics, Procurement and Supply Chain Management at Wisconsin International University College, Graduate Level. She specializes in Logistics and Supply Chain Management. She is the Logistics Director at Senama Logistics (Part Time). She is also a consultant and owns Esmarkesbe Consult, a Supply Chain consulting firm. She has been a speaker in her discipline and has made presentations at many conferences and programs including international conferences in Africa and Asia. Having developed a keen interest in research and development, she has introduced and helped promote a number of business development exercises in the Institutions like Central University and Wisconsin International University College.



#### **Charles Edem Gidi**

Charles Edem Gidi has over three decades of experience in banking and investment banking, with specialty in corporate finance, accounting and business strategy, having worked as the Managing Director of EGAS Capital Limited and Renaissance Africa Group (Gh) Ltd (licensed investment banks). He is currently the Board Chairman for Serene Insurance Company and Frerol Rural Bank. He chairs the Renal Transplant Centre Implementation Committee (a collaboration between the First Sky Group and the Korle Bu Teaching Hospital) and the First Sky Energy Project Implementation Committee (A 50 MWp Solar Farm in the northern part of Ghana). He is also a member of the Board of Volta Serene Hotel Ltd. Charles holds an MBA in Finance from the University of Ghana Business School, a B.Com and Dip.Ed. from the University of Cape Coast, and is a member of the Institute of Chartered Accountants (Ghana).



#### **Mavis Ofeibea Asamoah**

Mavis Ofeibea Asamoah is a dynamic professional with a solid educational background in Logistics and Supply Chain and Human Resource Management. She is currently working with state housing company limited, Ghana, as a marketing executive. She combines her expertise in logistics with her passion for client engagement to deliver her activities with exception. Mavis thrives on engaging with clients by understanding their needs and ensuring they receive premium services. She has an MSc. in Logistics and Supply Chain Management from Wisconsin International University College, Ghana.



## Effect of Greening the Practices of Human Resource Management on Organisational Sustainability: Evidence from employees of Raw Materials Research and Development Council, Southwest Zone, Nigeria

### Lateef Okikiola Olanipekun\*

Department of Human Resource Management,  
Elizade University, Ilara-Mokin, Ondo State, Nigeria  
<https://orcid.org/0000-0003-4898-6414>  
lateef.olanipekun@elizadeuniversity.edu.ng

### Gbolabo Omoniyi Okudero

Department of Industrial Relations and Human Resource Management,  
Lagos State University, Lagos, Nigeria  
<https://orcid.org/0009-0005-6682-7144>  
gbolabimbo@gmail.com

### Samuel Oroghenemudiake Ukutegbe

Department of Educational Management,  
University of Ibadan, Oyo State, Nigeria  
<https://orcid.org/0009-0006-7561-3866>  
samukutegbe@gmail.com

### Sunday Samuel Akinwande

Department of Public Administration,  
Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria  
<https://orcid.org/0009-0003-2715-339X>  
akinwandesunday345@gmail.com

\*Corresponding author

### Abstract:

This study examined Green Human Resource Management and Organisational Sustainability in Raw Materials Research and Development Council, Southwest, Nigeria. The study adopted the social exchange theory and stakeholders' theory respectively. The study employed a descriptive research design focusing on the raw materials research and development council, southwest, Nigeria. The stratified and simple random sampling procedure was employed in selecting respondents for the study. Data gathered using a structured questionnaire were analysed using descriptive and inferential statistical analyses. Analysis of data from One hundred and sixty (160) participants revealed that the level of green recruitment and selection positively have significant relationship with economic sustainability; green training and development was also found to have significant relationship with environmental sustainability, and green compensation and reward system significantly shared a relationship with social sustainability. The study concludes that that organisations who practice green ideology using the three functions of HR are most likely to attract more and better applicants than those who do not. As a result, management firms should employ the usage of green information technology as an avenue for enhancing economic, environmental and social sustainability.

### Keywords:

GHRM, Green Reward System, Environmental Sustainability, Organisational Sustainability.





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## 1. Introduction

Sustainability issues have dominated the front basis of 21st century discussion both locally and globally. This is as a result of the opinion that, as organisations carry out their production activities processes, the ecosystem suffers degradation and as such, there is a global call to raise the bar on how the earth can be sustained. Organisational sustainability implies the process of having in place the required style of leadership, and mechanisms for change, for combatting pitfalls that may bedevil organisations in the twenty-first century (Fapohunda et al., 2022). According to Shah (2024) organisations with rap attention on sustainability, organisations aims at establishing a form of corporate culture and ensuring improvements. Furthermore, organisations involved in the sustainability process have numerous benefits ranging from higher employee satisfaction, increase in employee retention and improvement in stakeholders' relationships. From the above, it can be inferred that organisational sustainability is advantageous in nature (Yu et al., 2020; Naseem et al., 2021).

Greening the functions of human resource management in organisations can assist in stimulating retention since its principle is based on the essential emphasis of keeping the ecosystem very affable where the environment requires friendly operational practices (Masri & Jaaron, 2022; Schaltegger et al., 2023). These practices if well-articulated and directed towards assisting employees in better understanding how in the course of their duties can contribute significantly towards ensuring reduction in carbon footprints. This behooves to say that the practice of Green HRM in relations to sustainability affects both the employees and the management (Ullar, 2024). Most literature centered on the awareness of GHRM, and its adoption have in many instances been investigated in advanced countries and findings from these studies have empirically provided that, GHRM is a strong point for retaining committed employees who are green oriented. These studies from the perspective of the management and employees reflect the huge potentiality of retaining employees using the GHRM framework.

Sustainability continues to gain traction because of the continuous degree of debasement of the ecosystem globally. Furthermore, increasing concern globally towards sustainability does become a premium priority where focus is placed on the environment and the social space in both developing and developed nations of the world (Khan & Noorizwan, 2020). This has thus been necessitated by stakeholders' such as employees whose potentials are used at work, customers'/consumers, and governments to monitor organisations irrespective of whether it is small, medium, or large. Asserting that as the sole aim organisations engagement in massive production is for the purpose of maximisation of profits. Thus, there is a large negative consequence being cast on the ecosystem. If such is allowed to continue festering, which if measures in salvaging the menace is not made available; it may be very difficult and tasking for future generations to carry out their aspirations.

Greening human resource management denotes a 21st century tool and mechanism required by organisations towards combating sustainability challenges to gain competitive advantage (Olanipekun, 2020). Greening human resource management is a tendril for managing sustainability and represents a philosophy that informs interaction among employees in promoting green ideologies towards curbing ecological imbalances (Awe et al., 2020). The principle of greening HRM as hinged on the notion of employing the functions of HRM as agents/drivers of change and innovatively canvassing for sustainable development; therefore, HRM functions are all integrated into the sustainability framework for organisations to inventively create a clear-cut path for attaining sustainable development.



Greening human resource management investigates how integrating HRM concepts and functions into the fabrics of sustainable performance and how this can assist firms in Nigeria align their production process towards sustainability by establishing awareness among employees and management and fostering commitment towards ensuring eco-friendly practices. In the Nigerian context, studies on green human resource management and sustainability factors are still relatively very new and there is dearth in findings emanating from the activities of its sector against nature; hence, this study aims to establish the degree of awareness and consciousness of the management of raw materials firms and their disposition towards the idea and process of sustainability. Even though extant studies (e.g., Oyedokun, 2021; Olanipekun, 2020; Fapohunda et al., 2022; Fapohunda et al., 2022) have examined components of greening human resource management from different areas, their studies did not bring under one umbrella all the constructs combined to be investigated in this study; thus, making the study unique and outstanding. In the same vein, Nigeria being a developing nation, studies on greening human resource management practices are seldom explored and as a result, this study aims to present empirical evidence as an avenue towards contributing to the sustainability parlance from the Nigerian perspective.

### 1.1 Statement of the Problem

Organisational sustainability through greening human resource management had become pertinent and crucial for organisations irrespective of their scope of operation. To meet up and achieve organisational strategies, goals and objectives, organisations are taking perceptible interests in managing their environment of work. Due to globalisation, organisations globally are placing priority and pre-eminence on contemporary capacity economy as against the previous form of traditional medium for conducting or regulating the activities of a business (Ahmad, 2023). Therefore, for organisations to achieve ecological related goals, and become green inclined, green human resource management becomes a pertinent factor for consideration. The degree of environmental debasement, pollution and resource wastages being perpetuated by activities of organisations in Southwest Nigeria is rated to be on the high side. Another cause for concern is that most of these firms are not sustainability oriented, and this has hindered management from motivating their employees on ecological issues and establishing or providing a monitoring mechanism to supervise daily operational processes. A clear indicator also reflects that many of the organisations in Nigeria have not sufficiently endorsed sustainable application or resources, which involves the usage of human resources in broadening employees' morale towards environmental responsibility (Olanipekun & Genty, 2022).

From the above, it can be inferred that the Nigerian government have weak laws to strengthen sustainability and this requires an investigation to re-awaken the consciousness of all involved parties. Several studies have been carried out globally on the issues of sustainability. For instance, Aremo and Olanipekun (2023) examined the effects of greening the practices of HRM on employee green behavior at work. Diri (2021) also investigated the effect of GHRM on corporate sustainability of selected oil and gas producing companies in Rivers State, Nigeria. Again, Oyedokun (2021) examined the effect of Greening HRM Practices on sustainable performance in Dangote Nigeria Plc. In addition, Fapohunda et al. (2022) examined green learning and development on the sustainability of the environment among employees of WAMCO plc in Lagos State. These studies however differ in the context of ideas and methodologies employed. In many developed climes, the governments and forward-thinking companies have started fashioning out modalities to ameliorate this menace. This is because the ecosystem can only be revitalized when it is used appropriately, and its resources are used efficiently without any form of jeopardising the future aspirations of further usage of the ecosystem. In this regard, organisations are pressurized into adopting, integrating and implementing green strategies and practices into their agenda and policies which will dwell considerable on the environment and the social space; for the purpose of curbing, eradication and total dominated controlling of excesses in the operational processes of the business (Chaudhary, 2021).



Several studies have been investigated in greening the environment, but majority of these studies were from developed countries; meaning that Nigeria which is the case study of this study still has a dearth in studies on green human resource management. Based on this evidence, this current study aims to investigate the analysis of greening human resource management and Organisational Sustainability among raw materials research and development council in Southwest, Nigeria. The rationale for selecting the raw material industry is because some studies in Nigeria (e.g., Fapohunda & Atiku, 2020; Olanipekun, 2020; Genty, 2021; Fapohunda et al., 2022) asserted that the activities of organisations pollute the environment and with no clear-cut agenda on sustainability in re-energising and re-invigorating the environment and their surrounding of operations. The focus of this study is premised on addressing sustainability issues from the purview of Nigerian organisations; particularly in raw materials research and development council, southwest, Nigeria. It is a known fact from the Nigerian outlook that sustainability is still alien and at its budding stage for few organisations who have little knowledge of it. As such, production operations have continued to hamper the smooth nature of the ecosystem. Should this continue, the Nigerian society would be bedeviled with so many negative consequences ranging from respiratory diseases and other long-term terminal illnesses (Olanipekun & Genty, 2022).

The general objective of this study was to examine the analysis of greening human resource management and organisational sustainability in raw materials research and development council, southwest, Nigeria. The specific objectives were to:

- i. examine the relationship between the practicing of green recruitment on economic sustainability in raw materials research and development council, southwest, Nigeria;
- ii. ascertain the relationship between the practices of green training and development and environmental sustainability in raw materials research and development council, southwest, Nigeria;
- iii. examine the relationship between practicing green compensation and reward system and social sustainability in raw materials research and development council, southwest, Nigeria.

## 1.2 Hypotheses of the Study

**Hypothesis One:** There is no significant relationship between practicing green recruitment on economic sustainability in raw materials research and development council, southwest, Nigeria.

**Hypothesis Two:** There is no relationship between the practices of green training and development and environmental sustainability in raw materials research and development council, southwest, Nigeria.

**Hypothesis Three:** There is no significant relationship between practicing green compensation and reward system and social sustainability in raw materials research and development council, southwest, Nigeria.

## 2. Literature Review

### 2.1 Concept of Green Human Resource Management

Literature has suggested that organisations with a better climate for promoting the greening of HRM will record credible and strong pro-environmental employee behaviours (Norton et al., 2023). In a similar vein, Kim et al. (2024) and these scholars further expressed that employees will become more environmentally aware and exhibit pro or friendly environmental behaviour when they have a lucid understanding of the significance of coalescing and combing environmental management strategies into the scope of HRM functions such as attracting and



selecting, learning and development, appraisal, and management of performance and so forth. Based on this position, Zientara and Zamojska (2016) and Dahiya (2020) opined that greening human resource management remains a veritable tool for strengthening research agenda and having a panoramic understanding of sustainable development.

For facilitating a better understanding about the practices of greening human resource management and its significance in an organisation, Engin et al. (2020) succinctly highlighted eight (8) practices involved in greening human resource management and these are green hiring and staffing, green training and development, green compensation and rewards, green career opportunities, green participation in decision making and green work-life balance. However, for this study, the components of greening human resource management to be considered are green staffing which or recruitment and selection practices as fondly refereed to, green training and development practices and green compensation and rewards practices. From the foregoing, greening human resource management enhances green-related and sustainability outcomes of employees within a given organisation (Aboramadan & Karatepe, 2021).

## 2.2 The Concept of Organisational Sustainability

Organisational sustainability as a scope with primacy on the protection of the ecosystem is getting higher significant attention. This allow progressive thinkers to commence the process to allocate of more resources towards tackling both environmental and social challenges. This has thus made it a sine qua non for the society to pay greater attention to enhancing environment and social sustainability for the overall realisation of sustainable development (Rajabpour et al., 2022). Sustainability as a global concern has continue to generate traction in all facets of man's endeavor. This is because sustainability as a concept remains a veritable means by which sustainable development can be attained. The issue sustainability has continued to dominate the front burner of debates both locally and globally. This is because, as organisations carry out their production activities processes, the ecosystem suffers degradation and as such, there is a global call to raise the bar on how the earth can be sustained.

Organisational sustainability with primacy on protecting the ecosystem has become a practice globally. This is in tune with the idea towards ensuring that activities of organisations do not have negative consequences of the natural resources. So, as organisations carry out their production processes, measures should be put in place in making sure that there is eco-balance and avoid any form of degradation; this is because sustaining the environment of production makes it more affable. Sustainability is a concept centered on making judicious use of natural resources without infringing on the rights of the future generations (Cai et al., 2017). To this end, the conserving and maintenance of the environment requires constant attention; which has necessitated management to fashion out modalities towards making the society very conducive and safe for all; for this purpose, the concept of green human resource management was birthed.

Organisational sustainability is made up of three components which are economic sustainability, environmental sustainability and social sustainability; but for this study, environmental and social sustainability will be considered; this is because inappropriate usage of the environment has resulted into global warming, climate change and increased water levels (Fapohunda et al., 2022) and social sustainability which gained prominence as a metric of sustainable development in 1987 remains greatly under-researched and this study filled this gap.



### 2.3 Green Recruitment and Selection Practices and Economic Sustainability

Even though Renwick et al. (2023) believed attracting candidates with high creativity, talents, innovations, increasing the potentials for recruitment and hiring of high-quality employees may be somewhat challenging. This thus implies that in ensuring sustainability, management of organisations should develop a clear-cut path on how employees with green orientation and talents can be recruited. From the position of these authors, the recruitment and selection process bordering on the green scheme should be a long-term requirement of the organisation by integrating the corporate environment culture of the organisations in the process of recruitment and selection. Eventually, in examining related factors affecting the environment, green description of jobs should be given cognizance through the lens of health and safety. In furtherance, green goals of every organisation should be directed or tilted towards gauging the alignment of prospective candidates to observe any degree of correlation. In the same manner, once the process of recruitment is completed, candidates should then be given holistic green induction programmes which will consist of sustainability information to measure and enhance their commitments to the green goal of that organisation. According to Tang (2024) the elemental aspect of green recruitment and selection is the prospective candidates' level of green awareness which involves personality factors which are needed for attaining an organisation's environmental objectives; as stated by this scholar, a notable factor in this regard can be candidate's green agreeableness or consciousness.

The challenge associated with wringing recruitment practices from the realm of sustainability of organisations is that these crops of employees have no green bends of mind and will to a large extent jeopardize the future of the organisation and make management irresponsible which will cost a lot soon. This will result in a lack of competitiveness and young prospective job seekers may boycott such organisations soon. Greening Human Resource Management activities has gathered so much traction, momentum and attention of individuals, scholars, and practitioners universally and it is famous globally as a strategy for effectively managing the environment using HR as a tool, but it projects distinct meanings for different individuals or people (Amrutha & Geetha, 2020). Effectively managing the environment is an urgent global requirement and this is due to the deteriorating nature orchestrated by the damaging effect of pollution, several harmful pollutants, and industrial wastes; all of which has majorly contributed to the deterioration, depletion and decrease in the valuable of the environment (Vats, 2020).

### 2.4 Green Training and Development Practices and Environmental Sustainability

With the profound nature of acknowledging boosting the creativity of individuals in the environment of work, attention has been devoted to the pertinence of enhancing issues of green values (Song & Yu, 2023). This is very important because activities globally are centered on issues from the tri-dimensional paradigms and it is necessary to possess knowledge for sustainability (Mittal & Dhar, 2022). This concept has to do with the procedure wherein reducing wastes and ensuring effectiveness and efficiency through resource utilisation and preservation of energy (Ullar, 2023). From the perspective of scholars such as Olanipekun et al (2022), performing green training and development aspects of the human resource functions connote the act of establishing working approaches or methods towards equipping employees to adequately utilise resources, conserve energy and reduce wastes; all of which are geared mitigating factors promoting degradation.

This concept is also known as green educational practices and has been acknowledged as a key and an important tool for addressing concerns such as barriers to the protection of the environment and promotion of sustainability to gain huge acceptability in the workplace (Fapohunda et al., 2022). This can assist employees to come up with innovative means for which sustainability can be attained at the shop floor (workplace). Green training practices as a fragment of greening the human resource management process assist organisations in bringing out the



innovative nature of employees and as well provides benefits for organisations particularly on the area of and sustainable performance from the tri-dimensional lens of environmental, economic and social performances; it also serve as the modalities for motivating individuals to initiate new green innovations and green ideas. According to Kumarasinghe (2023), green-training practices ensures creativity and enhances the commitments of employees towards the aspect of managing the environment and the social arena of their place of work.

According to Oyedokun (2021), the inability for management to train employees in line with the sustainability process can cause them to be oblivious of what their duty is towards revitalizing the environment and keeping it in good shape and might create a vacuum, as employees will continually debase the environment, which is not good for the sustainable development agenda. So, training is highly required to educate these employees and allow them to develop their abilities on the track of meeting sustainability needs and to keep the agenda of the management ongoing in line with protecting the ecosystem and ensuring its continuity.

This is a core responsibility attached to the conservation of natural resources and giving protection to the ecosystem on a global spectrum to give support to well-being and health both now and soon. This is since most negative impacts of businesses on the environment do not manifest immediately. Therefore, environmental sustainability is a forward-looking phenomenon, which represents a key ideology. The closely knitted relationship between human and nature from the perspective of environmental health, the World health organisation was of the view that 24% percent of deaths are avoidable but due to environmental factors which were not curtailed in due course. Sustaining the environment is very important and this is because human beings need fresh water to drink, clean air to breathe as well as places to live in; all of which must be toxic and hazard free.

This connotes the methods for advancing as well as the development of new ideas for greening practices, products, services, and processes, which are novel and useful in preventing environmental degradation (Aremo & Olanipekun, 2023). Green creativity implies developing useful green ideas in terms of products, services and practices that will not deface environmental texture (Eide et al., 2020). Employee green creativity is a function of management's attitude and disposition towards ecological or environmental concerns (Yong et al., 2020).

Scholars such as Yong et al. (2020) were of the view that management of organisations can leverage on employee green creativity in developing products, and services which are environmental compliance and can aid the swift achievement of sustainable development. More so, incorporating green creativity into an organisation's managerial scope of thinking can help firms gain a competitive edge over competitors and rival companies through innovative and methodical model designed for environmental enhancement (Renwick et al., 2023).

## 2.5 Green Compensation and Reward Practices and Social Sustainability

Green compensation structure according to Ahmad (2023) comprises of the tangible style of green compensation is majorly at play in many instances, and it is used as a method for stimulating the interest of employees; thereby spurring them to be crusaders of sustainability, as they tend to become outstanding in sustainability matters. The second means of compensation is the intangible method. Taking a clue from their submission, a green monetary or tangible compensation plan can take the form of increment in salary, increased bonuses and so forth. The non-monetary or intangible form of green compensation can be manifest through the conferment of special awards based on attaining certain green standards by an employee. It can also come through granting of special holidays and presenting of gifts such as "Mr. Green of the month/years". In response to the above, Darzi and Khurshid (2023) proclaimed that a green compensation and rewards system, or plans can be employed as a methodical means for endearing employees to make them more proactive and continually exhibit certain pro-sustainability behaviour to sustain green related practices.



If the management of an organisation does not give credence to valuing milestones and achievements made by employees in meeting green goals, then this will establish high level of Disinterestedness of these employees, which can spur doom on the organisation, firstly by creating a set of irresponsible employees with no interest in sustainability, secondly, management will spend more to encourage the employees on the long run. Social sustainability is premised on the identification and management of the impacts a business has whether positive or otherwise on people, community, or society. The quality of an organisations interrelatedness as well as its engagements with stakeholders remains critical and pertinent, As such, whether directly or the other way round, operations of organisations affect employees and other partners on the value chain and this include both customers and local communities where these forms operate. Based on these opinions, managing the impacts of business operations positively is very germane for any organisation in this modern age.

From the above, it is vital to note that the operating license of operation for businesses depends to a large extent on the degree of efforts dissipated towards social sustainability. Additionally, absence and lack of social development such as inequality, poverty, weak rule of law can have negative toll and as well hamper business operations and growth. The social strand of sustainability has always been neglected and there is a dearth of literature also in this regard.

According to Cabrera-Sánchez (2021), the focus of social sustainability revolves around issues like social equity, social capital, social justice and support, social responsibility, community development, enhancement of cultural competencies, equity in health, community resilience, liveability, and labour rights, human rights and so forth.

## 2.6 Greening Human Resource Management and Organisational Sustainability

The objective of sustainability lies in the improvement of the standard of living of and the safety of persons whose work is within certain areas of an organisation as well as the communities in which such organisation(s) operate. Sustainability under the purview of the greening of human resource management activities is the process whereby access towards the natural resources are given to the future generations without any form of compromise (Kim, Kim et al., 2024). Furthermore, literature has provided that a strong and positive nexus exists between greening the activities of HRM with regards to organisational sustainability.

For this reason, study by Noronha et al. (2022) which examined the management of knowledge for the purpose of sustainable competitive advantage of firms, in this study, findings demonstrated that greening the functions of human resources management and its activities can tremendously improve organisational performance irrespective of whether economic, environmental, or social; and it gives such organisations competitive edge. This has necessitated reasons as to why many organisations are now giving more attention and traction to sustainability via greening of human resource management functions. From this position, it is noteworthy to posit that protecting the environment as a layer of the ecosystem is a core responsibility for forward thinking management and organisations (Wiernik et al., 2023).

Study conducted by Olanipekun (2020) on Greening the functions of HRM as a 21st century tool for gaining competitive advantage expressed that organisations could enhance their competitive advantage and play pivotal roles in the promotion of their image and branding of their names.



## 2.7 Theoretical Review

### *Stakeholders Theory*

The principal focus of this theory is predicated on the notion that an organisation does not operate in seclusion or mainly with the cooperation of its shareholders; this is because, the success of an organisation is anchored on the affiliation and relationship between an organisation and its stakeholders (Colvin et al, 2020). From the above, it can be perceived that stakeholders are significant and important in the life of any organisation to achieve efficiency, greater performance, growth, and development through the resources, which are available, as stakeholders to a large extent influence the organisational activities (Awan et al., 2021).

Correspondingly, several practical facts exist relating to the connection between stakeholders and how they influence the implementation of diverse green practices under the scheme of green human resource management (Azam et al., 2021). Stakeholders have the capability for influencing organisations towards the implementation of sustainable practices, which can help contribute meaningfully to the sustainable development goals of 2030. Therefore, organisations with the habit of responding to stakeholders' pressure are most likely to develop sustainability related mechanisms for intensifying access to structures that are externally considered to better collaborate for acquiring more successes, information, and skills on environmental and social concerns (Yu & Ramanathan, 2014).

The cardinal submission of this theory opined that an organisation does not operate in seclusion or mainly with the cooperation of its shareholders; this is because, the success of an organisation is anchored on the affiliation and relationship between an organisation and its stakeholders (Colvin et al., 2020). From the above, it can be perceived that stakeholders are significant and important in the life of any organisation to achieve efficiency, greater performance, growth, and development through the resources, which are available, as stakeholders largely influence the organisational activities (Awan et al., 2021). Correspondingly, several practical facts exist relating to the connection between stakeholders and how they influence the implementation of diverse green practices under the scheme of green human resource management (Azam et al., 2021).

Stakeholders have the capability for influencing organisations towards the implementation of sustainable practices, which can help contribute meaningfully to the sustainable development goals of 2030. Therefore, organisations with the habit of responding to stakeholders' pressure are most likely to develop sustainability related mechanisms. According to Yu and Ramanathan (2014), stakeholders serve and represent a structure, which can be used as a tool for collaboration for the acquisition of more skills and resources, as well as information on sustainability. This is because stakeholders have the power to influence and pressurize the management of organisations to adopt activities that are sustainability bound particularly through their human resource management practices and policies.

### *Social Exchange Theory*

This theory is credited to and propounded by Blau (1964). The theory has gained so much prominence and has been effective in diverse disciplines ranging from anthropology, psychology, clinical psychology, sociology, social, psychology, and sociology. In his book titled "Exchange and Power in Social Life" which was highly cited in 1964 highlighted two kinds of exchange relationships which are economic, social, and environmental sustainability. According to this theory, an obligation wherein an individual does another party a favor, an expectation of some form of return is expected soon. As a result, the social exchange theory emphasises the socio-emotional aspects of exchange and relationship from the dimensions of feelings of obligation and trust, while





economic exchange has been investigated from the purview of material assumption (Thompson & Bunderson, 2003).

Explaining the green human resource management from the perspective of the social exchange theory, it can be inferred that green human resource management have numerous benefits on the employees and one of it is that it develops green behavior and commitment (Al-Hajri, 2020); these practices have established natural attraction and affinity with the proponents of the social exchange theory as both constructs aligns to fostering the obligation of employees' to repaying the very fundamental practices of human resource management which was previously used for their benefits (Bibi et al., 2018). Scholars have also clearly highlighted the importance of applying the social exchange theory in the green parlance as an avenue for ensuring a pro-sustainability behaviour through a reciprocate process (Likhitar & Verma, 2017). Social exchange theory exhaustively explains the conduct occurring between two or more parties based on the social interaction existing amongst such parties from the angle of give and take analysis.

The proposition of the social exchange theory is contingent upon the term of rewarding other parties in a commensurate measure of their behaviour (Blau, 1968). For that purpose, the social exchange theory emphasises more on the dependence nature existing among persons in a relationship; thus, if sustainability measures are adequately communicated to employees and empowering them to understand sustainability procedures and principles, employees will continually exhibit pro-sustainability behaviour which will make their organisations become more responsible on sustainability concerns (Lee & Cadogan, 2009; Fapohunda, et al., 2022). So, management leads their employees by nurturing them towards sustainability and amplifying their skills in manners leading to increased awareness to enable them to accomplish their assigned tasks effectively and efficiently with the hope of having a fruitful outcome (Yin, 2018).

Linking this theory to the study, in a very simplistic term, employees are partners with the organisation and should be given a place. For instance, the principle of this theory holds that the relationship between two parties is premised on the process of cost and benefits analysis. Now, if management, who are the directors of the organisations makes employees who is a factor of production and drives the degree of profits of the organisation and train them to be sustainability oriented, it will in turn create a pool of employees that will help management save costs and improve their corporate image based on high level of responsibility for sustainable development.

In light of the above, the research was based on Social Exchange Theory, which argues that contented workers are more productive workers and that a company's success depends on how management lead their employees by nurturing them towards sustainability to accomplish the company's mission.

## 2.8 Empirical Review

Under this section, the study reviewed previous scholarly works, research and investigations using the following headings: green recruitment and selection practices on economic sustainability, green training and development practices on environmental sustainability and green compensation and rewards practices on social sustainability.

Al-Hajri (2020) carried out a study on the role of recruitment and selection on the performance of 371 employees of processing industries in Tanzania; using linear regression analysis; his finding results revealed that green recruitment and selection has a great influence on organisational performance and aid the attraction of more qualified job applicants who are sustainability oriented; this will help improve environmental awareness on employees' part. Again, Chima et al. (2020) carried out a study on green recruitment and selection practices and organisational sustainability with employee environmental awareness as a mediating variable among employees of private institutions in Abeokuta, Ogun state, Nigeria; analysis was done through regression and correlation



analysis and their findings reflected that there exists a high level of significant relationship between green recruitment and selection and other green human resource management practices on organisational sustainability in selected private institutions in Ogun State. Similarly, Diri (2021) carried out a study on green recruitment and selection and corporate sustainability in oil and gas producing companies in Rivers State; findings from his study revealed that there exists a strong significant relationship between recruitment and selection practices and corporate sustainability of oil and gas producing firms in Rivers State as green recruitment and selection practices allows for an environmental harm free recruitment exercise; thus, serves as a true mechanism for promoting environmental awareness among employees and prospective employees.

Genty (2021) carried out a study on green human resource management and organisational sustainability from the purview of green recruitment and selection practices as it relates with the awareness of employee in environmental management; this study employed the usage of discourse content analysis as a means for data collection; the outcome of his study bared that achieving organisational sustainability depends on how green recruitment and selection practices are channeled towards the enhancement of environmental awareness of the workers; as this serves as a means of understanding and reshaping the environment; outcome of this study reflected the importance of green recruitment and selection as is a veritable tool for advancing sustainability through environmental awareness since human resource management practices positively impact on environmental awareness and firms' environmental performance.

Khurshid and Darzi (2023) investigated the habit of going green in an organisation human resource management practice. The authors found that green HRM plays a significant role in securing a sustainable development environment through a set target on economic, social, and other organisation related goals of the environment. Pham et al. (2024) also posited in their study where they investigated the effect of green HRM practices on sustainability with reference to some selected companies in Pakistan that, a significant effect exists between all elements of GHRM and environmental sustainability. Five hundred (500) employees of 10 selected production firms were employed in the study and findings proved that there is a significant effect of green development through employee capacity enhancement on environmental sustainability with ( $R^2=0.793$ ;  $p=0.000<0.05$ ).

Sokefun et al. (2023) examined the effect of stakeholder pressures on environmental performance while banking on green HRM as a mediating variable. The study found that green training and involvement, as well as green performance management and compensation, all have a significant effect on environmental performance, while green recruitment was denied with no relationship with environmental performance. Again, Song and Yu (2023) emphasised on the importance of GHRM to stakeholders of an organisation in Malaysia. The study identified six components of GHRM and found that green talent management, green performance management, green training and development, green employee engagement, green reward system and green employee separation are pivotal to the Malaysian financial services industry.

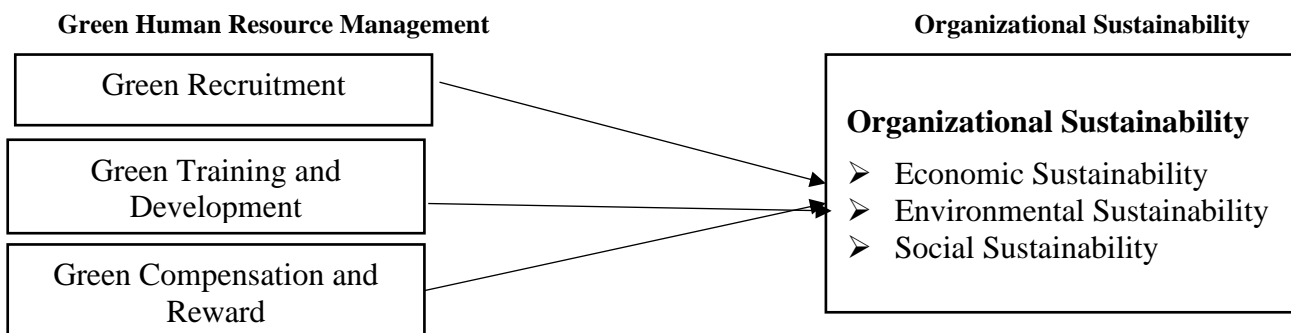
A study carried out by Genty et al. (2022) submitted that engaging employees on periodic green training and development practice would create environmental consciousness and reduces the negative environmental effects of the organisation and increases the positive environmental performances; concluded in their study that green training and development practices in developing environmental sustainability are likely to results into minimization of wastage, reservation and preservation of natural resources, thus a very strong correlation exists among CSR, GHRM and sustainability. A sample of 300 employees was selected as respondents for the study and findings from the study revealed that developing employees' green capacities significantly impact positively on employee consciousness towards environmental sustainability at ( $R^2=0.846$ ;  $p=0.000<0.05$ ).

Renwick et al. (2023) whose study reviews the effect of employee green involvement in firms' environmental performance; findings from their study brought to the fore that involving employees in environmental concerns allows them to creatively suggest novel ideas as mechanisms for enhancing environmental quality of the firm. In

this study, the authors employed descriptive style of research with a population of 800 staff of a municipal Council in the United Kingdom; four research objectives, questions and hypotheses were considered for this study at 0.05 Significance Alpha level ;One-way ANOVA, T-Test independent sample were used as analyses for the data obtained and all the null hypotheses were rejected with (9.651,  $p = .002$ , (Beta = 0.304,  $p = 0.011$ ) and (Beta =0.138;  $p = 0.021$ ), respectively; this delineated that employee green involvement significantly and positively affects firms corporate environmental responsibility.

A study by Ahmad (2023) investigated the connection between involving employees in green related issues on employee green creativity in selected municipal councils in Poland. It was discovered that green employee involvement to a great extent led to high degree of job satisfaction and engagement which significantly translated into critically addressing environmental challenges emerging from the organisation through employees’ novel suggestions. The study employed a case study approach coupled with descriptive research design. Findings from the study confirmed that green employee involvement as a practice significantly had a positive correspondence with employees’ creatively suggesting adequate measures and friendly initiatives towards managing the environment where they operate. Descriptive and inferential research design was employed in this study with a sample size of 300 employees which were randomly selected. The outcome of this study provided that green employee involvement is a gateway for unleashing firms’ corporate environmental responsibility towards green creativity with (Beta=0.981,  $p =0.000$ ).

### 2.9 Conceptual Framework



**Fig. 1: Conceptual model on Greening of the HRM and Organisational Sustainability**

Source: Author’s Computation (2024)

### 3. Methodology

For this study, the descriptive survey research design was adopted. The choice for selecting this design of research was based on the value and feasibility towards addressing the identified problems being investigated upon. Therefore, applying this in gathering standardised data allows a researcher to establish information for precisely answering the questions of when, where, what, who and how as it concerns measuring and determining green human resource management and organisational sustainability. According to Creswell (2022) research design helps researchers in gathering data, which are relevant to fulfilling a study’s objectives. From the definition of Kothari (2004) research design is a framework developed in the research process, which conceptually represents



the blueprint for gathering, measuring and analysing data. For this reason, the research design for this study is descriptive and survey research design. The justification of this is because the study is descriptive and cross-sectional in scope and the combination of both primary and secondary data were involved.

### 3.1 Area of Study

The location for this study was southwestern, Nigeria with the following states, Ogun, Ekiti, Ondo, Osun and Oyo respectively. These locations were examined because they constitute where large activities takes place over the years have been found to constitute challenge in sustainability.

### 3.2 Population of the Study

Population for this study was Six Hundred and Seventeen (617) employees across all cadres and departments of the selected firms. The firms covered in the study are presented in the table below.

**Table 1:** Population of the selected study locations

S/N	List of Selected	Population
1.	Ogun Office	110
2.	Ekiti Office	182
3.	Ondo Office	117
4.	Osun Office	97
5.	Oyo Office	111
<b>Total</b>		<b>617</b>

**Source:** Researcher's Field Work (2024)

For this study, the target respondents were employees, which included male and female, junior, senior and management staff. The table above explains the population of the study from the various branches of the organisations employed in the study throughout the entire southwest, which served as the primary constituent of the study. From the table, it can be viewed that population in the Ogun State branch is one hundred and ten, the Ekiti branch is one hundred and eighty two, Ondo branch is one hundred and seventeen. From the Osun state branch, the table reflects ninety seven employees as the population and the Oyo State branch has one hundred and eleven as population.

### 3.3 Sample Size and Sampling Techniques

The population for this study was Six Hundred and Seventeen (617); therefore, the sampling frame for this study was drawn from the population of the study. Therefore, from the above population, a sample size of Two Hundred and Thirty-Seven (237) employees was drawn at 95% confidence level and 0.5 rate of error. This sample size was obtained using the Morgan and Krejcie (1970) sample size calculator.

The sampling technique employed in this study is the non-probability sampling technique where the convenience sampling methods was used in selecting the respondents who served as the unit of analysis for the research. This method is employed because it was fast and helped the researcher conveniently administer the questionnaires to the targeted respondents. This method was found appropriate because it assisted in gathering a satisfactory representation of various sub-groups that exist within the study population, meaning that employees from the

junior, senior, and managerial level were selected. The main feature for employing the convenience sampling method was that it allowed employees to partake in the study based on availability and willingness. Therefore, this availability and willingness significantly assisted the researcher in amplifying statistical representation.

To determine the appropriate sample size for this study from the five selected raw materials research and development organizations in Southwest Nigeria, the probability proportional to size measure was employed. The probability proportional to size measure can be described as a sample selection method where the probability of selecting a sampling unit is directly proportional to a size measure of each firm. This was used for the purpose of having an equal sample size representation of the respondents in each of the firms selected. Consequently, to ensure that a commensurate number of instrument (questionnaires) was administered to each of the organisation based on its population size; the formula below was used in achieving this representation:

$$\frac{\text{Number of questionnaires} \times \text{population of each selected organization}}{\text{Grand Total}}$$

Table 2: Sample Size Determination of selected raw materials research and development organizations

S/N	Firms	Population	Proportion	Sample Size
1.	Ogun Office	110	$\frac{237(110)}{617}$	42
2.	Ekiti Office	182	$\frac{237(182)}{617}$	70
3.	Ondo Office	117	$\frac{237(117)}{617}$	45
4.	Osun Office	97	$\frac{237(97)}{617}$	37
5.	Oyo Office	111	$\frac{237(111)}{617}$	43
<b>Total</b>		<b>617</b>		<b>237</b>

Source: Researcher’s Computation, (2024)

### 3.4 Data Collection Method

The primary and secondary sources of data gathering were employed, and this is referred to as the triangulation method or dual methodological scope. The primary data were collected with quantitative means through questionnaire administration; while the secondary source of data were obtained from already existing data which were extracted from previous research, journals, articles, web information, historical data and so forth.

According to Bell and Bryman (2023) questionnaire administration is an appropriate medium for individuals’ self-report on the attitudes, beliefs, opinions, and values of other persons for the sake of achieving the objectives of a study. The survey were sent using google forms and it was expected that within two weeks, it was completed and returned. The online survey was more preferred due to the busy nature of employees in the industry being selected, so, using this approach helped them fill out the survey without stress or hassles.

Therefore, for this study, questionnaire were used for obtaining primary data and this questionnaire was closed ended questions on a 5 Likert Scale from “Strongly Disagree” =1 to “Strongly Agree” =5 and were administered by the researcher with the aid of trained research assistants. The structure of the questionnaire follow thus: Section A which obtained information on the demographic information of respondents, section B examined contents on green human resource management, and section C had items examining organisational sustainability from the lens of economic sustainability, environmental sustainability, and social sustainability.



### 3.5 Data Collection Tools

Questionnaire was used for the study and the questionnaire used was divided into several sections, which was premised on the variables under review. The instrument for data collection was a questionnaire structured into several sections to obtain information from respondents. Green human resource management contained items such as green recruitment and selection practices which was measured by adapting questions from the scale of Tang et al. (2021); green training and development practices using items which was adapted from the studies of Shah (2022) and green reward and compensation practices which was adapted from the scale by Pharm et al. (2022) while organisational sustainability was measured using adapted questions from the Sustainable Development Awareness Scale developed by Atmaca et al. (2021). The reliability of the entire scale is calculated to be Cronbach's  $\alpha = 0.91$  while 0.77 for economic sustainability, 0.82 for environmental sustainability and 0.87 for social sustainability.

### 3.6 Validity and Reliability of the Research Instrument

Validity as a concept helps to explain how data collected covered the appropriate area and dimension of investigation. Validity means ensuring that an instrument measures truly what it's intended for. In ensuring internal validity of the instrument of research, the researcher carried out a pilot study and pre-testing with employees of different firm from the study in Ogun State. For external validity, internal and external reviewers were employed to monitor the data-collection quality and coordinate the administration of instruments in line with standard norms and the processes of analyses for the purpose of establishing validation of evidence for significant findings and conclusions that were drawn from the study. All these were done to achieve the face, content, construct, and criterion-related validity of the research instrument.

Internal and external tests on reliability were carried out as well on the instrument to be used in this research. The purpose for the internal reliability is to assess the level of results in terms of consistency across the items, which exist within a test, while the purpose for external reliability were to assess the extent at which a measure varies from one use to another. To account for reliability in this study, the Test-retest method and tool was used in serving such purposes. This is for the sole aim of determining how authentic the pilot study results are. More so, the Cronbach alpha test measuring the credibility and consistency of the standard scale to be used in the quantitative aspect of the study was examined. It was expected that the reliability test result did not yield below 0.70 co-efficient. This was to make sure that the objectives of the study measure accurately what they are intended to measure.

### 3.7 Method of Data Analysis

Data obtained for the study were presented using simple percentages and frequency table. In addition, the research hypotheses were tested using Pearson correlation statistical tool respectively.

## 4. Analysis and Results

This section presents findings from the study.

Table 3 presents the socio-demographic characteristics of the respondents of the study.

**Table 3:** Responses from Socio-Demographic Characteristics

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	107	66.9
Female	53	33.1
<b>Total</b>	<b>160</b>	<b>100</b>
<b>Age</b>	<b>Frequency</b>	<b>Percentage %</b>
20-30	53	33.1
31-40	58	36.3
41-50	28	17.5
51-60	21	13.1
<b>Total</b>	<b>160</b>	<b>100</b>
<b>Marital status</b>	<b>Frequency</b>	<b>Percentage%</b>
Single	67	41.9
Married	64	40.0
Divorced	26	16.3
Widowed	3	1.9
<b>Total</b>	<b>160</b>	<b>100</b>
<b>Educational level</b>	<b>Frequency</b>	<b>Percentage%</b>
GRADE II/NCE	56	35.0
BSC/HND	96	60.0
Post Graduate/Masters	8	5.0
<b>Total</b>	<b>160</b>	<b>100</b>
<b>Cadre of staff</b>	<b>Frequency</b>	<b>Percentage %</b>
Junior staff	116	72.5
Senior staff	44	27.5
<b>Total</b>	<b>160</b>	<b>100</b>
<b>Religion</b>	<b>Frequency</b>	<b>Percentage %</b>
Christian	83	51.9
Islam	66	41.3
Traditional	11	6.9
<b>Total</b>	<b>160</b>	<b>100</b>
<b>Length of service</b>	<b>Frequency</b>	<b>Percentage %</b>
Less than 2 years	77	48.1
3-5 years	49	30.6
6-10years	22	13.8
11 years and above	12	7.5
<b>Total</b>	<b>160</b>	<b>100.0</b>

Source: Research Survey (2024)

#### 4.1 Testing of Hypotheses

##### *Hypothesis One*

**H<sub>1</sub>:** There is no significant relationship between practicing green recruitment on economic sustainability.

**Table 4: Correlation analysis on the Relationship between practicing green recruitment on economic sustainability.**

		<b>Green Recruitment</b>	<b>Economic Sustainability</b>
<b>Green Recruitment</b>	Pearson Correlation	1	.811**
	Sig. (2-tailed)		.000
	N	160	160
<b>Economic Sustainability</b>	Pearson Correlation	.811**	1
	Sig. (2-tailed)	.000	
	N	160	160

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

The correlation table above indicated that there was an existence of a very strong, significant and positive relationship between practicing green recruitment and economic sustainability with (r=0.811, p-value<0.05). This indicated and inferred that a significant association and connection exists between green employee advocacy and corporate environmental responsibility. Therefore, the null hypothesis was rejected because results reflected that the practice of green recruitment have significant nexus with economic sustainability.

*Hypothesis Two*

**H<sub>2</sub>**: There is no relationship between the practices of green training and development and environmental sustainability.

**Table 5: Correlation analysis on the Relationship between practices of green training and development and environmental sustainability**

		<b>Green Training and Development</b>	<b>Environmental Sustainability</b>
<b>Green Training and Development</b>	Pearson Correlation	1	.703**
	Sig. (2-tailed)		.000
	N	160	160
<b>Environmental Sustainability</b>	Pearson Correlation	.703**	1
	Sig. (2-tailed)	.000	
	N	160	160

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

The above correlation table presented the test of hypothesis which investigated the relationship between practices of green training and development and environmental sustainability in selected raw materials research and development council in Southwest, Nigeria. The table indicated that there was a strong and positive relationship between the practice of green training and development and environmental sustainability with (0.703: p=0.000<0.05), which explains that practices of green training and development has significant 70.3% correlation with and environmental sustainability. Therefore, the null hypothesis was rejected. Result thus showed that practices of green training and development has significant correlation with and environmental sustainability in the selected raw materials research and development organizations in Southwest Nigeria



*Hypothesis Three*

**H<sub>3</sub>:** There is no significant relationship between practicing green compensation and reward system and social sustainability.

**Table 6: Correlation analysis on the Relationship between practicing green compensation and reward system and social sustainability**

	Green Compensation and Reward System	Social Sustainability
<b>Green Compensation and Reward System</b>	Pearson Correlation	.913**
	Sig. (2-tailed)	.000
	N	160
<b>Social Sustainability</b>	Pearson Correlation	.913**
	Sig. (2-tailed)	.000
	N	160

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

The correlation table above provided that there was an existence of a significant relationship between practicing green compensation and reward system and social sustainability with ( $r=0.913$ ,  $p\text{-value}<0.05$ ). This exposed that a significant relationship exist between these variables. Therefore, the null hypothesis was rejected because results proved that practicing green compensation and reward system have significant relationship with social sustainability.

4.2 Discussion of Findings

The thrust of this study examined greening the practices of human resource management and organisational sustainability. Three objectives were put forward

The first objective of the study sought to examine the relationship between of practicing of green recruitment on economic sustainability. Findings from the study heralded that a significant relationship exists and this finding aligns with the position of Olanipekun et al. (2022), whose study found out that to adequately sustain the economy, it is advisable for organisations to engage in eco-affable production process. The finding of the study also buttress the positon of Tang (2018) whose study provided that the elemental aspect of green recruitment and selection is the prospective candidates’ level of green awareness which involves personality factors which are needed for attaining an organisation’s environmental objectives; as stated by this scholar, a notable factor in this regard can be candidate’s green agreeableness or consciousness which can positively affect the economic arm of sustainability as a nomenclature and the outcome that expressed that organisations that recruits competent employees with in-depth knowledge can assist in driving economic sustainability through awareness and consciousness.

For the second objective, it was found that practices of green training and development and environmental sustainability; findings from the study provided that a significant relationship exists and this result was validated by the study carried out by Norton et al. (2023) in India. For the last objective which sought to examine the relationship between practicing green compensation and reward system and social sustainability. The outcome of this study indicated that a positive and very strong relationship exists between the variables understudied. This finding agrees with extant studies (e.g., Oyedokun, 2021; Atiku & Fapohunda, 2020) which posited that the practice of green compensation and reward system can assist in stimulating employees’ passion for sustaining



the ecosystem through social sustainability. This thus serve as motivational tool made available as well as outlined for employees to enhance their compliance with adhering towards sustainable development agenda.

The finding from this study also supports the outcome of a study by Tariq et al. (2024), whose study concluded that practicing green compensation and rewards as a strategy plays significant role in enthusing, encouraging as well as facilitating employees interest towards acquiring more knowledge on how they can adequately contribute towards sustainable development through ethical work practices and ensuring that their production process does not negatively affect the community where their organisation is domiciled. Findings from this study is also in consonance with the study by Olateju (2020) whose study finding presented that the practice of green compensation and reward system allows for management to effectively communicate green schemes by establishing organization-wide conversation towards enhancing employees commitment to meeting green targets.

## 5. Conclusion

From the analysis of the study, it was visible that green recruitment and selection practices play effective roles in ensuring economic sustainability; hence, the study concluded that since green recruitment and selection significantly affects all indicators of economic sustainability as used in this study, then its practice should be maintained and sustained. Based on the result obtained from the study, it can be concluded that organisations who practice green ideology using the three functions of HR such as green recruitment and selection, green training and development and green compensation and reward system are most likely to attract more and better applicants than those who do not.

Consequently, to improve employee awareness towards organisational sustainability, managements should concentrate on interactions of the aforementioned GHRM practices, as mechanisms for achieving green organisational agenda. Based on the outcome of the study and from the result obtained via this study, it was concluded that an active compensation and reward practices that are tailored towards the enrichment of the environment can assist in placing sustainability at the heart of employees, as it has potentials to affectively contribute immensely towards boosting the morale of a workforce towards environmentally and socially conscious.

### 5.1 Recommendations

Based on the outcome of this study, the following recommendations were made.

- i. Management must ensure that green recruitment and selection practices are adequately implemented and this can be achieved by incorporating it into their job analysis agenda and formalising it;
- ii. Management should create a reward system with programmes such as environmental respect awards, employee environmental achievement, award for employee/individual's suggestion made on the revitalisation of the environment; award/reward based on acquisition of designated environmental protection skills and competencies, and knowledge-based on environmental legislations;
- iii. Management should develop strategies to capture and personalize employee reward recognition; as this will allow employees choose the type of rewards they desire from the list of reward menu, such as holidays, extra time or gift vouchers; and
- iv. Prioritisation of employees' for education and awareness should be done by the management.



## Conflict of interest

The authors declare no conflicting interest in the conduct of the study.

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## Biographical notes



### Lateef Okikiola Olanipekun

Lateef Okikiola Olanipekun holds a Bachelor of Science Degree in Industrial and Labour Relations, Masters of Science Degree in Industrial Relations and Human Resources Management from Olabisi Onabanjo University, Ogun-State. He Holds a Master of Business Administration in Human Resource Development and Masters of Education with specialisation in Educational Administration from the African Institute of Science, Administration and Commercial Studies, Togo. He holds a PhD in Human Resource Management from the prestigious Department of Industrial Relations and Human Resource



Management, Lagos State University, Ojo, Lagos, Nigeria. He is widely published in journals of repute in Nigeria and abroad. He is currently a lecturer and Faculty staff at Elizade University, Ilara-Mokin, Ondo State, Nigeria. He possesses thorough and contemporary rich skills that perfectly fits into plausible solutions targeted at resolving concerns on industrial relations, human resource management, and the triple bottom-line of sustainability, which are economic sustainability, environmental sustainability, and social sustainability.



**Gbolabo Omoniyi Okudero**

Okudero has a BSc, MPA, M.Sc. and PhD in Economics, Public Administration, Industrial Relations and Personnel Management and Industrial Relations and Human Resource Management respectively from Lagos State University and University of Lagos, all in Lagos State – Nigeria. He has a certification in Human Resource Management from Cornell University, USA. He Joined the Civil Service in 1999 and is currently the Director, Administration and Human Resource, Health District VI. He is a fellow of the Chartered Institute of Management and Leadership, Delaware, USA; Associate Member, Chartered Institute of Personnel Management (CIPM); Associate Member, Nigerian Institute of Management (NIM) a Certified Trainer of Centre for Management Development (CMD). He has facilitated training programs for a number of institutions accross the globe. Okudero was a part-time Lecturer at the former Lagos State Polytechnic both Ikorodu and Isolo campuses and has published several articles around Human Resource Management and Organisational Behaviour.



**Samuel Oroghenemudiake Ukutegbe**

Samuel Oroghenemudiake Ukutegbe graduated with a B.Sc.(Ed) degree in Economics from Lead City University, Ibadan, Oyo State, in 2020. He also holds a Master of Education (M.Ed.) in Educational Management specializing in Personnel Administration from the University of Ibadan with a PhD grade in 2023. Professionally, Samuel is a member of the Teachers Registration Council of Nigeria (TRCN) since 2021 and an associate member of the Institute of Strategic Management, Nigeria (ISMN) since 2011. Since June 2022, he has been serving as a Mechanical Maintenance Engineer at Oriental Food Industry Limited in Ibadan, where he is responsible for the maintenance of machines in the milk process and can plants. From June 2021 to December 2023, he was a part-time lecturer at Igbajo Polytechnic's Ibadan Study Centre, teaching business communication, statistics, science, mechanical, and electro-mechanical courses. Samuel Oroghenemudiake Ukutegbe is an author who has contributed to the academic community through various publications in esteemed journals, covering topics such as e-learning, virtual teaching-learning factors, Institutional administration, human resource management practices, and organizational effectiveness to mention but a few.

**Sunday Samuel Akinwande**

Sunday Samuel Akinwande holds a Bachelor of Science Degree in Public Administration from the prestigious Olabisi Onabanjo University with a second Class Upper, and he is currently a Post-Graduate Student in the Department of Public Administration in the same University. He has attended conferences both locally and internationally.

