JOURNAL OF SOCIAL AND DEVELOPMENT SCIENCES

Vol. 15 No. 1 ISSN 2221-1152

Editorial

Journal of Social and Development Sciences (JSDS) is a scholarly journal that deals with the disciplines of social and development sciences. JSDS publishes research work that meaningfully contributes to the theoretical bases of contemporary developments in society, business and related disciplines. The work submitted for publication consideration in JSDS should address empirical and theoretical contributions in the subjects related to the scope of the journal in particular and allied theories and practices in general. The scope of JSDS includes: sociology, psychology, anthropology, economics, political science, international relations, linguistics, history, public relations, hospitality & tourism and project management. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal, and that all listed authors approve its submission to JSDS. It is JSDS policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of JSDS consists of papers of scholars from Nigeria, South Africa, Uganda and Malaysia. Convergence of Fiscal Policy and Economic Growth, Exploring Global Warming Impact on the Economy, Relationship Between Social Capital and Women's Self-Employment, Role of AI-Assisted Learning Tools in Higher Education and Managerial Competency and Profitability of Village Savings and Loan Associations are some of the major practices and concepts examined in these studies. Journal received research submissions related to all aspects of major themes and tracks. All the submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer-reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of purpose. The current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise and to acquire additional knowledge in other relevant fields.

Editor In Chief

Editorial Board

Editor

Nek Kamal Yeop Yunus PhD, University Pendidikan Sultan Idris, Malaysia

Editorial and Advisory Board

- Yapa Bandara PhD, Charles Sturt University, Australia
- R. K. Uppal PhD, DAV College, Panjab University, India
- N. Panchanatham PhD, Gandhigram Rural Institute University, India
- Rajendra Parsad Gunputh PhD, University of Mauritius, Mauritius
- M Azhar Khan PhD, Hokkaido University, Japan
- Apostu Iulian PhD, University of Bucharest, Romania
- Pratibha Samson Gaikwad PhD, University of Mumbai, India
- Chux Gervase Iwu PhD, University of The Western Cape, South Africa

TABLE OF CONTENTS

Description	Pages
Title	I
Editorial	II
Editorial Board	III
Table of Contents	IV
Papers	V
Convergence of Fiscal Policy and Economic Growth in Nigeria Adesodun Isaac Adebayo, Isaac Babatope Taiwo	1
Exploring Global Warming Impact on the Economy: The Nexus of Global Warming and the Economy in Perspective Lawrence Vorvornator	14
The Mediating Role of Personal Initiative in the Relationship Between Social Capital and Women's Self-Employment Benjamin Musiita, Atwine Daniel Wanito, Asaph Kaburura Katarangi, Sheila Akampwera	24
The Role of AI-Assisted Learning Tools in Higher Education: Balancing Efficiency, Critical Thinking and Academic Integrity Hanafiah Hasin, Anita Jamil, Zaleha Mahat, Rahayu Sehat, Eka Fauzihardani	36
Managerial Competency and Profitability of Village Savings and Loan Associations in Mitooma District Ronald Tugume, John Kule Baguma, Benjamin Musiita	47

PAPERS

Journal of Social and Development Sciences
Vol. 15, No. 1, 2025, (ISSN 2221-1152)

Convergence of Fiscal Policy and Economic Growth in Nigeria

*Adesodun Isaac Adebayo, Isaac Babatope Taiwo
Department of Accounting, Faculty of Management Sciences, Ekiti State University, Ado Ekiti, Nigeria
*adesodun.adebayo@eksu.edu.ng, isaac.taiwo@eksu.edu.ng
Corresponding Author: Adesodun Isaac Adebayo

Abstract: This study investigates the convergence relationship between fiscal policy and economic growth in Nigeria over 38 years. Fiscal policy was captured with public expenditure, revenue, and debt, while economic growth was captured with gross domestic product. The study adopted an expo factor design and a quantitative research approach. Balanced secondary data from 1986 to 2023 were gathered through the National Bureau of Statistics and the Federal Inland Revenue Service. The collected data were subjected to statistical analysis using trend analysis, descriptive statistical analysis, and OLS regression analysis. The findings reveal that public spending significantly and positively impacts Nigeria's economic growth. Specifically, a 1% increase in government expenditure results in an 8.62% increase in GDP, with a coefficient of 8.62 and a probability value of 0.000 ($p < 0.05$). This underscores the autonomous capacity of government spending to drive economic growth. Conversely, tax revenue, while positively related to GDP, has a minimal and statistically insignificant effect on economic growth (coefficient = 2.99, probability = 0.4072, $p > 0.05$), indicating that a 1% rise in tax revenue corresponds to a 3% increase in GDP. Furthermore, the analysis reveals that public debt exerts a negative but statistically insignificant impact on GDP, with a coefficient of -0.617 and a probability value of 0.6565 ($p > 0.05$), implying that a 1% rise in public debt leads to a 0.6% decline in GDP. The study concludes that government spending plays a critical role in stimulating economic growth in Nigeria, while the current contributions of tax revenue and public debt remain limited. These findings provide valuable insights for policymakers, emphasizing the need for effective fiscal strategies that prioritize productive public spending to enhance long-term economic development in Nigeria.

Keywords: *Economic Growth, Tax income, Fiscal Policy, Gross Domestic Product, Public Debt*

1. Introduction

Nigeria's economic growth has experienced fluctuations in recent years due to internal and external challenges, including inflation, exchange rate instability, and global economic shocks (World Bank, 2023). While the country has seen growth driven by crude oil exports, agriculture, and services, structural issues such as unemployment, inadequate infrastructure, and weak industrialization continue to hinder sustainable development. Economic growth, which refers to a sustained increase in national income and productive capacity, is essential for poverty reduction and improved living standards (Todaro & Smith, 2022). However, achieving consistent growth requires sound macroeconomic policies, with fiscal policy playing a central role in driving investment, consumption, and production (IMF, 2023). Given Nigeria's current economic challenges, an effective fiscal policy framework is crucial for ensuring long-term stability and progress.

Fiscal policy involves government decisions on revenue generation and public spending to influence economic stability and growth (Akanbi, 2021). In Nigeria, it plays a critical role in addressing inflation, unemployment, and infrastructural deficits. Strategic government spending, efficient tax collection, and responsible debt management can create a favorable environment for business growth and economic expansion (CBN, 2023). Three key fiscal components—public expenditure, tax revenue, and public debt—directly impact Nigeria's economic performance. Public expenditure funds critical sectors such as infrastructure, education, and healthcare, which enhance productivity and human capital (Olawumi & Oladele, 2022). Tax revenue, derived from personal, corporate, and value-added taxes, provides the government with the financial resources needed for national development (Ekeocha, 2023). Public debt, including domestic and external borrowing, can finance development projects but if mismanaged, may lead to economic instability (Okonkwo & Uche, 2022). The convergence of fiscal policy and economic growth in Nigeria depends on how effectively these fiscal components are managed. When strategically implemented, they can stimulate economic expansion, reduce poverty, and enhance overall national development. However, challenges such as mismanagement of funds, tax evasion, and rising debt levels pose significant risks to economic stability.

Recent efforts by the Nigerian government, such as the passage of the Economic Stabilisation Bills, which include amendments to over 15 tax, fiscal, and establishment laws, demonstrate a clear commitment to fostering economic stability in response to rising inflation and other fiscal challenges (Oyadiran, 2024). These legislative reforms aim to create a favorable environment for industrialization and long-term development, underscoring the significance of fiscal measures in driving structural transformation and addressing the pressing needs of a developing economy. Nigeria's economic indicators have undergone significant changes in recent years, reflecting both ongoing challenges and potential growth opportunities. As of 2023, the country's Gross Domestic Product (GDP) grew at a modest rate of 2.9%. Projections by the Central Bank of Nigeria (CBN) indicate that GDP growth could reach 4.17% by 2025, driven by continued economic reforms and efforts to stabilize inflation. This optimistic outlook is supported by the government's renewed focus on structural changes, such as diversifying revenue streams and improving infrastructure (Reuters, 2025). However, inflation remains a persistent issue, peaking at 34.8% in 2024 due to the removal of the petrol subsidy and the devaluation of the naira, both of which significantly impacted consumer prices. The CBN expects inflation rates to decline in the coming years as the effects of these reforms begin to stabilize (Reuters, 2025).

Another pressing concern is Nigeria's rising public debt burden. In response, the government has shifted its focus from excessive borrowing to encouraging private-sector investment as a means of stimulating economic growth. This strategic pivot is intended to address the challenges of subdued growth, persistent inflation, and unsustainable debt levels (Reuters, 2025). According to the World Bank, Nigeria's unemployment rate was reported at 3.1% in 2023, based on modeled estimates from the International Labour Organisation (ILO). However, this figure likely underrepresents the realities of underemployment and the large informal sector that characterizes the Nigerian labor market (World Bank, 2023). Despite these challenges, the government's commitment to structural reforms, private sector promotion, and revenue diversification offers some optimism for future stability and growth. Sustained efforts in fiscal discipline, job creation, and inflation control will be essential for Nigeria to achieve its long-term economic goals.

This study seeks to examine the convergence relationship between fiscal policy and economic growth in Nigeria, providing critical insights for policymakers tasked with stabilizing the economy and promoting sustainable development. By examining the impacts of government spending, tax revenue, and public debt on economic growth over an extended period, this research contributes meaningfully to the ongoing discourse on the role of fiscal policy in fostering growth in developing economies. The findings aim to refine fiscal strategies and help Nigeria harness its full economic potential amidst the complexities of an evolving global economy.

2. Literature Review

Conceptual Issues

Fiscal Policy: Fiscal policy refers to the government's use of public revenue and expenditure to influence economic activities. According to Adebayo and Olayemi (2021), fiscal policy encompasses taxation, government spending, and borrowing strategies aimed at achieving macroeconomic stability. Oladipo (2022) defines it as a tool used by the government to regulate economic fluctuations, control inflation, and stimulate growth. Similarly, Eze and Okonkwo (2023) describe fiscal policy as a mechanism for resource allocation that ensures economic sustainability through effective management of revenue and expenditure. In the view of Yusuf (2024), fiscal policy plays a crucial role in shaping economic performance by addressing issues such as unemployment, inflation, and income distribution. These definitions emphasize the significance of fiscal policy in Nigeria's economic framework, highlighting its role in promoting national development.

Fiscal policy contributes to economic growth by influencing key macroeconomic variables such as investment, consumption, and employment. Through increased public expenditure, the government can invest in infrastructure, education, and healthcare, which enhances productivity and national output (Akinlo & Lawal, 2022). Effective tax policies generate revenue while ensuring that businesses and individuals are not overburdened, thereby promoting private sector growth (Obafemi, 2023). Additionally, responsible public debt management ensures that borrowed funds are used for productive investments rather than unsustainable recurrent expenses (Olowu & Adekunle, 2023). In Nigeria, fiscal policy has been instrumental in addressing economic challenges, including inflation control, poverty reduction, and industrial growth. However, inefficient

fiscal management, corruption, and excessive borrowing have sometimes weakened its impact, leading to economic instability.

This study captures fiscal policy through three key components: public expenditure, tax revenue, and public debt. Public expenditure represents government spending on goods, services, and infrastructure, which drives economic activities and enhances development (Adebisi & Akinwale, 2023). Tax revenue refers to funds collected by the government through various taxes, which are essential for funding public services and projects (Eze, 2024). Public debt, on the other hand, involves government borrowing from domestic and international sources to finance fiscal deficits (Okonjo & Bello, 2024). Understanding the relationship between these components and economic growth is essential for formulating effective policies that ensure Nigeria's long-term economic stability and prosperity.

Economic Growth: Economic growth refers to the sustained increase in a country's productive capacity, leading to higher income levels and improved living standards. According to Adebayo and Oladimeji (2022), economic growth is the long-term expansion of a nation's real output, measured by the increase in Gross Domestic Product (GDP). Eze and Okonkwo (2023) define it as the process through which a country enhances its capacity to produce goods and services, leading to higher employment and wealth creation. Yusuf (2024) describes economic growth as the continuous improvement in economic indicators such as investment, consumption, and industrial productivity. Similarly, Obafemi (2023) emphasizes that economic growth is driven by factors such as capital accumulation, technological advancement, and efficient resource allocation. These definitions highlight the importance of economic growth in national development and poverty reduction.

In Nigeria, economic growth has been characterized by fluctuations due to external and internal challenges. While the country has experienced periods of growth driven by sectors such as agriculture, telecommunications, and oil and gas, issues such as inflation, unemployment, and weak infrastructure continue to hinder sustainable development (Olowu & Adekunle, 2023). Additionally, the impact of global economic shocks, exchange rate volatility, and policy inconsistencies has further constrained Nigeria's economic expansion (Akinlo & Lawal, 2022). To better understand economic growth, this study captures it through Gross Domestic Product (GDP), which serves as a key indicator of a nation's economic performance. By analyzing GDP alongside fiscal policy variables, this study aims to assess how government actions influence Nigeria's economic trajectory and overall stability.

Theoretical Review

Keynesian Theory of Fiscal Policy: The Keynesian Theory of Fiscal Policy was developed by British economist John Maynard Keynes in *The General Theory of Employment, Interest, and Money* (1936). Keynes argued that free-market economies are not always self-regulating and that government intervention is necessary to stabilize economic fluctuations. He emphasized that during periods of economic downturn, increased government spending and reduced taxation could boost aggregate demand, leading to higher employment and economic growth (Keynes, 1936). This theory became the foundation of modern fiscal policies, influencing governments worldwide, including Nigeria, where fiscal policy plays a crucial role in addressing economic instability and promoting growth (Blanchard & Johnson, 2022).

Keynesian theory is based on the assumption that aggregate demand drives economic output and employment, meaning government spending can help reduce unemployment and stimulate growth (Mankiw, 2020). It also assumes that prices and wages are sticky in the short run, preventing the economy from adjusting quickly to shocks necessitating fiscal intervention (Romer, 2019). However, the theory has faced criticisms, particularly from monetarists like Milton Friedman, who argue that controlling the money supply is more effective in managing economic stability than fiscal policy (Friedman, 1968). Additionally, the Ricardian Equivalence Theory suggests that government borrowing does not always stimulate growth, as people may save more in anticipation of future tax increases (Barro, 1974). Critics also caution that excessive government spending can lead to inflation and inefficiencies in resource allocation (Lucas, 1976).

Despite these criticisms, the Keynesian Theory remains relevant to understanding the relationship between fiscal policy and economic growth in Nigeria. The theory supports the view that increased public expenditure on infrastructure, healthcare, and education can enhance productivity and boost national output (CBN, 2023).

It also highlights the importance of tax policies in generating revenue for development while maintaining a balance that does not stifle economic activity (IMF, 2023). Given Nigeria's economic challenges, applying Keynesian principles can help policymakers design fiscal strategies that promote sustainable growth and economic resilience.

Ricardian Equivalence Theory: The Ricardian Equivalence Theory was first introduced by David Ricardo in *On the Principles of Political Economy and Taxation* (1817) and later expanded by Robert Barro (1974). The theory argues that government borrowing does not necessarily impact economic growth because rational individuals anticipate future tax burdens and adjust their savings accordingly. According to Barro (1974), when the government finances spending through debt rather than taxation, people recognize that the borrowed funds will eventually be repaid through higher taxes. As a result, households increase their savings to prepare for these future tax obligations, leading to no real change in aggregate demand or economic growth. This concept challenges the Keynesian belief that fiscal stimulus through deficit spending can boost economic activity. In Nigeria, where government borrowing is a significant component of fiscal policy, the theory provides insights into the potential limitations of public debt in driving long-term economic expansion.

The Ricardian Equivalence Theory is based on several key assumptions. First, it assumes that individuals are forward-looking and make rational financial decisions based on expectations of future tax liabilities (Barro, 1974). Second, it presumes that capital markets are perfect, allowing households to borrow and save freely without constraints (Romer, 2019). Third, it assumes that government debt is eventually repaid through taxation rather than inflation or default, making public borrowing a temporary measure. However, critics argue that these assumptions are often unrealistic. Keynesian economists contend that not all individuals behave rationally or have equal access to credit markets, meaning they may not save in response to government debt (Blanchard & Johnson, 2022). Additionally, some studies suggest that in economies with inefficient tax systems, high levels of debt can lead to economic distortions rather than neutral effects (Mankiw, 2020). Critics also highlight that if government borrowing is used for productive investments, such as infrastructure and education, it can generate long-term economic benefits despite future tax obligations (Snowdon & Vane, 2005).

Despite these criticisms, the Ricardian Equivalence Theory remains relevant to this study as it provides a framework for analyzing the effects of fiscal policy, particularly public debt, on Nigeria's economic growth. Given Nigeria's reliance on deficit financing, understanding whether households adjust their savings behavior in response to government borrowing is crucial in assessing the effectiveness of fiscal policies. If the theory holds, excessive reliance on debt financing may fail to stimulate economic growth as expected. However, if Nigeria's economy does not conform to Ricardian assumptions—due to credit constraints, low financial literacy, or inefficient tax administration—public debt could still have expansionary effects. Therefore, policymakers must carefully balance borrowing and taxation to ensure that fiscal policies contribute positively to long-term economic stability and growth.

Empirical Studies

Numerous studies have examined the relationship between fiscal policy and economic growth in Nigeria, yielding varying results depending on the element of fiscal policy. For example, Ukangwa et al. (2023) investigated the impact of fiscal policy on economic growth in Nigeria, employing an ex-post facto research design. The study revealed a linear relationship between Gross Domestic Product (GDP) and key fiscal variables, including public debt, tax revenue, and government expenditure. The findings indicated that public debt (PDBT) and tax revenue (TAX) were negatively correlated with GDP, while total government expenditure (TGE) exhibited a positive relationship with GDP. Specifically, public debt and tax revenue both had an inverse relationship with GDP, suggesting that increases in these variables have a detrimental effect on economic growth, leading to a reduction in GDP.

Jane (2023) assessed the Impact of fiscal policy on the economic growth of Nigeria. The study made use of the Johansen Cointegration Test analysis to determine the long-run relation between fiscal policy and the economic growth of Nigeria. The data was sourced from the CBN statistical bulletin from 1990 to 2021. The research findings revealed that there is a linear relationship between Gross Domestic Product and Public Debt, Tax revenue and Government Expenditure, Public debt and Tax Revenue were negatively related to GDP, while Total Government Expenditure is positively related to GDP; PDBT and Tax both have an inverse relationship

with GDP meaning that increases in both variables have a negative impact or lead to a reduction in GDP. Statistically, the t-statistics of the variables under consideration were significant, and the overall estimates of the regression were statistically adequate and, therefore, show the acceptance of the alternative hypothesis of no co-integration of the unstable long-run relationship between Fiscal Policy and Economic Growth. It was recommended, among others, that the Nigerian government increase expenditure on economically viable investments to improve individual income through employment and increased output.

Oruku et al. (2023) examined the effect of fiscal policy on the economic growth of Nigeria. The variables employed were the Exchange rate, Inflation rate, public capital expenditure, net export, and monetary policy rate. The study employed data from the period 1983- 2022, making a total period of 40 years, and analyzed data using the Ordinary Least Squares regression technique The empirical findings show that fiscal policy variables met the economic a-priori expectation in terms of its negative coefficients but do not significantly affect Gross Domestic Product within the period of study. Therefore, fiscal deficits do not contribute significantly to the overall economic performance of the economy in Nigeria. As such, the study recommended, among others, that deficit financing in Nigeria should be focused more on the productive sectors of the economy to herald the requisite growth effect.

Nwaiwu and Ugwu (2016) investigated the impact of government spending on economic growth and discovered a positive link. Their research indicates that increasing public spending in crucial sectors such as infrastructure, education, and healthcare can greatly boost economic growth. Similarly, Olarewaju and Ajayi (2018) examined the impact of budget deficits on economic growth. Their findings indicate that while fiscal deficits can provide short-term economic benefits, sustained deficits may lead to adverse outcomes, such as increased debt servicing costs and reduced investment in productive sectors, ultimately hindering long-term economic prosperity. This highlights the complex dynamics of fiscal policy, where the benefits of increased expenditure must be balanced against the risks of accumulating fiscal deficits.

Amadi and Adebisi (2017) investigated the role of tax revenue in economic growth, finding that tax revenue has a positive but insignificant impact on Nigeria's GDP. Their study attributes this to the narrow tax base and inefficiencies in the tax collection system, which fail to capture the full potential of revenue from economic activities. The significant informal sector, which remains largely untaxed, further limits the effectiveness of tax revenue in driving economic growth.

Egbunike et al. (2018) offered a contrasting view, suggesting that tax revenue can significantly contribute to economic growth if the tax system is reformed to expand the tax base and improve collection efficiency. Their study emphasizes the potential of tax revenue as a sustainable source of funding for public expenditure and economic development. Babalola (2015) examined the short- and long-term impact of fiscal policy on economic development in Nigeria from 1981 to 2013, utilizing secondary data sourced from government bulletins. The model was estimated using Pair-wise Correlation to determine the relationships between variables, followed by Cointegration and an Error Correction Mechanism (ECM) to assess both short- and long-run effects. The findings revealed that government recurrent expenditure and government investment had significant and positive impacts on economic development in both the short and long term during the period under review. Capital expenditure demonstrated a positive effect in the short run, but this did not extend into the long run. In contrast, tax revenue was found to have a significant inverse relationship with economic development in both time horizons. The speed of adjustment towards equilibrium was notably high, and the results were consistent with established theories and previous studies.

3. Research Method

The study focuses on Nigeria and adopts an ex-post facto research design, which involves analyzing existing data spanning the period 1986–2023. This design was chosen as it allows the examination of historical data to identify patterns, relationships, and trends without manipulating variables, making it well-suited for exploring the long-term effects of fiscal policy on economic growth. However, the design has inherent limitations, including its reliance on secondary data, which may be subject to inaccuracies or inconsistencies in documentation over time. The data were sourced from credible institutions, such as the National Bureau of Statistics and the Federal Inland Revenue Service. Key economic growth indicators collected include Gross

Domestic Product (GDP) growth rates, employment levels, inflation rates, and sectoral contributions to GDP. Additionally, data on institutional setups, fiscal rules, and governance structures related to fiscal policy formulation and implementation in Nigeria were incorporated.

While trend analysis was employed to identify changes and patterns over the study period, this approach has limitations. Specifically, trend analysis does not account for causality, as it is purely descriptive, and it may oversimplify complex interactions between variables. Additionally, the results may be influenced by outliers or abrupt policy changes, which may not reflect consistent long-term trends. These limitations highlight the need to interpret the findings cautiously and, where possible, complement them with other statistical methods to ensure robust conclusions. The models established by Olusegun (2023) to examine the impact of government revenue and expenditure on economic growth in Nigeria were adapted for this study. The study captured government revenue with non-oil revenue (NOREV), government expenditure with capital expenditure (CAPEX), and economic growth with gross domestic product (GDP). The functional and linear representations of the models are presented below:

$GDP = f(NOREV, CAPEX)$ ……. …… (1)

$GDP = \beta_0 + \beta_1 InNOREV + \beta_2 InCAPEX + \mu_t$ ……. …… (2)

However, some modifications were made to cut the stated objectives of the study. These modifications are as follows:

- Non-oil revenue was replaced with the total tax revenue
- Capital expenditure was replaced with total public expenditure
- Public debt was added to the predictors

Hence, the functional and linear representation of the new model is presented below:

$GDP = f(PUEXP, TXRV, PUBD)$ ……. …… (3)

$GDP = \beta_0 + \beta_1 InPUEXP + \beta_2 InTXRV + \beta_3 InPUBD + \mu_t$ ……. …… (4)

Where:

GDP = Gross Domestic Product

PUEXP = Public Expenditure

TXRV = Tax Revenue

PUBD = Public Debt

This study made use of descriptive statistics to unveil the unique characteristics of the variables under consideration for the period covered. Trend analysis was conducted to display the historical trends of the variables under consideration. Also, Pearson correlation analysis was conducted to ascertain the nature of the relationship existing between the pairs of variables. For the inferential statistics, an ordinary least squares analysis was conducted for the test of the hypothesis. To ascertain the originality of the findings made through OLS, some diagnostic tests were conducted, including the heteroscedasticity and normality tests.

4. Results and Discussion

Descriptive Statistics

Table 1: Descriptive Statistics Results

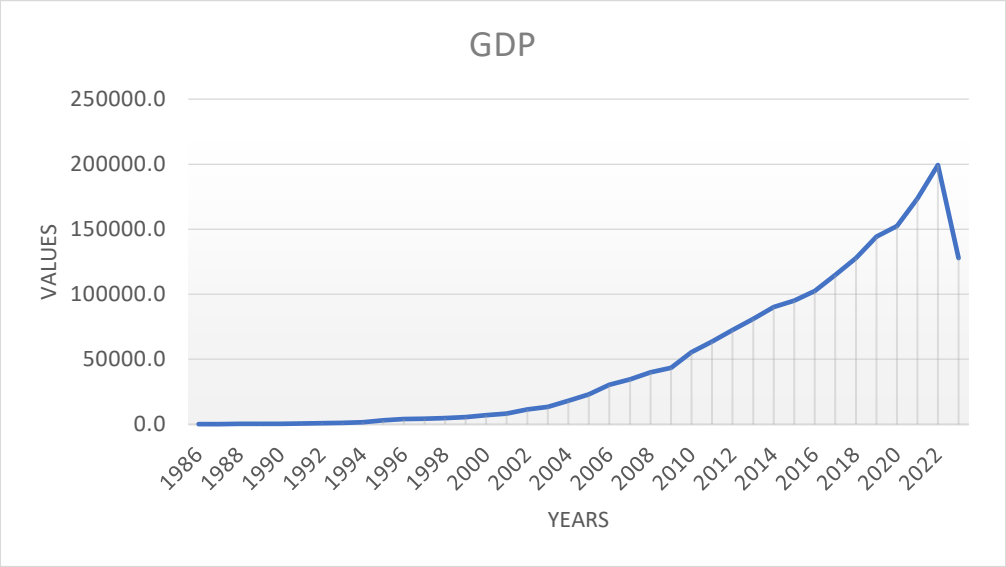
	GDP	PUEXP	TXRV	PUBD
Mean	48910.32	4398.124	2064.542	8795.276
Median	20623.00	1624.150	731.3000	4094.450
Std. Dev.	19936.0	2431.20	1638.80	5128.40
Maximum	198.1000	16.20000	4.500000	69.90000
Minimum	57530.49	6248.768	3235.207	12246.75
Skewness	1.036504	1.784597	2.809999	1.986229
Kurtosis	2.895272	5.206151	11.94550	6.290706
Observation	38	38	38	38

Source: Authors' Computation (2024)

Table 1 presents the descriptive analysis results for 38 years, the mean and standard deviation values of ₦48.9 and ₦19.9 billion were reported for gross domestic products, indicating that the GDP value is significantly influenced by high values, potentially from a few large economies. Also, the positive skewness (1.04) implies that while most economies have lower GDP values, a few very high GDPs skew the distribution to the right. For the public expenditure, the reported values for means (N4,398.124 billion) and standard deviation (N2,431 billion) indicated that public expenditure varies widely across years, with some spending significantly more than others. The positive skewness showed that a few years have much higher expenditure compared to the majority. The mean value and standard deviation values of tax revenue indicated that there is a wide variation in the tax revenue generated across the period under consideration. Also, it was evidenced that tax revenue distribution is highly skewed to the right, indicating that in a few years, substantial tax revenue was generated greater than in other years. Finally, for the public debt, it was evident that there is significant variability and skewness across all periods covered, suggesting unequal economic conditions among the observed economies.

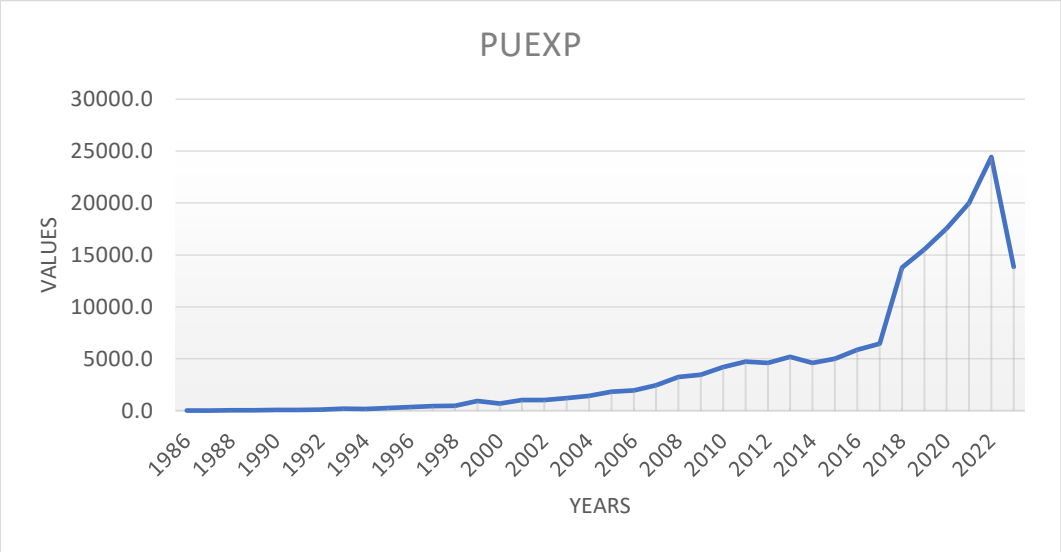
Trend Analysis

Figure 1: Trend Analysis of Gross Domestic Product from 1986 to 2023



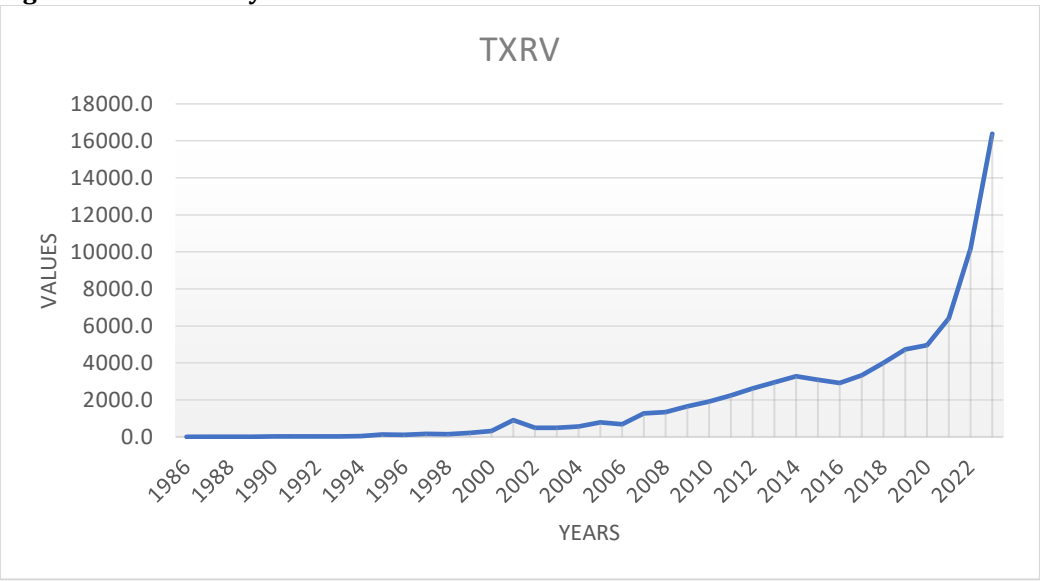
Depicted above is the trend of the Employment Rate from 1986 to 2023. From the base year 1986 to 2000, the GDP shows a relatively flat trend during this period, indicating slow economic growth. This stagnation can be attributed to political instability, military regimes, economic mismanagement, and the impact of structural adjustment programs imposed by the IMF and World Bank. Between 2000 and 2014, the GDP started to rise steadily. This could be because Nigeria returned to democratic rule in 1999, which led to more stable governance and economic policies. Also, there was a rise in global oil prices significantly boosted Nigeria's revenue, as the country is a major oil exporter. However, between mid-2015 and 2016, there was a slight fall in the GDP value due to the significant drop in global oil prices, adversely affecting Nigeria's economy, heavily reliant on oil exports. In 2017, the GDP began to recover and trended up to 2020. This shows the implication of the gradual recovery in global oil prices. In 2021, the GDP value trended up sharply till 2022, showing the implication of an increase in oil prices as global demand recovered. However, there was a sharp fall in 2023. This might be due to the economic slowdown impacting global trade and investment. Overall, the trend of Nigeria's GDP from 1986 to 2023 reflects the country's economic dependence on oil, the impact of political stability, global economic conditions, and efforts towards economic diversification.

Figure 2: Trend Analysis of Public Expenditure from 1986 to 2023



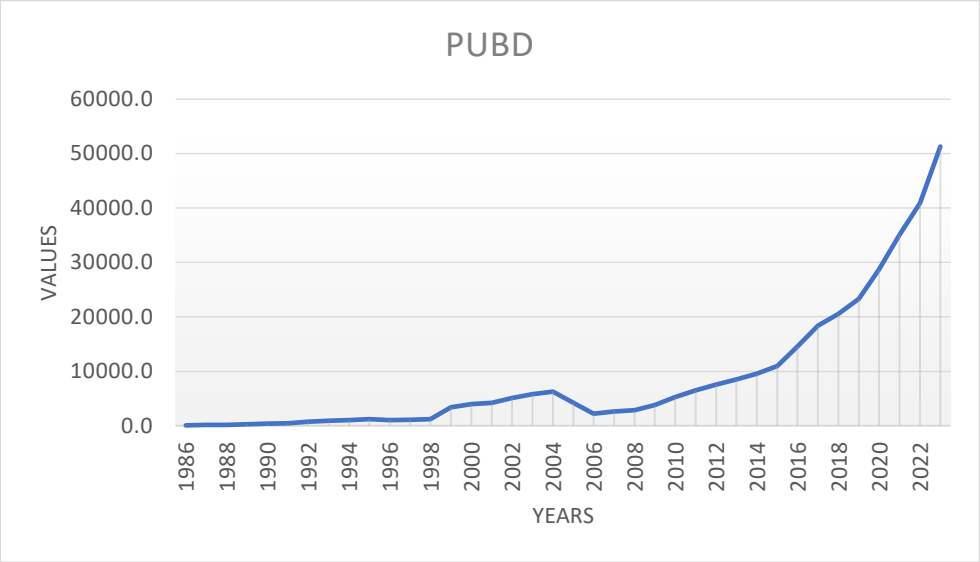
The trend analysis result displays Nigeria's public expenditure (PUEXP) trend from 1986 to 2023. From 1986 to 2000, the public expenditure shows a gradual increase with relatively low values. This period is marked by the implementation of Structural Adjustment Programs (SAPs), which involved austerity measures and reduced public spending. In 2000, there was a gradual increase in government expenditure until 2014. Democratic governance, starting in 1999, led to increased public spending on infrastructure and social programs. Despite economic challenges between 2015 and 2016, government expenditure continues to rise. This is because the government increased spending to stimulate the economy during the 2016 recession caused by low oil prices. A similar rise was experienced between 2017 and 2019. This is due to the post-recession recovery efforts, which led to increased public spending. In 2020, the government expenditure trended up sharply. This is related to the significant increase in health-related spending and economic stimulus packages to mitigate the impact of the COVID-19 pandemic. Also, between 2021 – 2023, there was a peak in public expenditure, reflecting the continued high spending to support the economic recovery from the pandemic. Overall, the trend of Nigeria's public expenditure from 1986 to 2023 reflects the country's economic conditions, political stability, oil revenue fluctuations, responses to crises, and efforts to stimulate economic growth through public investment. The peaks and troughs in expenditure are closely tied to both internal policies and external economic factors.

Figure 3: Trend Analysis of Tax Revenue from 1986 to 2023



Based on the provided graph depicting Nigeria's tax revenue trend from 1986 to 2023, distinct periods of growth and decline can be observed, each influenced by various economic, political, and global factors. From 1986 to 2000, Nigeria's tax revenue experienced a gradual increase but remained relatively low. This period was marked by the implementation of Structural Adjustment Programs (SAPs) aimed at diversifying the economy and improve tax collection mechanisms. Also, frequent changes in government and periods of military rule disrupted the consistent implementation of tax policies and hindered efficient tax collection. Between 2000 and 2010, there was a significant increase in tax revenue, driven by the return to democratic governance in 1999, which brought more stable and consistent economic policies, including comprehensive tax reforms. The upward trend in tax revenue continued from 2010 to 2015 as efforts to modernize tax administration and enhance compliance were ongoing. A slight decline or stagnation in tax revenue occurred during 2015-2016, attributable to the 2016 recession caused by falling oil prices, which led to reduced economic activity and lower tax collections. From 2017 to 2019, tax revenue showed signs of recovery and growth, influenced by efforts to recover from the recession led to increased taxable activities. In 2020, a sharp decline in tax revenue was evident, primarily due to the COVID-19 pandemic, which significantly reduced economic activities, affecting both corporate and individual tax revenues. During 2021 and 2022, tax revenue showed a noticeable rebound, reflecting the resumption of economic activities post-pandemic led to increased taxable activities. In 2023, the trend shows either stabilization or another slight decline, potentially due to the adjustments in tax policies and collection strategies post-recovery affecting tax revenue trends.

Figure 4: Trend Analysis of Public Debt from 1986 to 2023



Nigeria's public debt trend from 1986 to 2023 reveals a dynamic interplay of economic policies, global events, and political changes, leading to various phases of debt accumulation and reduction. During the late 1980s and 1990s, Nigeria experienced a steady rise in public debt. This period was marked by the implementation of Structural Adjustment Programs (SAPs) supported by the International Monetary Fund (IMF) and the World Bank, which encouraged borrowing to stabilize the economy. Frequent changes in government, including periods of military rule, contributed to inconsistent economic policies and increased borrowing. Additionally, economic challenges such as declining oil prices and mismanagement further exacerbated the debt situation as the government sought to finance deficits and development projects.

From 2000 to 2005, there was a sharp increase in Public Debt. With the return to democratic governance in 1999, Nigeria saw an initial surge in borrowing aimed at kick-starting economic and infrastructural development. The government continued to accumulate debt, relying on both external and internal sources to finance budget deficits and various projects. Despite rising oil prices temporarily boosting revenues, inconsistent fiscal policies led to further debt accumulation. However, from 2005 to 2007, the public debt trended down. This was because a significant turning point came in 2005 when Nigeria secured a major debt relief deal with the Paris Club, resulting in the cancellation of a substantial portion of its external debt. This

drastically reduced the overall public debt burden. There was a gradual increase from 2008 to 2014, which was attributed to the global financial crisis of 2008, which had a profound impact on Nigeria's economy, leading to decreased oil revenues and increased borrowing to maintain economic stability.

Similarly, there was a sharp trend between 2015 and 2023, indicating the implication of the significant collapse in oil prices around 2015, which severely affected government revenues, resulting in increased borrowing to cover budget shortfalls. The country entered a recession in 2016, further necessitating borrowing to stimulate the economy and fund critical projects. Also, the COVID-19 pandemic in 2020 led to a dramatic economic downturn, prompting emergency borrowing to fund healthcare responses, social safety nets, and economic stimulus packages. The pandemic also caused a severe reduction in both oil and non-oil revenues, necessitating additional borrowing to bridge the fiscal gap. Post-pandemic recovery efforts continued to drive borrowing to support economic stabilization and address ongoing fiscal challenges. Large-scale infrastructure projects aimed at driving long-term economic growth also required substantial financing. The overall trajectory of Nigeria's public debt from 1986 to 2023 highlights the challenges of managing debt in an economy heavily dependent on oil revenues. Periods of sharp increases in debt are often linked to economic crises, policy shifts, and global events, while occasional declines result from debt relief initiatives and improved economic management. The trend underscores the necessity for effective fiscal policies, diversified revenue sources, and robust debt management strategies to achieve long-term economic stability.

Table 2: Pearson Correlation Analysis

	GDP	PUEXP	TXRV	PUBD
GDP	1			
PUEXP	0.452	1		
TXRV	0.304	0.313	1	
PUBD	0.388	0.417	0.454	1

Source: Authors' Computation (2024)

Table 2 presents the correlation matrix. The Pearson correlation result indicated that all the predictors have a positive relationship with gross domestic product. This implies that an increase in the predictors (public expenditure, tax revenue, and public debt) would cause an increase in the gross domestic product.

Ordinary Least Squares Analysis

Table 3: Multiple Linear Regression Result

Var.	Coe.	St. E.	T-test	Prob
C	10258.91	3640.940	2.817654	0.0080
PUEXP	8.620339	1.390861	6.197843	0.0000
TXRV	2.985131	3.557276	0.839162	0.4072
PUBD	-0.616790	1.374708	-0.448670	0.6565

Source: Authors' Computation (2024)
R-sq. 0.91, Adj. R-Sq. 0.902, F-stat. 114.768, Prob (F-stat) 0.000

Table 3 presents the linear regression result, which revealed that the reported adj. R-squared showed that public debt, tax revenue, and expenditures could together explain 90% of the systematic variance in GDP, with other variables not included in this analysis accounting for the remaining 10%. With coefficient values of 8.62 and 2.99, respectively, the analysis's findings showed that tax income and public spending had a favorable impact on Nigeria's GDP. In contrast to the negligible positive impact of tax income, which has a probability value of 0.4072>0.05, the positive effect of public expenditure is considerable, with a p-value of 0.000<0.05. Additionally, evidence was shown that Nigeria's gross domestic product is negatively impacted by public debt by -0.617 (p=0.6565>0.05). Finally, the F-statistic of 114.768 with a probability value of 0.000 indicated that the model was fit.

Table 4: Diagnostic Tests

Null Hypotheses	Test Method	Chi-square stat	Probability
The error term is not normally distributed.	Shapiro-Wilk Normality test	1.805	0.0711
No issue of heteroscedasticity	Breusch-Pagan Godfrey Heteroscedasticity Test	1.37	0.268

Source: Authors' Computation (2024)

Table 4 shows the outcomes of the diagnostic tests. Statistically, the Chi-square statistics of 1.805 and 1.37, coupled with their corresponding p-values of 0.0711 and 0.268, indicate that the error term is normally distributed and that there is no heteroscedasticity in the estimated models' error term.

Discussion of Findings

The convergence of fiscal policy and economic growth in Nigeria over 38 years was the main subject of this study. The explanation below is based on the outcome of the ordinary least squares regression analysis. According to the analysis's findings, public spending in Nigeria significantly and positively affects GDP, with probability and coefficient values of 0.000<0.05 and 8.62, respectively. This suggested that a 1% increase in government spending would result in a large 8.62% boost in economic growth as measured by the GDP. This suggests that government spending can strongly affect Nigeria's economic growth on its own. Increased public spending boosts aggregate demand, which in turn propels economic growth, according to Keynesian economic theory. Government spending on public services such as infrastructure, healthcare, education, and other areas generates money jobs and stimulates investment and consumption, all of which raise GDP. This result is consistent with Karimi and Khosravi's (2010) finding that government spending has a major impact on economic growth.

Furthermore, it has been determined that tax income has a 2.99 (p=0.4072>0.05) positive but negligible impact on Nigeria's GDP. It follows that a mere 1% increase in tax revenue would result in a 3% rise in economic growth, although a negligible one. This could be explained by the fact that Nigeria's tax base is somewhat small and that the tax system may not be effectively collecting all of the money that could be collected from economic activity. A large component of the economy, the informal sector, is frequently either undertaxed or not taxed at all. This result supports the results of Amadi and Adebisi (2017), who concluded that tax collection has a negligible impact on Nigeria's economic growth. Egbunike, Emudainohwo, and Gunardi (2018), however, provided an opposing report.

Ultimately, it was discovered that Nigeria's gross domestic product is negatively impacted by public debt by -0.617 (p=0.6565>0.05). This indicates that there would be a negligible 0.6% drop in Nigeria's economic growth for every 1% increase in the country's debt. The way that borrowed money is used has a significant influence on how public debt affects GDP. The debt may have little or even no effect on economic growth if it is not used for worthwhile expenditures in infrastructure, healthcare, or education. Excessive amounts of public debt may result in high debt servicing expenses (principal and interest payments), which may take funds away from worthwhile ventures. The potential impact of this is to reduce economic growth. The conclusion drawn by Olarewaju and Ajayi (2018), who examined the impact of fiscal deficits on economic growth and found that persistent deficits may have unfavorable effects that impede long-term economic success, is supported empirically by this research.

5. Conclusion and Recommendations

The connection between fiscal policy and economic growth in Nigeria depends on how well fiscal tools are used and managed. Proper government spending, good tax collection, and careful debt control are important for a strong and growing economy. If Nigeria fixes inefficiencies and makes better use of these tools, the economy can become more stable and grow steadily. Hence, this study was established. From the analysis conducted, it was concluded that fiscal policy components (tax revenue, government expenditure, and public debt) have a statistically significant influence on the economic growth of Nigeria. Correspondingly, the following recommendations are raised:

- The government should prioritize capital expenditure over recurrent expenditure. Investments in infrastructure, technology, education, and healthcare can yield high returns in terms of economic growth and development.
- The government should ensure that public funds are used efficiently and transparently. Implementing robust monitoring and evaluation frameworks can help in tracking the impact of public expenditure and reducing wastage and corruption.
- There is a need for the government to implement measures to expand the tax base by incorporating the informal sector and ensuring that all economic activities are adequately taxed. This can include simplifying tax procedures and providing incentives for informal businesses to formalize.
- The tax administration should be strengthened through the adoption of modern technology and improved data management systems. This can help reduce tax evasion, enhance compliance, and increase overall tax collection efficiency.
- The government should implement a comprehensive debt management strategy that focuses on maintaining sustainable debt levels. This includes careful planning and monitoring of borrowing and ensuring that debt levels do not exceed the country's repayment capacity. The government should ensure that borrowed funds are directed towards productive investments that can stimulate economic growth. Priority should be given to projects with high economic returns, such as infrastructure, education, and healthcare.

References

Adebayo, T., & Oladimeji, K. (2022). Economic growth and national development: A theoretical perspective. *African Journal of Economics*, 14(3), 67-85.

Adebayo, T., & Olayemi, S. (2021). *Fiscal policy and macroeconomic stability in Nigeria*. Lagos: University Press.

Adebisi, M., & Akinwale, J. (2023). Public expenditure and economic activities in Nigeria. *Nigerian Journal of Fiscal Studies*, 11(2), 45-60.

Akanbi, O. A. (2021). *Fiscal policy and economic stability in Nigeria: A macroeconomic analysis*. Lagos: University Press.

Akinlo, A., & Lawal, B. (2022). Macroeconomic challenges and economic growth in Nigeria. *Journal of Development Economics*, 17(1), 89-105.

Amadi, S. N., & Adebisi, J. F. (2017). Tax Revenue and Nigerian Economic Growth. *European Journal of Accounting, Auditing and Finance Research*, 5(11), 75-85.

Babalola, R. A. (2015). Fiscal policy and economic growth in Nigeria: An empirical analysis. *Journal of Economics and Public Policy*, 8(2), 45-67.

Barro, R. J. (1974). Are government bonds net wealth? *Journal of Political Economy*, 82(6), 1095–1117.

Blanchard, O., & Johnson, D. R. (2022). Macroeconomics. *Pearson Education*.

Central Bank of Nigeria (CBN). (2023). *Annual report on fiscal policy and economic growth in Nigeria. Abuja*: CBN Publications.

Egbunike, F. C., Emudainohwo, O. B., & Gunardi, A. (2018). Tax Revenue and Economic Growth: A Study of Nigeria and Ghana. Signifikan: *Jurnal Ilmu Ekonomi*, 7(2), 213-220.

Ekeocha, C. (2023). Tax revenue and national development in Nigeria: An empirical review. *Journal of Public Finance,* 18(2), 45-62.

Eze, C. (2024). Tax revenue and national development in Nigeria. *Journal of Public Finance*, 19(2), 55-73.

Eze, C., & Okonkwo, U. (2023). Fiscal policy and resource allocation in developing economies. *Nigerian Economic Review,* 22(3), 78-95.

Friedman, M. (1968). The role of monetary policy. *American Economic Review*, 58(1), 1–17.

International Monetary Fund (IMF). (2023). *Fiscal policies for sustainable growth in emerging economies. Washington, DC:* IMF Publications.

Jane, T. O. (2023). The role of government expenditure in Nigeria's economic growth: A fiscal policy perspective. *African Journal of Economic Development*, 15(1), 102-118.

Karimi, M., & Khosravi, A. (2010). The impact of fiscal policy on economic convergence: A cross-country analysis. *International Journal of Economic Studies*, 7(3), 200-217.

Keynes, J. M. (1936). *The general theory of employment, interest, and money*. London: Macmillan.

Lucas, R. E. (1976). *Econometric policy evaluation: A critique*. In K. Brunner & A. Meltzer (Eds.), The Phillips Curve and Labor Markets (pp. 19–46). Amsterdam: North-Holland.

Mankiw, N. G. (2020). *Macroeconomics (10th ed.)*. Worth Publishers.

Nwaiwu, J. C., & Ugwu, E. N. (2016). Taxation, public spending, and economic growth in Nigeria: A time series approach. *Nigerian Journal of Fiscal Studies*, 10(4), 88-105.

Obafemi, T. (2023). Taxation and private sector growth: An empirical study. *African Journal of Public Finance*, 16(2), 33-50.

Okonjo, N., & Bello, K. (2024). Public debt and fiscal sustainability in Nigeria. *Journal of Economic Policy,* 20(1), 40-58.

Okonkwo, U., & Uche, K. (2022). Public debt and economic instability: Lessons from Nigeria. *Nigerian Economic Review*, 21(3), 78-95.

Oladipo, M. (2022). Fiscal policy as a tool for economic stability in Nigeria. *Nigerian Journal of Economic Studies*, 18(2), 112-130.

Olarewaju, O. M., & Ajayi, A. S. (2018). Fiscal Deficit and Economic Growth in Nigeria: A Panel Data Analysis. *Journal of Economics and Sustainable Development*, 9(6), 14-23.

Olawumi, J., & Oladele, M. (2022). Public expenditure and productivity growth in Nigeria. *African Journal of Economic Studies*, 10(1), 112-130.

Olowu, T., & Adekunle, F. (2023). Challenges and prospects of economic growth in Nigeria. *Journal of Development Economics*, 15(4), 89-105.

Olusegun, A. D. (2023). Public debt, fiscal deficit, and economic growth in Nigeria: An assessment of policy implications. *Journal of African Economic Research*, 12(2), 55-73.

Oruku, M. A., Mumen, L., Ale, S. A., Chukwuto, N. O., & Uzor, K. A. (2023). Fiscal Policy as an Instrument of Economic Growth in Nigeria: An Empirical Examination. *African Banking and Finance Review Journal*, 7(7), 14–25.

Oyadiran, B. (2024). Economic stabilization policies and legislative reforms in Nigeria. *Nigerian Journal of Policy Studies*, 19(2), 35-50.

Reuters. (2025). Nigeria's economic outlook: Projections and policy directions. Retrieved from *www.reuters.com.*

Romer, D. (2019). *Advanced macroeconomics (5th ed.).* McGraw-Hill.

Snowdon, B., & Vane, H. R. (2005). *Modern macroeconomics: Its origins, development, and current state.* Edward Elgar Publishing.

Todaro, M. P., & Smith, S. C. (2022). *Economic development (13th ed.).* Harlow, UK: Pearson Education.

Ukangwa, J. U., Wolugbon, D., Nwanosike, D. U., Ekpendu, J. E., Onwuka, I., & Nzelu, C. A. (2023). The Impact of Fiscal Policy on the Economic Growth of Nigeria. *European Journal of Theoretical and Applied Sciences*, 1(6), 741–750.

World Bank. (2023). *Nigeria's economic report: Growth trends and policy recommendations*. Washington, DC: World Bank Publications.

Yusuf, A. (2024). The role of fiscal policy in shaping economic performance. *African Journal of Policy Studies,* 19(1), 28-44.

Journal of Social and Development Sciences
Vol. 15, No. 1, 2025, (ISSN 2221-1152)

Exploring Global Warming Impact on the Economy: The Nexus of Global Warming and the Economy in Perspective

Lawrence Vorvornator
Department of Anthropology and Development Studies, University of Zululand, KwaDlagenzwa, South Africa
vorlaw@gmail.com

Abstract: This study explores global warming's impact on the economy, recommending solutions to reduce poverty. Its most important implications are for policy economists who present global warming's effects as impacting intergenerational equity. Grounded in production theory, the specific emphasis of this study is public-goods investment and agricultural productivity's dependency on nature. A focus on these two areas is what sets this study apart from similar research. After conducting a meta-study of the relevant qualitative information on these areas, my findings reveal that global warming's effects are always a trade-off between present and future generations' consumption of resources. Since the global population increases while resources are limited, historical inequalities are likely to persist if concerted interventions are not widely adopted. I argue that if global warming's effects are economic problems, the over-exploitation of limited resources needs to be addressed directly and that economic solutions without follow-through cannot fix the problem. Ultimately, the study recommends that reducing greenhouse gas (GHG) emissions, despite negative economic outcomes in the short term, will be beneficial over time. As a result, the present generation needs to invest wisely in environmentally sustainable technologies, rather than short-term goods, so that future generations will enjoy the economic benefits of a clean environment. Research confirms that restricting global warming will affect agricultural productivity now, but trillions of dollars will be recuperated by 2300 as a result. The sooner environmentally friendly technologies are adopted by businesses the better. Although these findings are not novel, they are timely because meta-studies such as this combat disinformation.

Keywords: *Global warming, Economy, Limited natural resources, Human consumption, Economic productivity*

1. Introduction

This study explores the impacts of global warming on the economy to recommend solutions to reduce poverty among millions of people globally who are pushed into abject poverty by the effects of global warming. These effects include natural disasters such as droughts, floods and deforestation. The study is important because policy economists usually present global-warming effects as intergenerational equity. In other words, poverty caused by environmental devastation will have lasting effects on those who experience it, while individuals (and even nation states) who exploit resources disproportionately will benefit financially in ways that will entrench their wealth for future generations. Ignoring the effects of global warming now will only result in a deepening of the unequal distribution of wealth and resources in the future. Furthermore, many studies concentrate on the causes of global warming at the expense of global-warming impacts on the economy (Nordhaus, 2019). This study addresses this shortfall in the existing research by emphasising investment in public goods and dependency on agricultural productivity to explore the nature of the problem at the heart of the relationship between global warming and the economy. My aim is similar to Zang et al (2021), in that I want to put these problems in perspective. Specifically, this study focuses on the negative impacts that arise because of anthropogenic global warming's effects on the economy. Its theoretical approach is grounded in the theory of production (Chase, 2023). Production theory deals with employing production factors such as limited natural resources (land), capital, labour, and entrepreneurs to produce goods (tangible), and services (intangible), to meet an increasing population's consumption demands (Braun, 2024). Human consumption (use of goods and services) exerts pressure on scarce natural resources, ultimately causing global-warming effects such as rising seas, droughts, floods, famine, and deforestation. These all affect the economy negatively (Zang et al., 2021).

There has been much discussion about global warming's impact on the economy emphasizing trade-offs in well-being between present and future generations (Nordhaus, 2019). Specifically, some of these discussions have been concerned with whether it is socially beneficial for the present generation to forfeit its consumption of goods to avert or mitigate global warming's effects on generations not yet born (Helm et al., 2021). Global warming's trade-offs and its devastating effects on the economy have informed world political efforts such as

the Kyoto Protocol in 2005, resulting in the establishment of new international laws. One such law created a carbon market to compel businesses to shoulder the social costs of their carbon emissions, but global warming effects continue to devastate the world economy (Stern & Stiglitz, 2021).

Moreover, an ever-increasing population creates demand for consumables, which leads to the production of goods and services to meet demand. Production activities combine factors of production such as natural resources, capital, labour, and entrepreneurs to produce goods and services. Through this cycle, natural resources that are limited in supply become overexploited to meet the increasing population's consumption needs. Limited natural resources, overexploitation lead to global-warming effects such as drought, deforestation, and famine (Helbling & Meierrieks, 2022). Global warming is defined as the long-term heating of the Earth's surface, which has occurred since the pre-industrial era because of human activities, especially the burning of fossil fuels, which causes the emission of carbon dioxide, with negative consequences for the economy (Stern & Stiglitz, 2021). Ortiz-Bobea et al's (2021) research refers to global warming as *anthropogenic climate change*.

The economy is defined as the ability of humans (industry) to assemble facilities for the production of goods and to sell services for meeting human-consumption demands. Because of increasing demand for economic growth and development, limited natural resources are overexploited, hence global-warming effects (Brown & Saunders, 2020). Economic growth is defined as an increase in the production of goods, while economic development is defined as an increase in people's living standard, namely in areas such as education, health, and infrastructure development (Chase, 2023). Global warming's effects cause negative ramifications, namely rising seas, decreasing agricultural productivity, and declining agricultural productivity (farm crops and livestock) (Helbling & Meierrieks, 2022). Global warming's effects cause glaciers to melt, and sea levels to rise. This results in urban and coastal areas losing residential land area, in addition to the damage to infrastructure that counts as economic losses (Braun, 2024). Furthermore, droughts and floods disproportionately affect those who are highly dependent on agricultural productivity for their survival, especially in rural settlements.

Droughts cause livestock and farm crops to die because of the scarcity of water during these periods. When floods occur, there is an abundance of water for crops and livestock, but in excess, it causes them to die (Helbling & Meierrieks, 2022). Ipso facto, agricultural production is lowered by global warming. Rural settlements' dependence on agricultural productivity leads to the loss of outputs and wages, which in turn affects the gross domestic product (GDP) and gross national product (GNP) of nations (Orimoloye et al., 2022). Governments lose tax revenues or incomes, which deepens poverty and further exacerbates inequality in the development of infrastructure in urban and rural areas. Hence, rural-urban migration is triggered. These are some of the impacts of global warming on the economy. It also deepens generational wealth inequalities. This study problematizes both inequalities to explore the solutions set out by the existing literature. It aims to contribute socially by advocating for curbing global warming on the economy. A net benefit of adopting these solutions would be to alleviate the consequences of poverty suffered by millions of people around the world due to climate change. The paper includes a literature review establishing the existing findings on production and agriculture regarding climate change. I then include my theoretical framework based on production theory. The study's methodology is based on a Literature Review, which can otherwise be called a meta-study, and I explain how this was done under that subheading. The paper ends with findings, a conclusion, and recommendations. The next section presents the literature review of the study.

2. Literature Review

The discourse of the nexus between global warming and the economy

The United Nations (UN) published statistics in 2024 showing that the world population is 8.2 billion people. The same document projects that as of 2050, the world population will increase from 8.2 to 9.7 million people. The UN Environmental Programme (2024) confirms: 'We have only one Earth. Today, the 8 billion people on it are using more of its resources than it can provide. Every new person is a new consumer, adding to that demand. Some of us take far more than others and there are many steps those of us who do must take to make our consumption sustainable. Fewer new consumers everywhere is one of them. The global organization continues ''Increasing resource use is the main driver of the triple planetary crisis of climate change, biodiversity loss, and pollution'' (*United Nations Environment Programme, 2024)*. The UN's statements imply

that the ever-increasing world-population exerts pressure on limited natural resources provided by nature (Wang et al., 2024). Since natural resources are limited, while the world population continues to increase, there is a demand for more goods and services to be produced that cannot be met indefinitely. To respond to consumption demands, production capacity needs to increase, which leads to overexploitation of limited natural resources. Global warming's effects cause, for example, droughts, deforestation, among others, as well as affecting infrastructure, and agricultural productivity outputs. Economic contraction results, which creates challenges such as unemployment, loss of income, and inflation (Wang et al., 2024). Global warming hits rural settlement dwellers the hardest and causes economic losses for the people living in these areas (Wang et al., 2024). Devastated places of human habitation, especially settlements that depend on agricultural productivity, result in low yields from crops and livestock, wage losses, and underemployment, which triggers migration from rural to urban areas as those affected look for a better life elsewhere (Samson, 2023; Helbling & Meierrieks, 2022). Such a process is termed rural-urban migration. Environmental immigrants' arrival creates carrying-capacity problems over the entire ecosystem and in the existing economy within and between nation states. Conflicts among natives and environmental migrants arise as a result. Carrying capacity is defined as the number of people a particular environment or economic system can support.

Global warming's effects on economic productivity

In an attempt for humankind to improve living standards and satisfy increasing human-consumption demands, more energy or fuel is burned, especially fossil fuels, which are needed to produce goods and services. This results in more GHG emissions in the atmosphere. The increase in GHGs causes global-warming effects like droughts, floods, and deforestation among others (Helbling & Meierrieks, 2022). These effects have impacts on rising temperatures, the economy, and unpredictable weather patterns. Climate change's impacts have devastating consequences for labour productivity and development across the globe. This leads to a loss of economic activity and lowers global productivity due to high temperatures (Zang et al., 2021). Climate impacts occur as a result of altered biological, chemical, and ecological processes, resulting in reduced overall productivity globally (Elrys et al., 2022). Environmental effects such as heat waves lead to decreased labour productivity because it is impossible to be productive when one is physically overheating. Even temperatures hot enough to cause discomfort without dramatic negative health consequences lower productivity. Poor nations without safe buildings, or working environments fitted with air conditioning units and other infrastructure necessary for human health, safety and comfort, are harder hit compared to developed nations with more of these sorts of amenities.

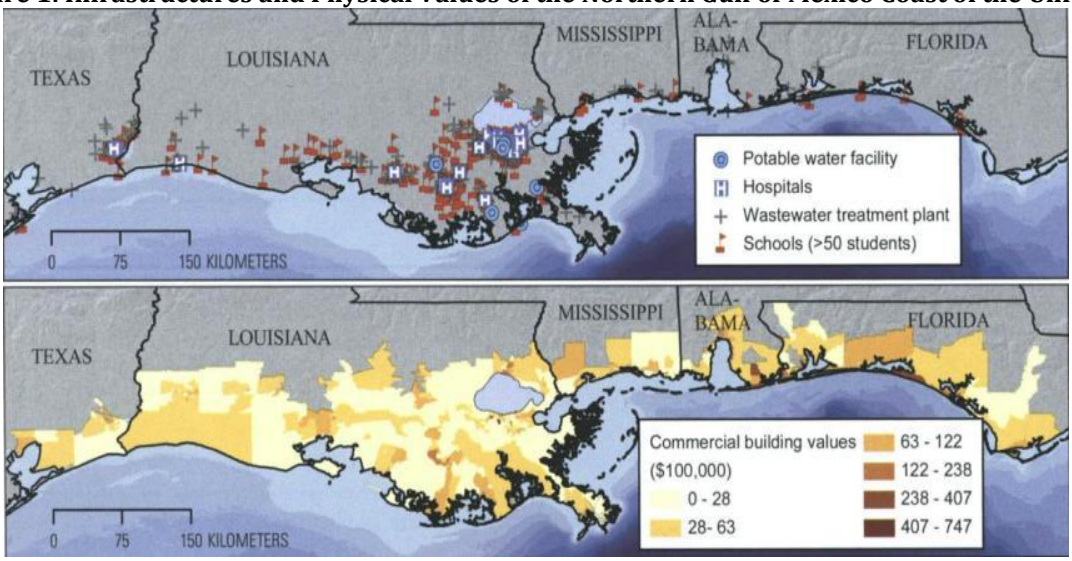
Economically, poor nations also bear the brunt of global warming's effects (Zang et al., 2021) due to their heavy dependency on agricultural productivity, which is usually stymied by natural disasters such as storms, floods, and droughts. These natural disasters not only destroy crops and buildings, but also roads, bridges, and other transportation infrastructure. Worsening climate change affects livestock and farm produce (Elrys et al., 2022). This is because usable land is degraded, and therefore, the yield per acre decreases. Such patterns affect the length of growing seasons, and when they decrease production yields are lowered (Zang et al., 2021). Global warming's effects lead to market failure and inefficient allocation of world resources due to the collapse of most economies.

Climate change leads to losses in agricultural productivity, income and employment. This forces environmental victims affected by global warming's effects to adopt migration as a coping mechanism (Vorvornator, 2024a; Korsi & Vorvornator, 2021). The more vulnerable an economy is, the more it is affected by global warming's effects. Shivanna's (2022) research predicts that by the year 2050, more than 200 million people worldwide will be affected by climate change. Other scholars anticipate higher figures over and above that of Shivanna's (Roberts Kingman et al., 2022). In addition, an economist at Hong Kong and Shanghai Banking Corporation (HSBC) bank published data in 2007 demonstrating that Venezuela could lose up to 35% of its GDP by the year 2050 because of climate change (Lachaud et al., 2022). The variability in predictions can be explained by the uncertainties and vulnerabilities of the economy due to climatic conditions. Therefore, it can be said that global warming's effects cripple economic growth and development and affect labour productivity globally. Even the accuracy of economic modelling is made more difficult because of the unprecedented effects of climate change. At the very least, it can be said unequivocally that climate change will impact the global economy in a profoundly negative way if nothing is done to curb its effects.

Global warming's impacts on coastal regions

Coastal regions are the geographical areas or places that are close to coastlines. For cost-effectiveness, a great deal of fossil-fuel infrastructure, such as oil refineries and harbours, is established near the coast (Andrews et al., 2021). Global warming's effects (such as rising seas) force a larger than otherwise number of glaciers to melt as temperatures rise. Rising seas affect many coastal regions because their shorelines begin to recede, and their low-lying areas become inundated by rising waters (Elrys et al., 2022). Coastal flooding as a result of rising sea levels destroys residential and commercial buildings, and other valuable infrastructure such as schools and hospitals. Significant economic and structural losses caused by this process hurt economic development globally (Habibullah et al., 2022). Below is Figure 1.1, depicting the Gulf of Mexico coast of the USA, which is more vulnerable to rising seas because of societal and physical factors.

Figure 1: Infrastructures and Physical Values of the Northern Gulf of Mexico Coast of the United States



Source: (Barker, 2024)

Highly populated, urbanized areas near coastlines are more vulnerable to the effects of climate change. Many coastal cities are susceptible to infrastructure damage from rising seas and are destined for future losses. Occurrences of these losses would trigger urban-rural migration. This means urban dwellers migrate to non-urban, less susceptible areas when natural disasters occur. A case in point is the USA as a nation. The USA has a coastal area of about 1.7 million square kilometres, starting from Miami to southern California, which is prone to devastation from rising sea levels (Lin et al., 2024). Many coastlines of the USA are threatened by global warming's effects, including rising sea levels. Examples of coastal areas that are likely to experience rising sea levels due to glacier melt are California, New Jersey and Florida. The American states' coastlines are highly vulnerable to the effects of global warming (Lin et al., 2024). Many countries face the same problem, which damages properties and lives, resulting in economic losses. Increasingly, storms affect structures located on coastlines as a result of glaciers melting due to climate change (Lin et al., 2024). Cities display substantial economic losses because of low-lying coastal properties. The consequences of rising seas are the loss of property and lives, both of which ultimately impact the economy (Lin et al., 2024).

Notably, infrastructure located on coastlines is costly. States that experience rising sea levels such that infrastructure is destroyed will feel negative impacts on their economic development. Moreover, coastal infrastructure cannot be easily replaced due to the high costs involved, meaning that affected areas will experience losses in a significant and ongoing way. Not only are the cities located near the coast more susceptible to rising sea levels, but increasingly high temperatures also trigger storms and hurricanes. A rise in these natural phenomena would affect millions of people. In addition, high temperatures may cause storms to be worse than they otherwise would be. This brings to mind Hurricane Sandy, which devastated New York City in the year 2012 (Medwinter, 2021). Hurricane Sandy destroyed many lives and properties. It flooded buildings, which cost the NYC government billions of dollars, affecting the economy negatively. Another effect

of climate change is heavy rain, which can lead to flooding. Many coastal areas of the world over are vulnerable during hurricane season due to severe flooding (Medwinter, 2021). These adverse effects of global warming have negative consequences for the economy, hindering its growth and development.

Global warming's impacts on agricultural productivity

Agriculture is defined as activities that involve producing plants or animals that are used for human consumption (Harris, 2021). These activities produce foods (cereals and meat), fibres (cotton), fuels (products derived from agriculture), raw materials (rubbers), livestock (poultry), and products from forests (forestry). Agricultural products' survival is mostly dependent on the weather (Harris, 2021). This means favourable weather patterns result in higher yields, which are necessary to satisfy human-consumption demand. Conversely, unfavourable weather produces fewer products, which impacts the economy negatively due to food-price increases (inflation) (Agu et al., 2023). Moreover, continuously increasing temperatures because of global warming cause glaciers to melt. Glaciers' receding affects the flow of rivers negatively in the long run (Zang et al., 2021). Changes in river speed, height and direction threaten millions of people's livelihoods globally because rivers are critical sources for irrigation for farmers. Furthermore, rivers' water quality and levels decrease as glaciers continue to melt. This leads to reduced rainfall, causing water scarcity in areas that already have too little water to begin with (Zulfiqar et al., 2018). Areas in which water is already scarce include: Sub-Saharan Africa (SSA); almost all of the Middle East, and many parts of South Asia. Already, these areas experience the problem of scarcity of water per capita, and it is predicted that further decreases in the amount of rainfall and melting of glaciers will impact these places negatively for the next 100 years. Unless mitigation, aversion, and prevention measures are adopted to ameliorate the situation. Decreases in rainfall result in deforestation and the decline of water bodies, especially rivers. The knock-on effect is a reduction of arable land (Zulfiqar et al., 2018). Millions of people who depend on rivers for irrigation will have their livelihood affected because of the effects of climate change. Their harvests will decrease, which will affect their countries' GDPs down the line. In some cases, farmers convert their farmland into forests to manage their losses. This then affects agricultural productivity, because forests replace farmland. The result is that the price of goods and services goes up, pushing many people into poverty. For those unable to earn an income, life becomes more difficult and precarious because the prices of goods that meet their basic needs continue to increase (as well as the prices of goods merely desired) (Zulfiqar et al., 2018).

Natural resources such as soil and air, like water bodies, are not spared from the effects of global warming (Harris, 2021). Degradation of air and soil quality also impacts agricultural production negatively, which in turn hurts the economy (Agu et al., 2023). Global warming's effects lead to soil erosion and the degradation of soil nutrients. Decreasing agricultural productivity affects per-capita income. This triggers unemployment, underemployment, and an increase in high dependency on a single breadwinner in families. In some instances, migration is chosen as a coping mechanism for the betterment of the lives of affected families (Vorvornator, 2024b). Global warming's effects, historically and in the present, will continue to devastate millions of people, especially those who depend on agricultural productivity as their livelihood strategy (Agu et al., 2023). As stated earlier, the regions hardest hit will include SSA, where agriculture is crucial as a way of life. Therefore, global warming can be viewed with the same urgency as a pandemic, in that it needs to be tackled immediately. Its impacts affect millions of people globally, leading them into abject poverty. The next section presents the theoretical framework through which this study was conducted.

Theoretical Framework

Production theory

This study is grounded in Chase's (2023) *Theory of Production*. Production is defined as the creation of goods and services by humans to satisfy their basic needs and wants. For production to happen, factors of production such as natural resources (land), capital (equipment and machines), labour (skilled and unskilled) and entrepreneurs are brought together to produce goods and services. The combination of production factors results in goods (which are tangible), and services (which are intangible) to satisfy humankind (Maja & Ayano, 2021). The market mechanism known as supply and demand determines the quantity and type of products and services that need to be made available. This means producers who assemble factories and businesses for production purposes respond to consumers' needs by managing the amount of goods and services that they produce (Chase, 2023). Therefore, if more consumer goods are required, more will be supplied. To meet high

demands, the overexploitation of scarce natural resources occurs. By contrast, if demand is low, fewer natural resources are needed (Chase, 2023).

The increasing world population exerts enormous pressure on limited natural resources. As a result, there is overexploitation of limited natural resources to satisfy the increasing consumption demand of people (Maja & Ayano, 2021). This leads to the overexploitation of scarce natural resources through the burning of fossil fuels in an attempt to meet the increasing population of consumers' demands. As a result, more and more GHG-emitting industries are being established. Given the scientific evidence presented in the 4th report from the Intergovernmental Panel on Climate Change (IPCC) about global warming's effects, it is clear that GHGs hurt the world economy (Allan et al., 2023). An attempt to satisfy consumers' rising demands can only lead to an increase in production. This, in turn, leads to increased GHG emissions into the atmosphere, which then leads to rising temperatures (Zang et al., 2021). As a result, a higher frequency of disasters and natural catastrophes is inevitable unless action is taken timeously. These disasters include droughts, famines, floods, deforestation, heat waves, high mortality rates, related cardiovascular ailments, the spread of infectious diseases, and significant biodiversity loss (Orimoloye et al., 2022). Negative consequences of this magnitude have economic costs, some of which include the loss of infrastructure, lower agricultural productivity, and reduced production capacity, all of which impact the world economy adversely (Orimoloye et al., 2022).

By relating production theory to global warming's impact on the economy, it becomes evident that, since the world population continues to increase while natural resources are limited in supply, overexploitation of scarce natural resources has and will continue to lead to global warming. These effects (for example, droughts and floods) in turn impact the economy negatively (resulting in financial losses) causing greater poverty and suffering among the world's most vulnerable people. It is not only the most vulnerable who are affected. Even the wealthy living in coastal properties will feel the impacts of global warming. A useful concept for conceptualising the causal links between the two is the global-warming-economy nexus.

3. Methodology

This study began with a literature review (LR) exploring the effects of global warming on the economy. Taherdoost (2021 p. 11) states that LR is 'the process of accessing published secondary data'. The definition explains two distinct things. The first is that an LR adopts only data from secondary sources, not primary sources. Information from secondary sources was used in this exploration, and these sources included articles, books, journals, and organizational and non-organizational reports (Maxwell, 2021). The second implication of Taherdoost's definition is that LR is desktop research, and is not conducted in the field (Taherdoost, 221). Another way to define such a study is a 'meta study', because it reviews, organizes and arranges the information coherently presented in existing studies.

Several search engines, namely JSTOR, Google Scholar, Research Gate, Web of Science, EBSCOhost and Scopus were consulted for this study. Economics websites and journals, including, inter alia, the International Journal on Global Warming (IJGW) and the International Journal of Environment and Climate Change were consulted. In addition, search terms such as: 'global warming', 'economy', 'scarce natural resources', 'climatic changes', 'human consumption patterns', and 'human impacts on economy', were employed.

The study acquired 1435 ideal publications; 1425 of these were derived from an electronic search, and ten were found through forward and backward searches. Eligibility assessment was conducted and a total of 99 articles were selected, through the following eligibility criteria: a) publication concentrates on either or both global warming's effects or the economy; b) publication focuses on global warming's effects and the economy; c) publication date in 2015 or later; d) publication in English (Creswell, 2021). Ten years was chosen as a way to limit the scope of this study because it explores the phenomena related to unprecedented global-warming effects since the Great Recession of 2007–2009 (Feng et al., 2023). For instance, prolonged drought led to food insecurity in Mexico, Guatemala, Ecuador, Honduras, and Nicaragua after that time. Scholars' models have predicted that between 5.8 and 10.6 people will be internally displaced by 2050 in Latin America and the Caribbean (Feng et al., 2023). In addition, world conflicts since that time have resulted in rising numbers of refugees, including those from Afghanistan and Syria, the Arab Spring migration to Europe, and the current Ukrainian refugees.

Templier and Paré (2015) identify six steps in exploring LR namely: a) identifying primary research objectives and questions; b) exploring the relevant articles; c) making inclusions; d) exploring the quality of articles and their content; e) extracting data, and f) analysing data. All articles considered irrelevant were excluded. After an eligibility check, the researcher proceeded to the data extraction and analysis stage. Data extraction deals with coding significant articles related to this study. The researcher adopted 'framework analysis', which deals with methodological processes and procedures. The researcher, then analysed and extracted the relevant literature. The guiding process and procedure, which facilitate both analysing and extracting relevant data, is described by Armstrong (2021) as 'sifting, charting and sorting materials according to key themes and issues'. In specific terms, familiarization is done to have actual knowledge about the articles' importance. Thereafter, the researcher identified the thematic framework centring on theories and ideas that emerged from reading on global warming's effects on the economy. Indexing is done through sifting the data related to particular themes; charting the information is done to sort out important headings and sub-headings during the thematic framework stage (Creswell, 2021). These were the processes that the researcher followed. Mapping and interpretation, which entail assembling, gathering and analysing all criteria features of the dataset, and a synthesis of information were performed.

Several articles selected for the study used a range of qualitative and quantitative methodologies. Meta-analysis for the quantitative data was ignored because this research method was different. This means that this research did not share common methods or the same variables with a quantitative methodology. Textual information was mapped, coded, and presented accordingly by employing a framework-analysis approach. The theories, concepts, and LR used here present a broad picture, one that forms baseline information, and assists in the understanding of the previous literature on global warming's effect on the economy (Maxwell, 2021). The LR on global warming's effects on the economy has helped to avoid the duplication of existing works by other researchers. However, there are limitations to this method. For example, since not all academic search engines were employed, there could be some previous literature that was left out. The next section presents findings of this study.

4. Findings

Global warming-economy nexus findings

The study's findings reveal that the present generation should reduce consumption to mitigate global warming's effects to benefit unborn generations (Nordhaus, 2019). Global warming's effects and the economy are interdependent, and this relationship implies that the more economic production there is, the more global warming effects there will be. Conversely, the fewer the products, the lower the global-warming effects (Chase, 2023). An increasing global population triggers demand for goods and services, which results in the overexploitation of limited natural resources. As a result, global-warming effects such as droughts, floods, and rising seas (Wang et al., 2024; Maja & Ayano, 2021; Helbling, & Meierrieks, 2022) starve and suffocate (through excess water) agricultural productivity (Wang et al., 2024).

Global warming's effects lead to disastrous consequences for labour markets and infrastructure development globally. High temperatures result from changes in biological, chemical, and ecological processes, (Zang et al., 2021; Elrys et al., 2022). Global warming's effects impact developing nations more than developed ones, especially settlements that are heavily dependent on agricultural products, such as farm crops and livestock (Zang et al., 2021). Natural disasters such as rising seas not only destroy agricultural productivity but also infrastructure such as oil refineries and harbours that are located near coastlines for cost efficiency (Habibullah et al., 2022).

Global-warming effects such as glacier melt threaten coastal settlement dwellers globally, and they threaten lives and damage properties, resulting in substantial economic losses. It forces people to migrate from urban to non-urban or less susceptible areas, which is known as urban-rural migration (Lin et al., 2024). Global warming's negative impacts on air quality, soil nutrients and land degradation all affect the environment in which production occurs. This leads to the loss of economically viable land. Moreover, global warming's effects cause economic contraction, which results in unemployment, a negative balance of payment (import prices are greater than export prices), and recession (decline in economic activities for two consecutive times) (Agu et al., 2023). It leads to high food prices due to lower productivity, which pushes millions of people into abject poverty

(Agu et al., 2023). This affects economic outputs and the GDP of nations (Agu et al., 2023). In consequence, affected settlement dwellers are forced to choose migration as a coping mechanism to avoid environmental challenges (Vorvornator, 2024a). These environmental migrants move to places that they deem to be good destinations to thrive. An obvious knock-on effect is that carrying-capacity problems occur. In some instances, carrying-capacity problems lead to conflicts between natives and environmental migrants, which leads to the loss of lives, damage to property and economic losses (Addae & Quan-Baffour, 2022). I argue that if global-warming effects are real economic problems, then economic measures alone without direct implications for environmental and climate management will not improve the situation. Economic incentives for reducing GHGs must have a direct causal link with preventing further increases in global temperatures. Without monitoring and regulation, these measures won't have the tangible benefits necessary to realise change. In other words, the laws implemented thus far are not working. More needs to be done. If urgent measures are not taken now, the situation will continue to deteriorate. Because the increasing global population has a growing need for consumable goods and services, producers are spurred to overexploit limited natural resources to meet demand and their profit motives. In principle, curbing global warming will require the present generation to lower consumption so that future generations will benefit from a cooler planet by reducing conventional investment.

Overall, this study concludes that the increasing world population will cause consumption demands to rise, hence more goods and services will need to be produced, which will lead to the overexploitation of limited natural resources. This sparks a cycle, causing and worsening global-warming effects such as droughts, floods, rising sea levels and deforestation, which have negative consequences on agriculture and infrastructure. When fewer products are sold by farms, and infrastructure is damaged and destroyed, there are cascading negative results for the global economy.

5. Conclusion and Recommendations

This study explored global warming's impact on the economy. It was revealed that there is interdependency between global warming's effects and the economy. The more economic production needed to satisfy human-consumption demands, the more global-warming effects, and the fewer economic products and services, the fewer global-warming effects. Global warming's effects, such as rising seas, destroy economic infrastructure strategically located on coastlines for economic efficiency, namely oil refineries and harbours. Furthermore, they affect soil quality and nutrients, air quality and cause the loss of arable lands, which affects economies that depend on agricultural production the most. Developing nations in SSA, almost all of the Middle East, and many parts of South Asia, face more of global warming's impacts than developed nations. This study therefore recommends that, even though GHG-emission reduction will cause outputs to plummet or affect GDP negatively in the short run, it is the only way to benefit in the long run. Overcoming global warming's effects means that there should be what economists call 'Pareto improvement'. This implies that the current generation needs to buy and spend less and live more sustainably so that future generations enjoy higher productivity and more widespread employment, with lower GHG emissions. Research confirms that restricting global warming from 2.0°C to 1.5°C will affect agricultural productivity and GDP outputs negatively now, but trillions of dollars will be yielded by 2300. There is no doubt that there are costs and benefits of curbing rising temperatures, and economic projections are uncertain due to some factors that are beyond the scope of this study. Nevertheless, the simple fact remains: the benefits of acting now outweigh the costs in the long run. How immediate financial losses will be recouped will depend on how individuals and businesses adapt to climate change and global warming now. Businesses need to be innovative, explore the possibilities and adopt technology that will allow them to operate in an environmentally sustainable manner. Although the initial implementation and installation costs may be high, over time, working in environments more conducive to productivity will allow them to produce goods at lower prices, leading to a reduction in selling prices. When there is a reduction in the price of goods, demand will increase globally. The question of what technology must be invested in by businesses cannot be answered by this study. In the short run, innovation and technology may not spread throughout different countries at the same pace. However, with proper global cooperation and legislation in place, coupled with education, oversight and necessary penalties for free riders, businesses globally will adjust to adopt new technology to produce goods and services that will have less impact on the environment.

References

Addae, D., & Quan-Baffour, K. P. (2022). Afrophobia, "black on black" violence and the new racism in South Africa: the nexus between adult education and mutual co-existence. *Cogent Social Sciences*, 8(1), 2130458.

Agu, C., Obodoechi, D. N., & Nebo, I. K. (2023). Addressing balance of payment disequilibrium through non-oil export and exchange rate stability in Nigeria: An empirical investigation. *Journal of Globalization and Development*, 14(1), 147–169.

Allan, R. P., Arias, P. A., Berger, S., Canadell, J. G., Cassou, C., Chen, D., ... & Zickfeld, K. (2023). Intergovernmental panel on climate change (IPCC). Summary for policymakers. In *Climate change 2021: The physical science basis. Contribution of Working Group I to the sixth assessment report of the Intergovernmental Panel on Climate Change* (pp. 3–32). Cambridge University Press.

Andrews, N., Bennett, N. J., Le Billon, P., Green, S. J., Cisneros-Montemayor, A. M., Amongin, S., ... & Sumaila, U. R. (2021). Oil, fisheries and coastal communities: A review of impacts on the environment, livelihoods, space and governance. *Energy Research & Social Science*, *75*, 102009.

Armstrong, C. (2021). Key methods used in qualitative document analysis. *OSF Preprints*, 1(9).

Barker, D. (2024). Global non-linear effect of temperature on economic production: Comment on Burke, Hsiang, and Miguel. *Econ Journal Watch*, 21(1).

Braun, E. (2024). Capital is not a factor of production but organizes the allocation and distribution of resources in capitalism. *The Review of Austrian Economics*, 1–21.

Brown, P. T., & Saunders, H. (2020). Approximate calculations of the net economic impact of global warming mitigation targets under heightened damage estimates. *PLoS One*, 15(10), e0239520.

Chase, R. X. (2023). Production theory. In *A guide to post-Keynesian economics* (pp. 71-86). Routledge.

Creswell, J. W. (2021). *A concise introduction to mixed-methods research*. SAGE Publications.

Elrys, A. S., Chen, Z., Wang, J., Uwiragiye, Y., Helmy, A. M., Desoky, E. S. M., ... & Müller, C. (2022). Global patterns of soil gross immobilization of ammonium and nitrate in terrestrial ecosystems. *Global Change Biology*, 28(14), 4472–4488.

Feng, J., Paynter, D., & Menzel, R. (2023). How a stable greenhouse effect on Earth is maintained under global warming? *Journal of Geophysical Research: Atmospheres*, 128(9), e2022JD038124.

Habibullah, M. S., Din, B. H., Tan, S. H., & Zahid, H. (2022). Impact of climate change on biodiversity loss: global evidence. *Environmental Science and Pollution Research*, 29(1), 1073–1086.

Harris, D. R. (2021). Domesticatory relationships of people, plants and animals. In *Redefining nature* (pp. 437–463). Routledge.

Helbling, M., & Meierrieks, D. (2022). Terrorism and migration: An overview. *British Journal of Political Science*, 52(2), 977–996.

Helm, S., Kemper, J. A., & White, S. K. (2021). No future, no kids–no kids, no future? An exploration of motivations to remain childfree in times of climate change. *Population and Environment*, 43, 108–129.

Korsi, L., & Vorvornator. (2022). Do we go or do we stay? Drivers of migration from the Global South to the Global North. *African Journal of Development Studies*, 12(1), 71–87.

Lachaud, M. A., Bravo-Ureta, B. E., & Ludena, C. E. (2022). Economic effects of climate change on agricultural production and productivity in Latin America and the Caribbean (LAC). *Agricultural Economics*, 53(2), 321–332.

Lin, Y., McDermott, T. K., & Michaels, G. (2024). Cities and the sea level. *Journal of Urban Economics*, 143, 103685.

Maja, M. M., & Ayano, S. F. (2021). The impact of population growth on natural resources and farmers' capacity to adapt to climate change in low-income countries. *Earth Systems and Environment*, 5(2), 271–283.

Maxwell, J. A. (2021). Why are qualitative methods necessary for generalization? *Qualitative Psychology*, 8(1), 111.

Medwinter, S. D. (2021). Reproducing poverty and inequality in disaster: race, class, social capital, NGOs, and urban space in New York City after Superstorm Sandy. *Environmental Sociology*, 7(1), 1–11.

Nordhaus, W. (2019). Climate change: The ultimate challenge for economics. *American Economic Review*, 109(6), 191–214.

Orimoloye, I. R., Belle, J. A., Orimoloye, Y. M., Olusola, A. O., & Ololade, O. O. (2022). Drought: A common environmental disaster. *Atmosphere*, 13(1), 111.

Ortiz-Bobea, A., Ault, T. R., Carrillo, C. M., Chambers, R. G., & Lobell, D. B. (2021). Anthropogenic climate change has slowed global agricultural productivity growth. *Nature Climate Change*, 11(4), 306–312.

Roberts Kingman, G. A., Vyas, D. N., Jones, F. C., Brady, S. D., Chen, H. I., Reid, K., ... & Veeramah, K. R. (2021). Predicting the future from the past: The genomic basis of recurrent and rapid stickleback evolution. *Science Advances*, 7(25), eabg5285.

Samson, M. T. (2023). International migration: Definition, causes and effects. *Genealogy*, 7(3), 61.

Shivanna, K. R. (2022). Climate change and its impact on biodiversity and human welfare. *Proceedings of the Indian National Science Academy*, 88(2), 160–171.

Stern, N., & Stiglitz, J. E. (2021). *The social cost of carbon, risk, distribution, market failures: An alternative approach*, (15). Cambridge, MA, USA: National Bureau of Economic Research.

Taherdoost, H. (2021). Data collection methods and tools for research; A step-by-step guide to choose data collection techniques for academic and business research projects. *International Journal of Academic Research in Management (IJARM)*, 10(1), 10–38.

Templier, M., & Paré, G. (2015). A framework for guiding and evaluating literature reviews. *Communications of the Association for Information Systems*, 37(1), 6.

UNEP (2024). https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.unep.org/resources/emissionsgapreport2024&ved=2ahUKEwjt8cT86WLAxXAWUEAHdFuFYsQjBB6BAgfEAE&usg=AOvVaw1acs4kJ_Nr8Us3P_xmQS2. Retrieved 15/01/2025.

Vorvornator, L. K. (2024a). Does poverty constrain or encourage migration patterns? Exploring internal and international migration trends. *African Renaissance*, 21(4), 249.

Vorvornator, L. K. (2024b). Exploring South Africa's pre- and post-apartheid border system: Border securitisation, illegal migration and cross-border crimes. *Journal of African Foreign Affairs*, 11(2), 123.

Wang, S. P., Zhang, Q., Liu, Y. Z., Yue, P., & Wang, J. S. (2024). Effects of global warming on drought onset in China. *Journal of Hydrology*, 632, 130964.

Zang, L., Wang, Y., & Su, Y. (2021). Does farmland scale management promote rural collective action? An empirical study of canal irrigation systems in China. *Land*, 10(11), 1263.

Zulfiqar, M., Khan, M. J., Khan Abbasi, I., Tariq, M., Ali, J., Karim, M., & Ahmad, R. (2018). Threats of Global Warming for Pakistan's Agriculture: An Evidence from Shigari Kalan Watershed, Skardu. *Sarhad Journal of Agriculture*, 34(3).

Journal of Social and Development Sciences
Vol. 15, No. 1, 2025, (ISSN 2221-1152)

The Mediating Role of Personal Initiative in the Relationship Between Social Capital and Women's Self-Employment

*Benjamin Musiita, Atwine Daniel Wanito, Asaph Kaburura Katarangi, Sheila Akampwera
Faculty of Business and Management Sciences, Mbarara University of Science and Technology, Uganda
*bmusiita@must.ac.ug, atwinewanito@must.ac.ug, akatarangi@must.ac.ug, akampwerasheilla@must.ac.ug
Corresponding Author: Dr Benjamin Musiita

Abstract: This study examines the mediating role of personal initiative in the relationship between social capital and women's self-employment in Mbarara City, Uganda. The inquiry was driven by the persistent gender gap in economic participation and the growing importance of self-employment as a pathway to women's economic empowerment in developing contexts. Grounded in Social Capital Theory and Gender Role Theory, the study conceptualizes personal initiative as a dynamic force that channels the benefits of social capital into tangible entrepreneurial action. A cross-sectional, quantitative design was employed, with data collected from 378 self-employed women across Mbarara City using stratified random sampling. Results from Pearson correlations, multiple regression, and mediation analyses reveal that both social capital and personal initiative have a significant and positive relationship with women's self-employment ($\beta = .229$ and $\beta = .430$, respectively). Moreover, personal initiative was found to partially mediate the relationship between social capital and women's self-employment, accounting for approximately 51.8% of the total effect. These findings highlight the necessity of fostering both structural support systems and internal motivational factors to enhance women's economic participation. Policy recommendations include integrating entrepreneurship training with network-building programs and addressing institutional barriers that constrain women's proactive engagement in business.

Keywords: *Personal Initiative, Social Capital, Women's Self-Employment, Economic Participation*

1. Background

Self-employment serves as a cornerstone for individual empowerment, family welfare, societal progress, and national economic vitality (International Labour Organization (ILO), 2023). Women entrepreneurs, particularly, catalyze transformative change by breaking barriers and defying entrenched gender norms (Bridges et al., 2022). Their ventures not only propel personal and professional advancement but also foster job creation, income generation, and economic dynamism within their communities (ILO, 2023). Social capital, epitomizing networks, interpersonal bonds, and communal trust, plays a paramount role in facilitating women's entrepreneurship by affording access to crucial resources, knowledge networks, and support mechanisms (Dal Mas & Paoloni, 2020; ILO, 2023). Women fortified with robust social capital enjoy enhanced prospects in securing financial aid, exploring market avenues, and benefiting from mentorship opportunities, thereby bolstering their odds of triumph in self-employment endeavors (Dal Mas & Paoloni, 2020; ILO, 2023). Additionally, women's self-initiative, characterized by zeal, resilience, and proactive conduct, emerges as a pivotal force propelling entrepreneurial endeavors forward (Nsereko et al., 2021). By synergizing social capital and personal initiative, women adeptly navigate the entrepreneurial terrain, seize emerging opportunities, and catalyze economic advancement alongside social progress (Nsereko et al., 2021).

In African nations grappling with high unemployment rates, women's self-employment emerges as a linchpin for economic growth and social development (Woldesenbet Beta et al., 2024). Distinctly, Djibouti, South Africa, Sudan, and Gabon exhibit notable levels of female unemployment, registering rates at 37.88%, 31.43%, 30.17%, and 29.41%, respectively (Global Economy, 2023). This underscores the urgent need for initiatives promoting women's economic empowerment and entrepreneurship (Kriaa et al., 2020). Despite challenges, African countries witness a surge in women's self-employment, with Botswana (38.5%), Uganda (38.4%), and Ghana (37.2%) ranking among the top nations globally and in Africa for the highest number of women business owners (Mastercard Index of Women Entrepreneurs, 2021). This trend underscores the resilience and ingenuity of African women in surmounting barriers and seizing entrepreneurial opportunities. Social capital and women's self-initiative play instrumental roles in this trajectory, enabling women to access resources, networks, and support systems necessary for entrepreneurial success (Nieuwenhuizen, 2022). Leveraging social capital and fostering self-initiative among women, African nations can harness the full potential of

women's self-employment to drive sustainable economic growth, create employment opportunities, and advance gender equality agendas both regionally and globally.

Hypothesis: Personal initiative mediates the relationship between social capital and women's self-employment in Mbarara City.

Theoretical underpinning

This study is informed by the two theories of Social Capital Theory and Gender Role Theory. Social Capital Theory, elucidated by Bourdieu (1986), Coleman (1988), and Putnam (1993), posits that social networks and relationships serve as invaluable resources for achieving goals, emphasizing trust, reciprocity, and social cohesion within communities to facilitate cooperation and collective action. Within entrepreneurship, this theory suggests that women entrepreneurs can leverage their social networks to access resources, information, and support, thereby enhancing their ventures (Babajide et al., 2022; Setini et al., 2020). Moreover, social capital enables women to tap into informal networks, such as family and friends, for business opportunities, mentorship, and financial assistance (Gavigan et al., 2020), providing a framework for understanding how social networks and relationships influence women's self-employment through the mediating role of personal initiative (Barugahara & Barungi, 2023). Despite its relevance, Social Capital Theory is limited by its focus on structural aspects of social networks, often neglecting power dynamics and inequalities within them. On the other hand, Gender Role Theory, as advanced by Eagly & Wood (2012) and Eagly et al. (2000), posits that societal roles and expectations shape individuals' behaviors and opportunities based on social identities, particularly in entrepreneurship, where societal expectations regarding gender roles influence women's participation in economic activities and pursuit of entrepreneurial opportunities (Bullough et al., 2022; Wandera et al., 2021). This theory offers insights into how societal roles and expectations influence women's self-employment choices and the mediating role of personal initiative, though it may overlook intersectional experiences of women entrepreneurs and the diverse ways social identities shape entrepreneurial behavior. Together, the integration of Social Capital Theory and Gender Role Theory provides a nuanced understanding of the factors influencing women's self-employment, emphasizing the interplay between social networks, societal roles, and personal initiative in navigating gendered expectations to achieve economic independence and empowerment (Kusemererwa et al., 2020; Sahani, 2023).

2. Empirical Literature Review

Key Concepts

Personal initiative refers to the proactive and self-directed behavior demonstrated by individuals in identifying opportunities, setting goals, and taking action to achieve desired outcomes (Nsereko et al., 2021). Social capital refers to the resources embedded within social networks, including relationships, norms, and trust, which individuals can access to achieve their goals (Deshpande & Khanna, 2021). Self-employment entails individuals owning and operating their businesses, often without employees (Casabianca et al., 2023).

The relationship between Social capital and self-employment

The relationship between social capital and self-employment is a complex and multifaceted phenomenon that has garnered significant attention in academic literature (Barugahara & Barungi, 2023). Numerous studies have explored how social capital influences self-employment in various contexts, revealing several key insights (Hamdani et al., 2023). It should be noted, social capital facilitates access to valuable resources and information critical for entrepreneurial success (Amiri, 2022). Individuals with extensive social networks are more likely to receive financial assistance, business advice, and market insights from their contacts, enabling them to overcome barriers and capitalize on opportunities (Muhammad et al., 2020). Additionally, social capital fosters trust and cooperation among entrepreneurs and other stakeholders, creating conducive environments for business growth and innovation (Babajide et al., 2022). Strong social ties enhance collaboration, knowledge sharing, and collective problem-solving, leading to the creation of supportive ecosystems that nurture entrepreneurial ventures (Nsereko et al., 2021). Lastly, social capital plays a crucial role in shaping entrepreneurial identities and aspirations (Anggadwita et al., 2021). Individuals embedded within networks that value entrepreneurship and offer positive role models are more likely to perceive self-employment as a viable and desirable career path (Bridges et al., 2022). Overall, the relationship between social capital and self-employment underscores the importance of social networks in facilitating entrepreneurial activities and fostering economic development (Dal Mas & Paoloni, 2020).

Additionally, the structure and composition of social networks influence the entrepreneurial outcomes of individuals (Nieuwenhuizen, 2022). Studies have shown that the size, diversity, and density of social networks significantly impact self-employment decisions and success (Kawamorita et al., 2021). Larger networks provide access to a broader range of resources and opportunities, increasing the likelihood of entrepreneurial entry and survival (Gavigan et al., 2020). Moreover, diverse networks expose individuals to different perspectives, knowledge, and experiences, stimulating creativity and innovation in entrepreneurial endeavors (Kisubi et al., 2021). However, the density of networks, characterized by the extent of interconnectedness among contacts, can also influence entrepreneurial outcomes (Kriaa et al., 2020). Dense networks promote trust and cooperation but may limit access to novel information and diverse perspectives, potentially stifling innovation and growth (Bormann et al., 2021). Furthermore, the composition of networks, including the mix of strong and weak ties, affects the flow of resources and support available to entrepreneurs (Bullough et al., 2022). While strong ties offer emotional support and immediate assistance, weak ties provide access to new information and external opportunities critical for business expansion (Setyaningrum et al., 2023). Therefore, understanding the structure and dynamics of social networks is essential for comprehending their impact on self-employment outcomes and designing effective support mechanisms for aspiring entrepreneurs (Wandera et al., 2021).

Moreover, the role of social capital in self-employment extends beyond individual-level outcomes to broader community and regional development (Dal Mas & Paoloni, 2020). Studies have highlighted the positive spillover effects of social capital on local economies and entrepreneurial ecosystems (Sengupta, 2019). Strong social networks within communities facilitate collective action and civic engagement, leading to the development of supportive institutions, infrastructure, and policies conducive to entrepreneurship (Bridges et al., 2022). Additionally, social capital promotes the circulation of resources and knowledge within local economies, fostering business networks, supply chains, and market linkages that enhance economic resilience and sustainability (Kusemererwa et al., 2020). Furthermore, high levels of social capital contribute to social cohesion and trust, which are essential for attracting investment, fostering collaboration, and reducing transaction costs in entrepreneurial activities (Amiri, 2022). Therefore, investing in the cultivation of social capital at the community level can have significant ripple effects on self-employment rates, economic growth, and overall well-being.

However, the relationship between social capital and self-employment is not without challenges and complexities. Research has identified several limitations and nuances that shape the effectiveness of social networks in supporting entrepreneurial endeavors (Eagly & Wood, 2012). It should be noted that the quality of social ties matters as much as the quantity (Bullough et al., 2022). While having a large network may provide access to diverse resources, the strength and depth of individual relationships determine the extent of support and assistance available to entrepreneurs (Kisubi et al., 2021). Close-knit relationships characterized by trust, reciprocity, and mutual understanding are often more beneficial than superficial connections (Liñán et al., 2022). Additionally, social capital is subject to diminishing returns and network fatigue (Hassan et al., 2024). As networks grow larger and more complex, maintaining meaningful connections and managing relationships becomes increasingly challenging (Setyaningrum et al., 2023). Entrepreneurs may experience information overload, social pressure, and conflicting expectations, leading to exhaustion and burnout (Martinez Dy & Jayawarna, 2020). Moreover, social networks can also perpetuate inequalities and exclusions, as individuals with limited access to social capital may face barriers to entry and advancement in entrepreneurial activities (Kriaa et al., 2020). Therefore, while social capital offers valuable benefits for self-employment, its dynamics and limitations necessitate careful consideration in policy formulation and support initiatives.

The relationship between Personal initiative and self-employment

The relationship between personal initiative and self-employment is a critical aspect of understanding entrepreneurial behavior and outcomes. In the context of self-employment, personal initiative plays a pivotal role in driving entrepreneurial activities and determining success (Nsereko et al., 2021). It should be noted that personal initiative is closely linked to entrepreneurial intention and motivation (Hamdani et al., 2023). Individuals with high levels of personal initiative exhibit a strong desire to pursue entrepreneurial opportunities, driven by intrinsic factors such as autonomy, passion, and self-efficacy (Hamdani et al., 2023). They demonstrate a proactive approach to problem-solving and resource mobilization, seeking out innovative solutions and taking calculated risks to pursue their entrepreneurial goals (Hamdani et al., 2023). Additionally,

personal initiative influences the process of opportunity recognition and exploitation (Nsereko et al., 2021). Entrepreneurs with a proactive mindset are more attuned to environmental changes and market signals, enabling them to identify emerging trends, gaps, and niches for new ventures (Nsereko et al., 2021). They demonstrate a keen sense of alertness and adaptability, seizing opportunities and leveraging their strengths to create value and gain a competitive advantage in the marketplace (Nsereko et al., 2021). Moreover, personal initiative is essential for overcoming entrepreneurial challenges and setbacks (Nsereko et al., 2021). Self-employment is inherently fraught with uncertainty, ambiguity, and adversity, requiring entrepreneurs to navigate obstacles and persevere in the face of failure (Nsereko et al., 2021). Individuals with high levels of personal initiative display resilience, grit, and determination, bouncing back from setbacks and setbacks, learning from experience, and continuously improving their entrepreneurial performance (Nsereko et al., 2021).

Additionally, personal initiative influences the process of innovation and value creation in self-employment ventures (Gavigan, Ciprikis, & Cooney, 2020). Entrepreneurs with high levels of personal initiative are more inclined to engage in creative problem-solving and experimentation, leading to the development of innovative products, services, and business models (Babajide et al., 2022). Their proactive approach fosters a culture of continuous learning and adaptation, driving innovation within their enterprises and contributing to market differentiation and competitive advantage (Gavigan, Ciprikis, & Cooney, 2020). Moreover, personal initiative extends beyond the individual entrepreneur to encompass organizational behaviors and practices (Bormann, Backs, & Hoon, 2021). In self-employment settings, entrepreneurs with strong personal initiative often cultivate an entrepreneurial culture characterized by openness to change, initiative-taking, and collaboration (Bormann, Backs, & Hoon, 2021). They empower employees to take ownership of their work, foster a supportive and dynamic work environment, and encourage creative thinking and initiative at all levels of the organization (Bormann, Backs, & Hoon, 2021). This organizational culture promotes innovation, agility, and resilience, enabling self-employment ventures to thrive in rapidly evolving markets and industries (Babajide et al., 2022).

However, the relationship between personal initiative and self-employment is not without complexities and considerations (Nsereko et al., 2021). It should be noted, the role of personal initiative is influenced by individual differences, including personality traits, cognitive styles, and socio-cultural backgrounds (Nsereko et al., 2021). While some individuals naturally possess a proactive and risk-taking disposition, others may exhibit more cautious and deliberative tendencies (Nsereko et al., 2021). Moreover, cultural norms and societal expectations can shape individuals' perceptions of personal initiative and entrepreneurship, influencing their willingness to take initiative and pursue self-employment opportunities (Nsereko et al., 2021). Additionally, the effectiveness of personal initiative in driving self-employment outcomes depends on external factors and contextual conditions (Nsereko et al., 2021). Entrepreneurs operate within dynamic and multifaceted environments characterized by regulatory frameworks, market dynamics, and industry structures (Nsereko et al., 2021). While personal initiative enables individuals to capitalize on opportunities and navigate challenges, external factors such as access to resources, institutional support, and market conditions can either facilitate or constrain their entrepreneurial efforts (Nsereko et al., 2021). Additionally, the sustainability of personal initiative over the long term requires ongoing self-management and self-regulation (Nsereko et al., 2021). Entrepreneurs must balance their proactive behaviors with self-care, stress management, and work-life balance to avoid burnout and maintain well-being (Nsereko et al., 2021). Therefore, while personal initiative is a critical determinant of self-employment success, its effectiveness is contingent on individual factors, environmental conditions, and self-management practices (Nsereko et al., 2021).

Moreover, challenges may arise in harnessing personal initiative effectively within the context of self-employment (Gavigan, Ciprikis, & Cooney, 2020). It should be noted that entrepreneurs may encounter obstacles related to resource constraints, market competition, and regulatory barriers that impede their ability to translate personal initiative into tangible outcomes (Barugahara & Barungi, 2023). Limited access to financial capital, networks, and infrastructure can hinder entrepreneurs' capacity to pursue entrepreneurial opportunities and scale their ventures (Barugahara & Barungi, 2023). Moreover, the dynamic and unpredictable nature of entrepreneurial endeavors requires entrepreneurs to adapt their strategies and behaviors continually (Gavigan, Ciprikis, & Cooney, 2020). While personal initiative enables individuals to seize opportunities and overcome challenges, excessive risk-taking and impulsivity may lead to suboptimal decision-

making and negative outcomes (Barugahara & Barungi, 2023). Therefore, entrepreneurs must strike a balance between proactivity and prudence, leveraging personal initiative to drive innovation and growth while mitigating risks and maintaining strategic focus (Gavigan, Ciprikis, & Cooney, 2020). Additionally, the sustainability of personal initiative depends on factors such as intrinsic motivation, social support, and external recognition (Barugahara & Barungi, 2023). Entrepreneurs who feel motivated, supported, and recognized for their proactive efforts are more likely to sustain their initiative over time, contributing to long-term success and resilience in self-employment ventures (Gavigan, Ciprikis, & Cooney, 2020).

The mediating role of personal initiative in the relationship between social capital and women's self-employment

Understanding how personal initiative mediates the relationship between social capital and women's self-employment is essential, shedding light on how social networks and individual traits shape entrepreneurial outcomes (Nsereko et al., 2021). Social capital, comprising resources within social networks, offers women access to vital information, resources, and support networks crucial for business success (Deshpande & Khanna, 2021). Conversely, personal initiative encompasses proactive behaviors, motivation, and resilience in pursuing entrepreneurial opportunities (Hassan et al., 2024). Social networks significantly influence women's personal initiative and entrepreneurial behaviors, providing access to diverse resources, opportunities, and role models (Bullough et al., 2022). Supportive networks increase the likelihood of women exhibiting high levels of personal initiative, bolstered by advice, mentorship, and confidence from family, friends, and peers (Liñán et al., 2022). Furthermore, social networks furnish women with valuable market information, aiding in identifying and seizing entrepreneurial opportunities (Chhabra et al., 2020). Personal initiative, in turn, plays a pivotal role in translating social capital into entrepreneurial action, empowering women to leverage networks effectively (Setyaningrum et al., 2023). Women demonstrating strong personal initiative are inclined to utilize networks to pursue opportunities, build alliances, and mobilize resources (Nsereko et al., 2021). Their proactive engagement enables them to overcome entrepreneurial barriers and drive ventures forward, reflecting the symbiotic relationship between social capital and personal initiative in women's self-employment.

Self-efficacy, the belief in one's ability to succeed, is pivotal in the interplay between social capital and personal initiative in women's entrepreneurship (Hamdani et al., 2023). Women with high self-efficacy levels are inclined to actively engage with their social networks, seek opportunities, and demonstrate initiative in entrepreneurial pursuits (Anggadwita et al., 2021). Social capital reinforces women's self-efficacy through positive feedback and encouragement from their networks, boosting confidence and motivation to pursue entrepreneurship (Nsereko et al., 2021). This validation inspires women to set challenging goals, persist through obstacles, and take risks, underscoring self-efficacy's mediating role. Furthermore, motivation strongly influences personal initiative's mediation, with motivated women leveraging social networks to pursue entrepreneurial opportunities (Bridges et al., 2022). Intrinsic and extrinsic motivators, such as passion and financial rewards, drive women to exhibit high levels of initiative (Bullough et al., 2022). Social capital fuels motivation by providing access to role models and success stories, inspiring women to pursue entrepreneurship (Dal Mas & Paoloni, 2020). Witnessing others' success instills confidence and prompts proactive steps, showcasing motivation's role in mediating personal initiative. Lastly, resilience is paramount in navigating challenges and fostering personal initiative (Setyaningrum et al., 2023). Women entrepreneurs encounter various obstacles, but resilience equips them to persevere and adapt (Nsereko et al., 2021). Social capital supports resilience by offering supportive relationships and coping strategies within networks (Hassan et al., 2024). Encouragement and advice from peers empower women to overcome setbacks and learn from failures, epitomizing resilience's contribution to personal initiative in entrepreneurship.

3. Methodology

Research Design

This study adopted a cross-sectional quantitative survey design to investigate the mediating role of personal initiative in the relationship between social capital and women's self-employment. The cross-sectional design was chosen due to its suitability for examining relationships among variables at a single point in time (Creswell & Creswell, 2018). The quantitative approach enabled the use of statistical tools to test the proposed hypotheses and to establish the strength and significance of the relationships among key constructs.

Study Population and Sampling

The target population comprised self-employed women in Mbarara City, Uganda, operating in various business sectors including retail, agribusiness, services, and small-scale manufacturing. The sample was drawn from the three divisions of the city: Kamukuzi, Kakoba, and Nyamitanga. Using Krejcie and Morgan's (1970) table for sample size determination and based on an estimated population of approximately 1,000 women entrepreneurs, a sample size of 378 was selected. A stratified random sampling technique was used to ensure balanced representation across sectors and geographic zones (Etikan & Bala, 2017).

Data Collection and Data Analysis

Data was collected using a structured self-administered questionnaire. The instrument included scales measuring: Social Capital (structural, relational, and cognitive dimensions), Personal Initiative (self-starting, proactiveness, and persistence), and Women's Self-Employment (business operations, growth, and sustainability indicators). The questionnaire was pilot-tested to enhance validity and revised based on feedback. Cronbach's alpha was used to confirm internal reliability ($\alpha > 0.7$ for all constructs). Data were analyzed using SPSS 26. Descriptive statistics summarized demographic characteristics, while Pearson correlation coefficients assessed the strength of bivariate relationships among variables. To test the mediation hypothesis, Baron and Kenny's (1986) steps and multiple regression analysis were applied, supported by Sobel test computations. The significance threshold was set at $p < .05$.

4. Results

Table 1: Demographics of respondents

Category	item	Frequency	Percent
Number of children you pay school fees for	0	106	28
	1-2	127	33.6
	3-5	52	13.8
	6+	93	24.6
Number of Relatives staying with you	0	182	48.1
	1-2	175	46.3
	3-5	21	5.6
Number of relatives you pay school fees for	0	286	75.6
	1-2	71	18.8
	3-5	15	4
	6+	6	1.6
Religion	Catholic	142	33.9
	Anglican	124	36.8
	Pentecostal	67	11.9
	Moslem	26	8.5
	Others	19	9.0
	Total	378	100.0

The majority of respondents, constituting 33.6%, reported paying school fees for 1-2 children, followed closely by those paying for 0 children (28%), indicating a significant proportion with no children in school. A considerable number, 24.6%, reported paying for 6 or more children, suggesting a subset of respondents with larger families or extended responsibilities. Additionally, 13.8% reported paying for 3-5 children, representing another notable segment.

The data indicate a relatively even distribution, with approximately half of the respondents reporting no relatives staying with them (48.1%) and another 46.3% reporting 1-2 relatives staying with them. A smaller percentage reported 3-5 relatives staying with them (5.6%), suggesting a minority of respondents with larger extended families or accommodating more relatives.

The majority of respondents, comprising 75.6%, reported not paying school fees for any relatives. Among those who did, the most common category was 1-2 relatives (18.8%), followed by 3-5 relatives (4%) and 6 or more relatives (1.6%). This distribution suggests that while a significant portion of respondents do not bear the financial responsibility of relatives' education, a minority do, with varying degrees of responsibility.

Catholicism and Anglicanism emerge as the two dominant religions among the respondents, with 33.9% and 36.8% respectively. Pentecostalism follows as the third most prevalent religion at 11.9%, indicating a diverse religious landscape among the respondents. A smaller proportion identified as Muslim (8.5%), while 9.0% identified with other religious affiliations. This distribution reflects the religious diversity within the surveyed population, highlighting the importance of considering religious factors in social and cultural contexts.

Table 2: Demographics of Businesses

Category	Item	Frequency	Percent
Business ownership	Sole proprietor	257	68
	Partnership	84	22
	Registered company	38	10
Duration in business	Below 1 year	27	7.1
	1-2 years	48	12.7
	3-4 years	117	31
	5-6 years	121	32
	Above 7 years	65	17.2
Number of employees	0	104	27.5
	1-2	128	33.8
	3-4	49	13
	5-6	77	20.4
	Above 7	20	5.3

The findings reveal that out of the total of 378 women surveyed, 257 reported being sole proprietors, representing 68% of the sample. Partnership ownership was reported by 84 women, accounting for 22% of the total, while 38 women (10%) reported their businesses as registered companies.

A significant portion of women reported operating their businesses for 3-6 years, with 121 women (32%) falling into this category. Substantial percentages were also reported for 1-2 years (48 women, 12.7%), 3-4 years (117 women, 31%), and 5-6 years (121 women, 32%), suggesting diverse levels of tenure among business owners.

Out of the total women surveyed, 104 reported having between 0-2 employees, constituting 27.5% of the sample. Another 128 women (33.8%) reported having 1-2 employees, while 49 women (13%) reported having 3-4 employees. Seventy-seven women (20.4%) reported having 5-6 employees, while 20 women (5.3%) reported having more than seven employees, reflecting a prevalence of micro and small enterprises.

Table 3: Pearson Correlation

	1	2	3	4	5	6	7	8
Social Capital-1	1							
Self-starting-2	.513**	1						
Pro-activeness-3	.504**	.452**	1					
Persistence-4	.216**	.364**	.238**	1				
Personal initiative-5	.578**	.842**	.804**	.584**	1			
Managing suppliers-6	.416**	.492**	.359**	.465**	.563**	1		
Business identification-7	.441**	.361**	.305**	.410**	.453**	.611**	1	

Self-employment-8	.478**	.471**	.369**	.486**	.563**	.887**	.908**	1

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

Social Capital and Women's Self-Employment in Mbarara City
The results in Table 3 indicate that there is a positive and significant relationship between Social Capital and Women's Self-Employment in Mbarara City (r=.478, p<.01). This implies that any positive change in Social Capital is associated with a positive change in Women's Self-Employment in Mbarara City.

Personal Initiative and Women's Self-Employment in Mbarara City
The results in Table 4.2.1 indicate that there is a positive and significant relationship between Personal Initiative and Women's Self-Employment in Mbarara City (r=.563, p<.01). This implies that any positive change in Personal Initiative is associated with a positive change in Women's Self-Employment in Mbarara City.

Multiple regression analysis
A multiple regression analysis was run to explain the predictive power of the independent variables on the dependent variable and to show the causal relationship among the study variables.

Table 4: Multiple Regression Analysis

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	.598	.229		2.611	.009
	Social Capital	.252	.056	.229	4.497	.000
	Personal initiative	.614	.073	.430	8.448	.000
R	.593a					
R Square	0.352					
Adjusted R Square	0.348					
F	101.762					
Sig.	.000b					

a Dependent Variable: Woman Self-Employment

The regression analysis results reveal the presence of significant relationships between Social capital, Personal Initiative and Women's Self-Employment in Mbarara City. The significance rate, as indicated by the p-values, provides crucial information about the statistical significance of these relationships. Social Capital has a positive significant relationship with Women's Self-Employment in Mbarara City (Beta=.229, p<.05). Thus, implying that a unit increase in social capital results in a positive significant increase of 0.229 units in Women's

Self-Employment in Mbarara City.
Likewise, personal initiative has a positive significant relationship with Women's Self-Employment in Mbarara City (Beta=.430, p<.05). This implies that any unit increase in personal initiative results in a positive significant increase of 0.43 units in Women's Self-Employment in Mbarara City. In summary, the analysis demonstrates a statistically significant relationship between Social capital, Personal Initiative and Women's Self-Employment in Mbarara City. The regression results indicate that 34.8% (Adjusted R Square=.348) of the variations in Women's Self-Employment in Mbarara City is explained by Social capital and Personal Initiative, this also implies that the remaining 65.2% is explained by other factors not considered in this study.

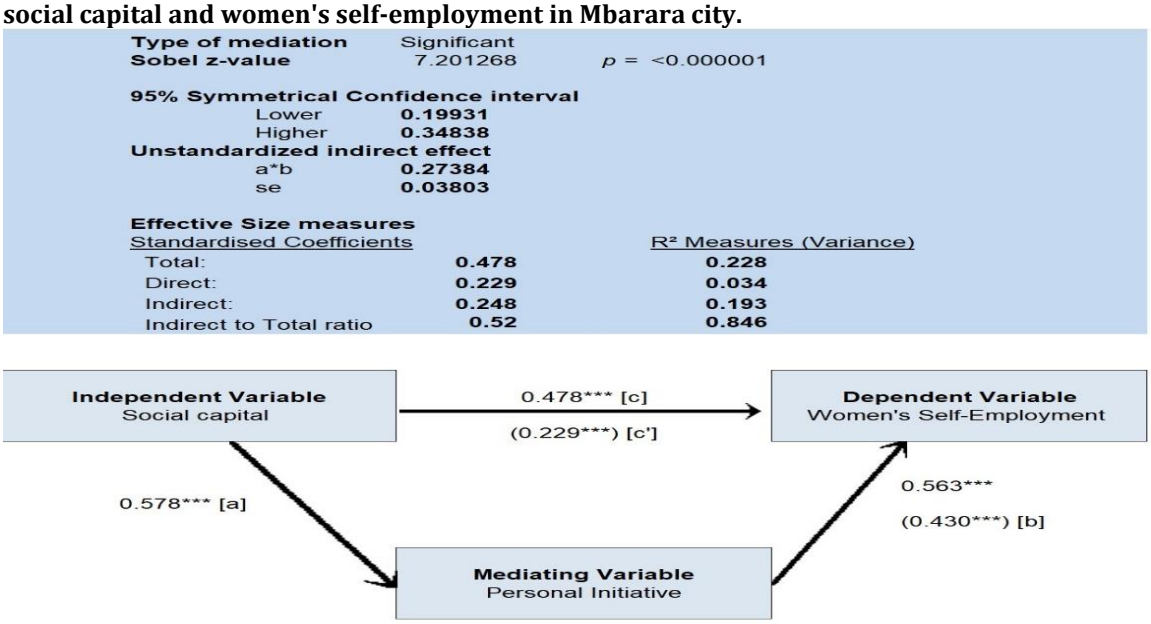
Table 5: Mediation tests for testing the mediating role of personal initiative in the relationship between social capital and women's self-employment in Mbarara city.

Steps	Regressions	B	SE	Beta
IV&DV	SC—WSE	0.526	0.050	0.478
IV&MV	SC--PI	0.446	0.032	0.578
MV&DV	PI---WSE	0.803	0.061	0.563
IV, MV&DV	SC&PI--WSE	SC=0.252	SC=0.056	SC=0.229
		PI=0.614	PI=0.073	PI=0.430
		Part correlations	SC=0.187	
			PI=0.351	
		R Square	0.352	
		n	378	

There was a significant direct effect of Social capital and Women's Self-Employment in Mbarara City (Beta=.478; p<.05). There was a significant direct effect of Social capital and Personal Initiative (Beta=.578; p<.05). There was also a significant direct effect of Personal Initiative and Women's Self-Employment (Beta=.563; p<.05).

When controlling for Personal Initiative, the direct effect of social capital and women's self-employment reduced from Beta=.430 to Beta=.351 and remained significant. This is an indication that the relationship between Social capital and Women's Self-Employment in Mbarara City is partially mediated by Personal Initiative. This is further indicated by the indirect effect of (0.248/0.478 x 100) percentage. 51.8%, meaning that the direct effect is explained by 48.2% in the model.

Figure 1: Using med-graph to test the mediating role of personal initiative in the relationship between social capital and women's self-employment in Mbarara city.



5. Conclusion and Recommendations

It can be concluded that there is a significant positive relationship between social capital and Women's Self-Employment in Mbarara City. This implies that improvement in social capital in terms of structural, relational and cognitive would result in a positive change in Women's Self-Employment in Mbarara City. It can further be concluded that there is a significant positive relationship between Personal initiative and Women's Self-Employment in Mbarara City. This implies that any positive change in personal initiative in terms of self-starting, pro-activeness and persistence will result in a positive change in Women's Self-Employment in Mbarara City.

In conclusion, it can be concluded that Personal Initiative partially mediates Social capital and Women's Self-Employment in Mbarara City.

Recommendations

It can be recommended that while personal initiative is important, structural barriers may still hinder women's entrepreneurial endeavors, Advocacy for policies and initiatives that address systemic inequalities, such as access to finance, education, and opportunities for women in business is ensured. It can further be recommended that there is a need to focus on interventions aimed at enhancing self-efficacy beliefs among women entrepreneurs. Self-efficacy, a key component of personal initiative, should be cultivated through positive experiences, feedback, and role modeling and encourage women to set challenging but attainable goals and celebrate their achievements.

It can also be recommended that there is a need to empower women to take initiative in starting and managing their businesses. Entrepreneurship training programs, workshops on business planning and goal-setting, and motivational sessions can help women develop the necessary skills and mindset to pursue entrepreneurial opportunities.

References

Amiri, M. (2022). The role of social capital in entrepreneurial performance: A systematic review and meta-analysis. *Journal of Business Research, 141*, 953–968. https://doi.org/10.1016/j.jbusres.2021.11.038

Anggadwita, G., Widyanto, D., & Kusrini, E. (2021). The role of social capital and personal initiative in women's entrepreneurship. *Journal of Entrepreneurship Education, 24*(5), 1–10.

Babajide, A. A., Salihu, U. M., & Yahuza, A. M. (2022). The mediating effect of social capital on the relationship between entrepreneurial orientation and business performance in Nigeria. *Journal of Innovation and Entrepreneurship, 11*(1), 1–22. https://doi.org/10.1186/s13731-022-00198-5

Barugahara, A., & Barungi, E. (2023). Social capital and entrepreneurship in Africa: A systematic literature review. *Journal of Entrepreneurship in Emerging Economies, 15*(3), 416–436. https://doi.org/10.1108/JEEE-12-2021-0474

Bormann, J. M., Backs, S., & Hoon, C. (2021). Personal initiative and its relationship with entrepreneurship: A review and agenda for future research. *International Journal of Management Reviews, 23*(1), 3–29. https://doi.org/10.1111/ijmr.12236

Bourdieu, P. (1986). The Forms of Capital. In Handbook of Theory and Research for the Sociology of Education (pp. 241–258). Greenwood.

Bridges, S., Irvine, H., & Valentine, G. (2022). Women, work and the gendered landscape of self-employment: Conceptualizing women's work in rural Scotland. *Gender, Place & Culture, 29*(6), 757–778. https://doi.org/10.1080/0966369X.2021.1960051

Bullough, A., Renko, M., & Myatt, T. (2022). Why women leap: Entrepreneurial risk-taking and the shaping role of personal initiative. *Academy of Management Perspectives, 36*(1), 21–39. https://doi.org/10.5465/amp.2017.0062

Casabianca, A., Rantanen, J., & Feldt, T. (2023). Employees' Social Capital and Work Engagement: A Multilevel Perspective. Journal of Occupational Health Psychology, 28(1), 1–12.

Chhabra, S., Prajapati, S., & Soni, A. (2020). Role of social capital in women's entrepreneurship. *Management and Labour Studies, 45*(4), 464–480. https://doi.org/10.1177/0258042X20965518

Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. American Journal of Sociology, 94, S95–S120.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Dal Mas, F., & Paoloni, P. (2020). Beyond social capital: Network-based measures of relational resources in the entrepreneurial ecosystem. *Journal of Business Venturing, 35*(4), 105935. https://doi.org/10.1016/j.jbusvent.2019.105935

Deshpande, A., & Khanna, A. (2021). Social capital and the entrepreneurial career: A conceptual framework. *Journal of Entrepreneurship, 30*(4), 529–552. https://doi.org/10.1177/09713557211040603

Eagly, A. H., & Wood, W. (2012). Social role theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 458–476). SAGE Publications.

Eagly, A. H., Wood, W., & Diekman, A. B. (2000). Social Role Theory of Sex Differences and Similarities: A Current Appraisal. In T. Eckes & H. M. Trautner (Eds.), The Developmental Social Psychology of Gender (pp. 123–174). Lawrence Erlbaum Associates.

Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal, 5*(6), 00149. https://doi.org/10.15406/bbij.2017.05.00149

Gavigan, J. P., Ciprikis, M., & Cooney, T. M. (2020). Personal initiative as an antecedent of entrepreneurial success: Evidence from a developing country. *Journal of Developmental Entrepreneurship, 25*(1), 2050002. https://doi.org/10.1142/S1084946720500025

Global Economy. (2023). Female unemployment rate in selected African countries in 2023. *Statista*. https://www.statista.com/statistics/1010749/female-unemployment-rate-africa-by-country/

Hamdani, S., Haneef, M., Qadir, M. J., & Sattar, A. (2023). Does entrepreneurial self-efficacy mediate the relationship between social capital and entrepreneurial intention? Evidence from Pakistan. *Journal of Entrepreneurship in Emerging Economies, 15*(2), 317–342. https://doi.org/10.1108/JEEE-03-2022-0085

Hassan, F. M., Ahmad, N. H., & Shaharudin, R. R. (2024). The role of personal initiative in moderating the relationship between social capital and entrepreneurial success. *Journal of Small Business and Enterprise Development, 31*(1), 20–38. https://doi.org/10.1108/JSBED-01-2023-0020

International Labour Organization (ILO). (2023). *Women in business and management: The business case for change*. https://www.ilo.org/global/publications/books/WCMS_217491/lang--en/index.htm

Kisubi, M., Tumwine, V., & Okello, C. (2021). Social Capital and the Performance of Small and Medium Enterprises in Uganda. African Journal of Business Management, 15(5), 123–131.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607–610. https://doi.org/10.1177/001316447003000308

Kriaa, A., Kandil, F. A., & Sghaier, I. M. (2020). The impact of social capital on the performance of women entrepreneurs in a developing country. *International Journal of Gender and Entrepreneurship, 12*(2), 192–209. https://doi.org/10.1108/IJGE-08-2019-0142

Kusemererwa, D., Musiita, B., & Kabura, E. (2020). Women's entrepreneurship and community development: A case for Uganda. *Journal of African Business, 21*(4), 457–474. https://doi.org/10.1080/15228916.2020.1746014

Liñán, F., Paul, J., & Fayolle, A. (2022). A systematic review of women's entrepreneurship research: Perspectives and future research agenda. *Journal of Business Research, 143*, 252–272. https://doi.org/10.1016/j.jbusres.2022.01.060

Martinez Dy, A., & Jayawarna, D. (2020). Resilience and social capital in women's entrepreneurship: A multi-country study. *Entrepreneurship & Regional Development, 32*(9–10), 735–755. https://doi.org/10.1080/08985626.2020.1727083

Mastercard. (2021). *The Mastercard Index of Women Entrepreneurs 2021*. Mastercard. https://www.mastercard.com/news/press/2021/the-mastercard-index-of-women-entrepreneurs-2021/

Mbarara City Commercial Office. (2024). *Annual Business Registration Report*. Mbarara District Local Government. *(Unpublished internal report)*.

Muhammad, I., Khan, A. M., & Ahmed, A. (2020). Role of social capital in women's entrepreneurship. *Journal of Small Business and Enterprise Development, 27*(4), 554–572. https://doi.org/10.1108/JSBED-01-2019-0012

Nieuwenhuizen, C. (2022). The role of social capital in promoting women's entrepreneurship in South Africa. *Gender & Behavior, 20*(3), 16707–16720.

Nsereko, J. R., Waiswa, A., & Nakimuli, S. A. (2021). Personal initiative as a mediator in the relationship between social capital and entrepreneurial success. *Journal of Entrepreneurship in Developing Economies, 5*(2), 124–145.

Putnam, R. D. (1993). Making Democracy Work: Civic Traditions in Modern Italy. Princeton University Press.

Sahani, M. F. (2023). Role of social capital and gender role in women entrepreneurs in Afghanistan. *European Journal of Business and Management Research, 8*(1), 57–66. https://doi.org/10.24018/ejbmr.2023.8.1.1864

Sengupta, J. K. (2019). The impact of social capital on the performance of women-owned microenterprises in India: A study in Nagaland. *Entrepreneurship and Sustainability Issues, 7*(3), 1530–1542. https://doi.org/10.9770/jesi.2019.7.3(26)

Setini, M., Supartha, I. W. G., Yasa, N. N. K., & Sintaasih, D. K. (2020). The Role of Social Capital in Strengthening Competitive Advantage and Business Performance. Management Science Letters, 10(15), 3607–3612.

Setyaningrum, D. K., Efendi, I., & Andani, D. (2023). Mediating effect of personal initiative on the relationship between social capital and the success of micro and small businesses. *Journal of Entrepreneurship Education, 26*(1), 1–10.

Wandera, A., Nanyeenya, W., & Oboite, E. (2021). The mediating role of personal initiative on the relationship between social capital and entrepreneurial success. *Journal of Small Business and Entrepreneurship Development, 9*(1), 34–49.

Woldesenbet Beta, Y., Tesfaye, M., & Mengesha, H. (2024). Women's Self-Employment and Economic Development: Insights from Developing Economies. Journal of Development Studies, 60(2), 245–262.

Journal of Social and Development Sciences
Vol. 15, No. 1, 2025, (ISSN 2221-1152)

The Role of AI-Assisted Learning Tools in Higher Education: Balancing Efficiency, Critical Thinking and Academic Integrity

Hanafiah Hasin[1], Anita Jamil[1], Zaleha Mahat[1], Rahayu Sehat[1], Eka Fauzihardani[2]
[1]Faculty of Accountancy, Universiti Teknologi MARA, Cawangan Melaka, Kampus Alor Gajah, Malaysia
[2]Faculty of Economics and Business, Universitas Negeri Padang, Indonesia
*anitajamil@uitm.edu.my
Corresponding Author: Anita Jamil

Abstract: This study examines the dual nature of AI-assisted learning tools in higher education. While AI tools enhance student learning efficiency and academic performance, they also present risks such as over-reliance, reduced critical thinking, and ethical concerns. This research investigates the benefits and drawbacks of AI adoption in higher education, using student survey responses to analyse perceptions. The findings indicate that AI tools contribute to improved efficiency and comprehension but highlight dependency and academic integrity concerns. A cross-sectional survey of 383 Malaysian university students was conducted to explore the academic and ethical dimensions of AI usage in learning.

Keywords: *AI in education, benefits and risks, student learning, academic integrity, AI ethics*

1. Introduction

The implementation of Artificial Intelligence (AI) technology in higher education reformulates learning systems by developing customised educational content coupled with immediate assessment feedback and individualised tutoring algorithms. Intelligent tutoring systems, together with automated essay grading and academic chatbots, use artificial intelligence to boost student involvement, increase learning understanding and simplify academic tasks. AI works to create an inclusive educational environment through its adaptation to different learning preferences, together with its disability support abilities. Two key aspects of Artificial Intelligence (AI) modernisation within higher education involve new teaching practices and personalised learning, along with computer-aided assessment methods and adaptive educational resources. The integration of artificial intelligence tools like intelligent tutoring systems, academic chatbots, and automated grading software enhances student involvement and improves comprehension levels while easing the demands of students' workloads. AI promotes educational inclusivity through its ability to support learners with diverse preferences and its provision of assistance to students with disabilities.

Two obstacles exist when students use AI to assist their education. Extensive usage of artificial intelligence systems leads students to use digital resources heavily, thus compromising their ability to solve problems and think critically. The ethical risks that stem from plagiarism of automated content and non-authorised tutor sessions threaten both learning standards and core values of major educational institutions.

The deployment of AI systems in higher education creates both positive benefits, such as accessibility and efficiency, alongside unmanaged risks that demand suitable handling. The implementation of AI-limited programs in conjunction with institutional policies on academic integrity should guide universities in developing clear guidelines for responsible AI usage, which combines AI-driven support with traditional learning methods.

The research evaluates both the advantages and disadvantages of AI learning tools, examining student reactions to these digital tools. The study investigates optimal implementation methods for AI to contribute to higher education AI governance discussions, which will maximise AI value in cognitive growth instead of automated knowledge delivery. In the Malaysian context, the transformative nature of AI in education has been widely acknowledged (Younas et al., 2024; Choi et al., 2025; Zhao, 2025; Crain et al., 2025), with institutions now facing the challenge of striking a balance between innovation and integrity (Francis et al., 2025).

Problem Statement

The integration of Artificial Intelligence (AI) in higher education has transformed learning by enhancing efficiency, accessibility, and personalisation. AI-powered tools such as intelligent tutoring systems and chatbots

provide immediate feedback and customised support, improving student engagement and academic outcomes. However, despite these advantages, AI adoption raises critical concerns related to ethical implications, academic integrity, and students' cognitive development.

Excessive dependence on AI systems by students creates dual problems because it hinders their independent learning skills and weakens their capacity to think critically and solve complex problems. The repeated application of AI creates cognitive offloading or reinforcement, leading students to lose their independent abilities for information synthesis and interpretation, thus making them less intellectually autonomous (Elbadiansyah et al., 2024). The absence of proper supervision allows AI-assisted learning to lead students toward knowledge consumption instead of meaningful knowledge building. A growing amount of AI-generated content poses higher risks of academic dishonesty, including plagiarism, as students employ deceptive methods in their studies.

The identification of AI-assisted work through traditional plagiarism detection tools becomes doubtful, thus requiring an update to assessment strategies and academic integrity policies (Bui & Tong, 2025). Academic authenticity requires students to undergo adaptive assessments and multiple evaluation approaches to maintain authenticity. AI integration has the potential to exacerbate existing educational gaps between different student groups. AI provides personalised education to students, but beneficiaries with restricted access to technology, such as disadvantaged students, face obstacles to accessing these improvements. Penalties within AI systems can lead to systematic prejudice against students, while students require access to policies and practices that promote inclusive learning. The integration of AI systems requires immediate and responsible implementation due to these significant obstacles. Universities need to establish specific policies for AI applications while promoting an understanding of AI among both students and lecturers, ensuring that every student has equal access to educational resources.

This study critically examines the benefits and drawbacks of AI-assisted learning tools, evaluates students' perceptions of AI's role in academic development, and proposes best practices for the ethical and responsible adoption of AI in higher education. By addressing existing research gaps, this study contributes to the discourse on sustainable AI integration in academic settings.

Research Objectives

This study aims to:

- Examine the benefits of AI-assisted learning tools in higher education.
- Analyse the risks and challenges associated with AI usage among students.
- Evaluate student perceptions of AI's role in academic development and learning.

Research Questions

- What are the primary benefits of AI-assisted learning tools in higher education?
- What potential risks do students associate with AI usage?
- How can AI be integrated responsibly into higher education while maintaining academic integrity?

2. Literature Review

The inclusion of Artificial Intelligence (AI) within higher education transformed teaching and learning approaches while providing students with improved accessibility together with individualised lessons and operational efficiency. Intelligent tutoring systems, alongside generative AI tools, can be enhanced through the support of AI-assisted tools, thereby improving both learner engagement and educational achievements (Maphalala & Ajani, 2025; Choi et al., 2025). The successful implementation of AI in education requires proper ethical guidelines because academic trustworthiness, along with potential biases and AI reliance issues, pose substantial risks, according to Crain and colleagues (2025). The research follows the guidelines of the Technology Acceptance Model (TAM) and Self-Regulated Learning (SRL) Theory. Students adopt and use AI-based learning tools by evaluating their usability benefits and ease of utilisation, according to TAM (Davis, 1989). The SRL theory stresses students' capacity to manage their learning process yet raises doubts about how AI will affect their autonomous thinking abilities and cognitive commitment (Zimmerman, 2002). The

established frameworks serve as bases to evaluate how AI affects student efficiency along with their critical thinking abilities and ethical matters in higher education learning environments.

AI-Assisted Learning Tools and Student Efficiency

Real-time feedback, adaptive learning and self-paced instructions are provided by AI-powered tools, which increase student efficiency (Zhao, 2025; Ismoilovna, 2025). Research indicates that AI simplifies complex content, thereby reducing cognitive load and freeing the students to concentrate on more qualitative thinking (Choi et al., 2025; Fried & Alshibli, 2024). Studies found that learning environments with AI support enhance comprehension and reduce study hours (Hutapea et al., 2024). As well as being used for creative tasks, generative AI tools have been shown to increase academic productivity by up to 69% (Freeman et al., 2024) through tools like automated summarisation systems.

Consequently, although there are studies involving AI in deep learning, there is not much research related to the long-term effects of AI on deep learning. According to scholars (Bermeo et al., 2025; Ismoilovna, 2025), overreliance on AI may diminish students' problem-solving ability and result in passive knowledge consumption. Consequently, institutions must strategically incorporate AI tools to achieve a balance in gains from efficiency and the development of critical thinking (Zhao, 2025; Choi et al., 2025).

Hypothesis 1 (H1): *AI-assisted learning tools improve student efficiency and learning outcomes.*

AI Dependency and the Decline of Critical Thinking

While AI enhances personalised learning and engagement, concerns have been raised about its impact on students' independent problem-solving and analytical reasoning skills. Studies suggest that frequent AI tool usage may discourage students from engaging deeply with academic material, reducing their ability to think critically (Gerlich, 2025; Maphalala & Ajani, 2025). AI-generated responses can lead to cognitive offloading, where students become reliant on automation instead of developing their reasoning skills (Bermeo et al., 2025; Delello et al., 2025).

The issue is illuminated by the Self-Regulated Learning (SRL) framework. In SRL theory, students were envisioned to be able to plan, monitor and assess their learning (Zimmerman, 2002). If the reliance on AI becomes excessive, then cognitive engagement becomes passive knowledge acquisition instead of active (Radović & Seidel, 2024; Glick et al., 2024).

On the contrary, some research indicates that, in a multimodal learning environment, proper AI can bolster self-regulation and metacognition (Wu et al., 2025). That is, how AI tools are structured and incorporated into educational settings § (Octaberlina et al., 2024; Panit, 2025). Considering these contradictions, further research needs to be done to determine the long-term cognitive impact of AI on learning.

Hypothesis 2 (H2): *AI-assisted learning tools encourage over-reliance and reduce critical thinking.*

Ethical Challenges and Academic Integrity

The use of AI in education presents significant challenges related to academic integrity, including plagiarism, authorship concerns, and ethical AI use (Maphalala & Ajani, 2025; Bùi & Tong, 2025). AI-powered writing assistants can blur the distinction between student-generated work and AI-generated content, making it harder for educators to assess originality (Francis et al., 2025; Mauti & Ayieko, 2025).

Student teachers, according to Obed et al. (2025), acknowledged the academic usefulness of ChatGPT to exceed 50%, yet they appeared to ignore its ethical issues. Schools face difficulties in maintaining academic integrity standards because their policies about AI ethical standards remain inconsistent (Arbab et al., 2024; Shishavan, 2024). Research findings indicate that the implementation of AI literacy training programs should teach students how to use AI responsibly while practising responsible learning methods (Asrifan et al., 2024; Zary, 2024). The AI Literacy Framework (ALiF) establishes a structured AI education model that focuses on providing transparency and enabling accountability and ethical decision-making processes (Zary, 2024). Institutions need to employ both AI detection tools and alternative assessment methods to sustain academic integrity together with their AI benefits (Hossain et al., 2025).

Hypothesis 3 (H3): *AI-assisted learning tools impact academic integrity and ethical learning behaviours.*

Research Gaps in AI-Assisted Learning

Despite the increasing integration of Artificial Intelligence (AI) in higher education, several research gaps remain unaddressed. First, while existing literature highlights the benefits of AI-assisted learning tools in enhancing efficiency and academic performance (Zhao et al., 2024; Choi et al., 2025), there is limited research on their long-term cognitive impact. Specifically, studies have not sufficiently explored whether AI fosters sustained learning improvements or contributes to cognitive offloading, where students become overly dependent on AI-generated content, potentially weakening their problem-solving and analytical reasoning abilities over time (Radović & Seidel, 2024; Elbadiansyah et al., 2024).

Second, most research on AI in education focuses on general adoption trends rather than discipline-specific applications. AI's role varies across academic fields, enhancing computational modelling in STEM, facilitating research synthesis in the social sciences, and raising concerns about originality and authorship in the humanities (Gerlich, 2025; Kohnke & Zaugg, 2025). However, few comparative studies assess how AI's impact differs across disciplines, making it challenging to develop tailored AI integration strategies that align with specific educational needs.

Third, while AI-assisted learning tools have been linked to concerns about academic integrity and ethical risks (Bùi & Tong, 2025; Mauti & Ayieko, 2025), there is insufficient empirical evidence on the effectiveness of institutional AI policies in preventing plagiarism, unauthorised AI usage, and over-reliance on AI-generated outputs. Additionally, the role of AI literacy programs in promoting ethical AI use remains underexplored, with little research evaluating their actual impact on student behaviour, critical thinking, and adherence to academic integrity standards (James & Andrews, 2024; Jain, 2025).

Fourth, much of the existing research relies on self-reported survey data, which may introduce biases in assessing AI's effectiveness and ethical challenges (Francis et al., 2025). There is a need for mixed-method and experimental studies that incorporate quantitative AI usage tracking alongside qualitative insights to provide a more comprehensive understanding of AI's impact on student learning, academic integrity, and cognitive engagement (Deshmukh & Mehta, 2025; Wu et al., 2025).

Finally, most studies focus on higher education, leaving gaps in understanding AI's implications for K-12 education, corporate training, and informal learning environments (Obed et al., 2025; Younas et al., 2024). As AI becomes increasingly integrated into lifelong learning and workforce development, future research must examine its broader impact beyond universities, particularly in preparing students for AI-driven workplaces (Tripathi, 2024, Uppal & Hajian, 2024).

Addressing these research gaps will contribute to a more nuanced understanding of AI's role in education, ensuring that its adoption enhances learning outcomes while safeguarding critical thinking, academic integrity, and equitable access to educational resources.

3. Methodology

Research Design

This study employs a cross-sectional descriptive and analytical survey design to examine the impact of AI-assisted learning tools on university students' academic experiences. A survey-based approach is used to capture a broad range of student experiences and behavioural patterns related to AI adoption.

Guided by the Technology Acceptance Model (TAM) and Self-Regulated Learning (SRL) theory, this study examines how AI usage frequency, perceived benefits, dependency risks, and ethical concerns influence student learning outcomes. The conceptual framework integrates these independent variables (IVs) and their impact on the dependent variable (DV), student learning outcomes.

Population and Sampling

The study focuses on Malaysian university students across diverse disciplines who are engaged in AI-assisted learning. Purposive sampling was employed to ensure that only participants with direct AI tool usage

experience were included. This method aligns with Cohen's (1992) guidelines for statistical power in behavioural research.

Data Collection

An online survey is structured through email lists of graduate students at universities, academic platforms, and various social media channels. Several sections of the survey focus on students' experiences, perceptions and ethical thoughts on AI-assisted learning. Demographic and academic background details from multiple choice questions and levels of AI adoption, perceived effectiveness and ethical considerations measured on a Likert scale are collected. In addition, the open-ended responses also allow students to elaborate on their experiences and their concerns for qualitative insights into the usage of AI. To enhance data credibility, surveys were distributed through institutional email lists and authenticated digital forms, minimising the risk of spam or unreliable entries.

Data Analysis

Statistics play a critical role throughout the study as they use both descriptive and inferential methods to evaluate AI adoption patterns and modifications in educational results. The summary of AI usage trends, together with student perceptions, makes use of descriptive statistics that employ mean values along with standard deviations and frequency distributions. Inferential statistical procedures determine how different variables interrelate with each other. The study uses correlation analysis to measure the magnitude and pattern of how often students use AI technology and their academic results. The research evaluates academic performance and ethical concerns stemming from AI usage through regression analysis methods. The hypothesis testing process employs various statistical procedures, including t-tests and ANOVA. They measure AI adoption patterns between groups of different demographic characteristics and academic majors as well as educational levels until they detect meaningful variations. The chi-square tests identify statistical relationships between university students' ethical apprehensions about AI and their adoption behaviour. These research methods create a detailed explanation regarding the impact AI learning tools have on students' academic journeys.

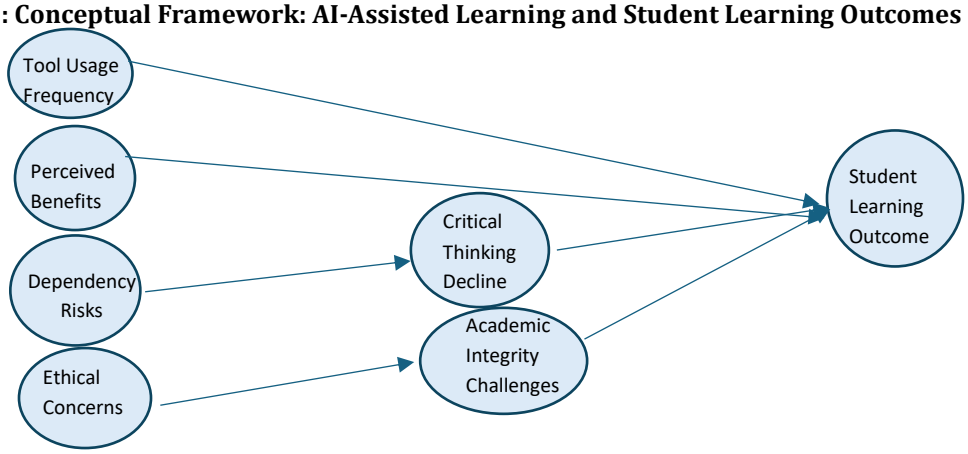
Ethical Considerations

This study adheres to university research ethics guidelines and complies with data protection regulations, including the General Data Protection Regulation (GDPR) for European participants. All participants provide informed consent, ensuring voluntary participation. To maintain anonymity and confidentiality, personally identifiable information is removed from responses. The collected data is securely stored using encrypted databases, and participants retain the right to withdraw from the study at any stage. No deceptive practices are used, and transparency is maintained throughout the research process.

Conceptual Framework

The conceptual framework visually represents the relationships between AI-assisted learning factors and student learning outcomes. It integrates variables such as AI tool usage, perceived benefits, dependency risks, and ethical concerns, examining their direct and indirect impact on student academic performance.

Figure 1: Conceptual Framework: AI-Assisted Learning and Student Learning Outcomes



4. Findings

Descriptive Statistics

Table 1 presents the demographic characteristics of the 383 university students who participated in this study.

Table 1: Demographic Profile

			Frequency	Per cent	Valid Percent	Cumulative Percent
Age	Valid	1.00	305	79.6	79.6	79.6
		2.00	77	20.1	20.1	99.7
		4.00	1	.3	.3	100.0
		Total	383	100.0	100.0	
Gender	Valid	1.00	92	24.0	24.0	24.0
		2.00	291	76.0	76.0	100.0
		Total	383	100.0	100.0	
Education	Valid	1.00	373	97.4	97.4	97.4
		2.00	10	2.6	2.6	100.0
		Total	383	100.0	100.0	

The majority of respondents (79.6%) fall within the 18-22 age range, suggesting that findings primarily reflect the experiences of undergraduate students in the early academic stages. The sample is predominantly female (76.0%), which may influence the generalizability of AI adoption patterns across genders. Additionally, 97.4% of respondents are undergraduate students, indicating that AI-assisted learning insights are largely derived from undergraduate experiences.

Correlation Analysis (Pearson Correlation)

A Pearson correlation test was conducted to examine the relationship between AI usage frequency and academic performance.

Table 2: Correlations

		Use frequently	Academic performance
Use frequently	Pearson Correlation	1	.251**
	Sig. (2-tailed)		.000
	N	383	383
Academic performance	Pearson Correlation	.251**	1
	Sig. (2-tailed)	.000	
	N	383	383

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

The results indicate a positive correlation ($r = 0.251$, $p < 0.01$) between AI usage frequency and academic performance, suggesting that increased AI adoption is associated with better academic outcomes. These findings support the hypothesis (H1) that AI tools improve student efficiency and learning performance.

Hypothesis Testing Results

H1: AI Tools Improve Student Efficiency and Learning Outcomes

The Pearson correlation analysis supports H1, confirming that frequent AI tool usage positively correlates with academic performance ($r = 0.251$, $p < 0.01$). This finding suggests that AI-assisted learning tools enhance students' efficiency and outcomes by providing adaptive learning support and streamlining study efforts.

H2: AI-Assisted Tools Encourage Over-Reliance and Reduce Critical Thinking

An independent samples t-test was conducted to compare perceptions of critical thinking enhancement among low and high AI users.

Table 3: Independent Samples T-Test for AI Usage and Critical Thinking

	Usage frequency	N	Mean	Std. Deviation	Std. Error Mean
Enhance critical thinking	1.00	4	3.0000	.81650	.40825
	5.00	61	4.0164	.80606	.10320

Table 4: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Enhance critical thinking	Equal variances assumed	.176	.676	-2.442	63	.017	-1.01639	.41629	-1.84828	-.18450
	Equal variances not assumed.			-2.414	3.395	.085	-1.01639	.42109	-2.27246	.23968

Results reveal that students with high AI usage (M = 4.016, SD = 0.806) reported significantly higher critical thinking scores than those with low AI usage (M = 3.00, SD = 0.816), t = -2.442, p = 0.017. These findings do not support H2, as AI usage appears to enhance rather than reduce critical thinking. Contrary to concerns about AI leading to passive learning, students who frequently engage with AI tools reported greater perceived critical thinking abilities. This suggests that structured AI usage may facilitate cognitive engagement rather than diminishing problem-solving skills. Thus, H2 is NOT supported, as AI usage enhances rather than diminishes critical thinking skills.

H3: AI Tools Impact Academic Integrity and Ethical Learning Behaviors

A Chi-square test was conducted to assess whether AI reliance is associated with concerns about academic integrity and over-reliance.

Table 5: Chi-Square Tests for AI Usage and Over-Reliance

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	35.533[a]	16	.003
Likelihood Ratio	37.104	16	.002
Linear-by-Linear Association	.043	1	.835
N of Valid Cases	383		

a. 10 cells (40.0%) have expected count less than 5. The minimum expected count is .01.

The Chi-square test ($\chi^2(16) = 35.533$, p = 0.003) confirms that AI usage significantly influences ethical concerns related to academic integrity. This supports H3, indicating that frequent AI users are more likely to express ethical concerns about over-reliance and potential misuse in academic settings.

Table 6: Summary of Hypothesis Testing

Hypothesis	Result	Interpretation
H1: AI tools improve student efficiency and learning outcomes.	**Supported**	AI usage positively correlates with academic performance (**r = 0.251, p < 0.01**).
H2: AI-assisted tools encourage over-reliance and reduce critical thinking.	**Not Supported**	AI usage enhances rather than reduces critical thinking (**t = -2.442, p = 0.017**).

H3: AI tools impact academic integrity and ethical learning behaviours.	**Supported**	AI usage is significantly related to concerns about over-reliance (**$\chi^2(16) = 35.533$, $p = 0.003$**).

Discussion

AI and Student Learning Efficiency

The positive correlation ($r = 0.251$, $p < 0.01$) supports prior research indicating that AI enhances learning efficiency (Ward et al., 2024; Zakaria et al., 2024). AI-powered learning tools provide adaptive learning, automate tasks, and offer real-time feedback, improving academic performance. From a Technology Acceptance Model (TAM) perspective, AI tools are perceived as useful and easy to integrate into academic routines, reinforcing their growing role in education.

AI Usage and Critical Thinking Development

Contrary to initial concerns, the t-test results ($t = -2.442$, $p = 0.017$) indicate that higher AI usage correlates with enhanced critical thinking skills. These findings align with Self-Regulated Learning (SRL) theory, suggesting that AI functions as a cognitive scaffold, guiding students toward self-directed learning rather than replacing cognitive effort (Deshmukh & Mehta, 2025).

Prior research has found that AI fosters analytical reasoning and cognitive flexibility by offering diverse perspectives and problem-solving strategies (Wu et al., 2025; Tzirides et al., 2025). However, some studies have suggested that AI's effectiveness depends on how it is integrated into learning, as passive AI consumption may still hinder independent problem-solving abilities (Williams & Beam, 2019). From an SRL perspective, AI supports self-directed learning, reinforcing the idea that structured AI engagement enhances cognitive development rather than replacing critical thinking skills. Future research should explore the long-term effects of AI usage on cognitive engagement to better understand its role in active versus passive learning processes.

AI Usage and Academic Integrity Concerns

The Chi-square test results ($\chi^2(16) = 35.533$, $p = 0.003$) confirm that frequent AI users express significant ethical concerns about over-reliance and academic integrity. These findings align with prior research highlighting that AI tools can facilitate plagiarism and automated content generation (Bùi & Tong, 2025).
From a TAM perspective, while AI is perceived as useful, its unregulated adoption leads to ethical dilemmas, underscoring the need for clear institutional guidelines on AI ethics. Universities must develop AI literacy programs and implement academic integrity policies to prevent misuse while fostering responsible AI engagement.

Practical Implications for Universities and Educators

The findings highlight the necessity for universities to develop structured AI integration strategies that enhance learning while upholding academic integrity. AI tools should complement, rather than replace, traditional learning methods, fostering self-regulated learning and critical thinking. Implementing AI literacy programs is essential to educate students on responsible AI usage, ensuring they critically engage with AI-generated content rather than relying on it passively.

As there are grave AI-facilitated plagiarism and academic dishonesty concerns, universities need to make sure to revise their assessment strategies, prioritising problem-solving, analytical reasoning, and creativity rather than memorisation-based evaluations. Multimodal evaluations, peer assessments, and project-based learning are alternative models for assessment that can increase originality and discourage unethical AI use. Furthermore, AI detection tools should be improved to signal the difference between responsible AI assistance and academic misbehaviour for the sake of maintaining integrity policies in the space of fair enforcement.
Institutions should also establish comprehensive AI policies defining acceptable AI applications (e.g., grammar checking, research assistance) and unethical practices (e.g., AI-generated essays, plagiarism). Interdisciplinary collaborations among educators, technologists, and ethicists can help shape best practices for AI adoption. By prioritising transparency, accountability, and responsible AI governance, universities can create an ethical AI-enhanced learning environment that maximises educational benefits while safeguarding academic standards.

Limitations of the Study

Despite its contributions, this study has several limitations that should be acknowledged.

First, the study relies on self-reported survey data, which may introduce response bias as students might overestimate or underestimate their AI usage and its impact. Future research should incorporate objective performance metrics such as academic records or AI usage logs to enhance validity. Second, the sample consists predominantly of undergraduate students (97.4%), limiting the generalizability of the findings to postgraduate and professional education contexts. Future research should include a more diverse sample encompassing graduate students, educators, and industry professionals.

Third, this study is cross-sectional, capturing perceptions at a single point in time. Given the rapid evolution of AI technologies, future studies should adopt longitudinal research designs to assess AI's long-term impact on learning behaviours and academic integrity. Fourth, disciplinary differences in AI adoption were not explored in depth. AI's role varies across academic fields—enhancing computational efficiency in STEM, improving research synthesis in social sciences, and raising ethical concerns in the humanities. Future research should analyse discipline-specific AI applications to inform tailored institutional policies.

Finally, this study focuses solely on higher education, excluding AI's impact on K-12 education, corporate training, and informal learning environments. As AI continues to shape lifelong learning and workforce development, future studies should explore its broader educational implications beyond university settings.

Despite these limitations, this study contributes valuable insights into AI's role in education, offering practical recommendations for AI adoption, academic integrity policies, and critical thinking development.

Directions for Future Research

Future research should address key gaps to explore AI's impact on education further.

First, longitudinal studies are needed to assess AI's long-term effects on learning, cognitive engagement, and academic integrity, determining whether AI fosters sustained academic improvement or dependency. Second, experimental and mixed-method approaches should be used to combine quantitative surveys, qualitative interviews, and AI usage tracking, providing a holistic understanding of AI's effectiveness and ethical challenges.

Third, discipline-specific AI applications require further investigation, recognising that STEM, humanities, and business studies have distinct AI adoption patterns and ethical considerations. A comparative analysis can help develop customised AI policies across different academic disciplines. Fourth, AI's impact beyond higher education should be explored, including K-12 education, workforce training, and informal learning environments. Understanding how AI affects professional development and career readiness is crucial as AI becomes more integrated into lifelong learning.

Finally, there is a need for research on AI literacy programs and institutional policy frameworks that promote responsible AI use. Studies should assess the effectiveness of AI training programs, academic integrity guidelines, and enforcement mechanisms to ensure ethical and effective AI adoption in education. By addressing these research gaps, future studies can provide comprehensive insights into AI's role in shaping the future of education, ensuring that AI serves as a learning enhancement tool rather than a replacement for cognitive development.

5. Conclusion

This study provides empirical insights into the impact of AI-assisted learning tools on student efficiency, critical thinking, and academic integrity in higher education. The findings confirm that AI enhances learning outcomes, fosters cognitive engagement, and streamlines academic processes. However, concerns about AI-facilitated academic misconduct and ethical implications highlight the need for structured AI governance and literacy programs.

The study supports the assertion that AI tools improve student efficiency by enhancing research capabilities, facilitating personalised learning, and automating repetitive tasks. However, the findings challenge the notion that AI weakens critical thinking, instead suggesting that AI can enhance cognitive engagement when integrated

effectively. This aligns with Self-Regulated Learning (SRL) theory, which emphasises autonomous learning through AI-driven feedback mechanisms.

Despite its benefits, the study underscores valid concerns regarding AI over-reliance and academic integrity. The significant association between frequent AI use and concerns about dependency and misconduct highlights the need for universities to establish clear AI policies that differentiate responsible AI usage from academic dishonesty. Institutions must develop ethical frameworks, adaptive assessments, and AI literacy programs to ensure that AI complements rather than replaces intellectual effort.

By implementing responsible AI governance, higher education institutions can harness AI's full potential while safeguarding academic integrity and critical thinking development, ensuring that AI remains an educational tool for enhancement rather than a shortcut for cognitive effort.

References

Abrar, F., Baig, U. K., Rafique, Z., & Abbas, M. (2025). Cognitive development in the age of AI: How AI tools influence problem solving and creativity in psychological terms. Review of Applied Management and Social Sciences, 8(1), 237-249.

Arbab, A. N., Dhuhli, B. A., Krishnan, Y., & Crisostomo, A. S. (2024, October 14). Student's Utilization and Assistance of AI Tools in Assessment Completion: Perceptions and Implications. *International Linguistics Research*, *7*(3), 1.

Asrifan, A., Said, U. M., Jakob, J. C., & Wanci, R. (2025). AI literacy. Advances in Educational Technologies and Instructional Design, 17-48.

Babai Shishavan, H. (2024). AI in higher education. ASCILITE Publications, 118-126.

Bui, T. T., & Tong, T. V. (2025). The impact of AI writing tools on academic integrity: Unveiling English-majored students' perceptions and practical solutions. AsiaCALL Online Journal, 16(1), 83-110.

Beam, W. B., Scott, P. D., & Wijdicks, E. F. (2019). The physiology of the apnea test for brain death determination in ECMO: arguments for blending carbon dioxide. Neurocritical Care, 31(3), 567-572.

Choi, W. C., Choi, I. C., & Chang, C. I. (2025). The impact of artificial intelligence on education: The applications, advantages, challenges and researchers' perspective.

Crain, C., Ewing, A., Billy, I., & Anush, H. (2025). The advantages and disadvantages of AI in higher education. The Business and Management Review, 15(03).

Cohen, J. (1992). Statistical power analysis. Current directions in psychological science, 1(3), 98-101.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS quarterly, 319-340.

Delello, J. A., Sung, W., Mokhtari, K., Hebert, J., Bronson, A., & De Giuseppe, T. (2025). AI in the classroom: Insights from educators on usage, challenges, and mental health. Education Sciences, 15(2), 113.

Deshmukh, S., & Mehta, M. (2025). AI-enabled self-regulated learning: Reinforcing a proactive workplace culture – a viewpoint. Development and Learning in Organisations: An International Journal.

Elbadiansyah, Sain, Z. H., Shehu Lawal, U., Chansa Thelma, C., & Luqman Aziz, A. (2024). Exploring the role of artificial intelligence in enhancing student motivation and cognitive development in higher education. TechComp Innovations: Journal of Computer Science and Technology, 1(2), 59-67.

Francis, N. J., Jones, S., & Smith, D. P. (2025). Generative AI in higher education: Balancing innovation and integrity. British Journal of Biomedical Science, 81.

Freeman, B., Arriola, K., Cottell, D., Lawlor, E., Erdman, M., Sutherland, T., & Wells, B. (2024). Evaluation of task-specific productivity improvements using a generative artificial intelligence personal assistant tool. American Journal of Artificial Intelligence, 8(2), 68-80.

Fried, M., & Alshibli, M. (n.d.). The impact of AI assistance on student learning: A cross-disciplinary study in STEM education. 2024 ASEE Mid-Atlantic Section Conference Proceedings.

Gerlich, M. (2025). AI tools in society: Impacts on cognitive offloading and the future of critical thinking. Societies, 15(1), 6.

Glick, D., Miedijensky, S., & Zhang, H. (2024). Examining the effect of AI-powered virtual-human training on STEM majors' self-regulated learning behavior. Frontiers in Education, 9.

Hossain, Z., Biswas, M. S., & Khan, G. (2025). AI literacy of library and information science students: A study of Bangladesh, India and Pakistan. Journal of Librarianship and Information Science.

Hutapea, E., Hutabalian, R., & Hartati, R. (2024). Summarising AI applications on student learning efficiency in understanding academic reading materials. Indonesian Journal of Education and Development Research, 3(1), 737-745.

Ismoilovna, A. D. (2025). Harnessing AI tools to enhance foreign language acquisition: Innovations and impacts. American Journal Of Social Sciences And Humanity Research, 5(1), 22-25.

James, T., & Andrews, G. (2024). Levelling the playing field through GenAI: Harnessing artificial intelligence to bridge educational gaps for equity and disadvantaged students. Widening Participation and Lifelong Learning, 26(3), 250-260.

Kohnke, S., & Zaugg, T. (2025). Artificial intelligence: An untapped opportunity for equity and access in STEM education. Education Sciences, 15(1), 68.

Panit, N. (2025). Can critical thinking and AI work together? Observations of science, mathematics, and language instructors. Environment and Social Psychology, 9(11).

Maphalala, M. C., & Ajani, O. A. (2025). Leveraging artificial intelligence as a learning tool in higher education. Interdisciplinary Journal of Education Research, 7(1), a01.

Mauti, J. M., & Ayieko, D. S. (2025). Ethical implications of artificial intelligence in University education. East African Journal of Education Studies, 8(1), 159-167.

Nupur Jain. (2025). AI as a catalyst for educational equity: Addressing global teacher shortages and learning disparities. International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 11(1), 69-76.

Obed, K., Anangisye, W. A., & Sanga, P. (2025). Academic integrity considerations of using ChatGPT in assessment activities among university student teachers. Quality Assurance in Education, 33(2), 305-320.

Octaberlina, L. R., Muslimin, A. I., Chamidah, D., Surur, M., & Mustikawan, A. (2024). Exploring the impact of AI threats on originality and critical thinking in academic writing. Edelweiss Applied Science and Technology, 8(6), 8805-8814.

Radovic, S., & Seidel, N. (2024). Self-regulated learning support in technology-enhanced learning environments: A reliability analysis of the SRL-S rubric. International Journal of Assessment Tools in Education, 11(4), 675-698.

Rodríguez Bermeo, S. D., Lorena Salazar, M., Parra Terán, F. F., Maldonado Calero, J. C., & Albuja Centeno, V. J. (2025). Impact of AI on virtual learning: Self-sufficiency and academic confidence in University students. Ciencia Latina Revista Científica Multidisciplinar, 8(6), 7414-7429.

Tripathi, C. R. (2024). Awareness of artificial intelligence (AI) among undergraduate students. NPRC Journal of Multidisciplinary Research, 1(7), 126-142.

Tzirides, A., Galla, M., Cope, B., & Kalantzis, M. (2025). Thinking through AI: Advancing cognitive and collaborative research for AI in education.

Uppal, K., & Hajian, S. (2024). Students' perceptions of ChatGPT in higher education: A study of academic enhancement, procrastination, and ethical concerns. *European Journal of Educational Research*, 14(1), 199-211.

Wu, Z., Abdul Halim, H., & Mohd Saad, M. R. (2025). Impact of AI-supported multimodal learning environments on EFL students' critical thinking and self-regulation. Proceedings of The International Conference on Modern Research in Education, Teaching and Learning, 4(1), 23-33.

Younas, M., Ali, S., Mahmood, T., Nasimi, R. A., Ashraf, M. K., & Akter, S. (2024). Students' awareness and perception regarding the usage of AI in education at the Government College University, Faisalabad. Journal of Social Sciences Advancement, 5(4), 80-85.

Zary, N. (2024). AI literacy framework (ALiF): A progressive competency development protocol for higher education v1.

Zhao, C. (2025). AI-assisted assessment in higher education: A systematic review. Journal of Educational Technology and Innovation, 6(4).

Kazimova, D., Tazhigulova, G., Shraimanova, G., Zatyneyko, A., & Sharzadin, A. (2025). Transforming University education with AI: A systematic review of technologies, applications, and implications. International Journal of Engineering Pedagogy (iJEP), 15(1), 4-24.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory into practice, 41(2), 64-70.

Journal of Social and Development Sciences
Vol. 15, No. 1, 2025, (ISSN 2221-1152)

Managerial Competency and Profitability of Village Savings and Loan Associations in Mitooma District

Ronald Tugume, John Kule Baguma, *Benjamin Musiita
Faculty of Business and Management Sciences, Mbarara University of Science and Technology, Uganda
*bmusiita@must.ac.ug
Corresponding Author: Dr Benjamin Musiita

Abstract: The research investigates how managerial competency affects the financial success of Village Savings and Loan Associations (VSLAs) operating in the Mitooma District of Uganda. The research investigates rural VSLA underperformance because these organizations serve as essential tools for financial inclusion and community development. The research uses human capital and resource-based theories to define managerial competency through its knowledge and skill, and ability dimensions while studying their effects on Return on Equity, Return on Assets, and Net Interest Margin financial performance metrics. The research used a cross-sectional quantitative approach to gather data from 138 participants who including 124 VSLA chairpersons and 14 Community Development Officers, through structured questionnaires. The analysis of data through Pearson correlations and multiple regression analyses showed that all managerial competency components, including knowledge (β =.147), skills (β =.644), and abilities (β =.194), produced positive and significant predictions of VSLA profitability. The results show that managerial skills play the largest role in determining VSLA profitability. The regression model demonstrated that 48.6% of profitability variation exists, while other contextual elements influence the results. The research demonstrates that leadership capacity-building investments should be considered essential for improving financial outcomes in rural savings groups. The research supports the implementation of customized managerial training programs and practical financial governance modules, and structured mentorship initiatives to boost VSLA sustainability in low-resource settings.

Keywords: *Managerial competence, profitability, VSLAs, Mitooma District.*

1. Background

Availability of formal financial institutions remains low in rural areas of developing countries, forcing the majority of communities to rely on Village Savings and Loan Associations (VSLAs) to access finances (Dawuni, Mabe, & Tahidu, 2021). VSLAs are self-managed, community-operated groups that encourage saving, provide loans, and share profits among members after a cycle (Amponsah et al., 2023). They are mostly useful to women and small-scale farmers who lack access to formal financial organizations (Maganga, 2021). Despite their growing role, the majority of VSLAs lack profitability due to low financial literacy and poor leadership strategies (Okello & Mwesigwa, 2022). Their non-formal characteristics tend to result in unsound loan administration and minimal potential for scaling up (Dawuni, Mabe, & Tahidu, 2021). Within Uganda's Mitooma District, where there are no established banks, VSLAs are the central providers of credit but are nevertheless weak in finance (Amponsah et al., 2023). Profitability in terms of finance is essential to sustain VSLAs and is traditionally measured through drivers like Return on Equity, Return on Assets, and Net Profit Margin (Apreku-Djan et al., 2022). Management efficiency greatly helps to ensure VSLA financial performance improvement (Agrawal, 2021). High-quality managers combine skills, experience, and knowledge to propel their organizations into profitability (Kabii & Kinyua, 2023). Skills include knowledge and finance governance, technical skills in managing financial systems, analytical decision-making skills, and interpersonal communications (Namara, Oyagi, & Bateyo, 2023). High levels of managerial competence were linked with innovation and financial performance improvement of community-based financial groups (Byukusenge, Munene, & Orobia, 2021). Although VSLAs are helping to improve livelihoods in Uganda, their sustainability depends on improving leadership and formalizing their operations (Muwereza, 2024).

Namara, Oyagi, and Bateyo (2023) opine that management abilities are at the heart of the financial performance of community-based financial groups like VSLAs. Proper leadership in bookkeeping, monitoring loans, resolving conflicts, and organizing finances contributes immensely towards transparency and confidence within the group (Sseremba, 2022). Lagu (2023) states that well-run VSLAs post average returns on savings of 22% and on assets of 18%, 74% of money lent out actively, and 63% of members with outstanding loans at any given time. These statistics show decisively the impact of good management on profitability and utilization of

funds (Muwereza, 2024). Conversely, poor managerial skills can lead to ineffective use of funds, low loan recovery rates, and internal disagreement, which decrease the group's financial output (Muhunga Kule, Kamukama, & Nsambu Kijjambu, 2020). Sseremba (2022) further explains that the lack of technical training and administrative training among the leaders is one of the main causes of underperformance in most VSLAs. Where there is adequate financial literacy and regular training, VSLAs will likely have good performance and guarantee long-term member satisfaction (Namara, Oyagi, & Bateyo, 2023). However, access to such resources is scarce in rural Uganda, and most associations are therefore rooted in untrained leadership and capricious decision-making processes (Lagu, 2023). Muwereza (2024) attests that VSLAs with weak leadership structures do not grow beyond their initial capacity, which limits their impact on community development and financial empowerment.

Simelton et al. (2021) hold that building leadership capacity through training and empowerment is essential to improve the performance and sustainability of VSLAs. Financial training equips leaders with the technical ability to manage group operations effectively and make informed decisions (Dawuni, Mabe, & Tahidu, 2021). Most VSLAs in Mitooma District continue to operate without formal training or external intervention, which has significantly affected their profitability and growth (Namara, Oyagi, & Bateyo, 2023). Okello and Mwesigwa (2022) indicate that while VSLAs have increased access to credit, their ability to generate consistent income remains limited by weak organizational frameworks. Amponsah et al. (2023) point out that profitability in VSLAs is not just a function of high savings or loan values but also of how the group is managed effectively and transparently. Maganga (2021) is of the view that without deliberate investment in leadership capacity, VSLAs cannot realize their full potential as drivers of community development. Simelton et al. (2021) confirm that where the leadership is competent and accountable, groups attain better loan repayment, higher member participation, and better record-keeping. The current study, therefore, seeks to determine the effect of managerial competence on the profitability of VSLAs in Mitooma District (Dawuni, Mabe, & Tahidu, 2021). As noted by Muhunga Kule, Kamukama, and Nsambu Kijjambu (2020), leadership capacity building in rural financial institutions is key to enhancing effectiveness and achieving long-term sustainability.

Okello and Mwesigwa (2022) mention that while VSLAs are essential in community development, the majority of them are financially strained. Between 2016 and 2018, the general ROE of VSLAs within Mitooma District declined from 10.3% to 5.7%, much below the national industry benchmark of 12.1% (AYEDI, 2018). This ongoing decline in profitability threatens the group's sustainability and depletes its ability to meet members' financial requirements. While poor fund management, a lack of funds, and prevailing economic conditions have been widely embraced as factors perpetuating this challenge (Alesane, Yussif, & Tetteh Anang, 2019), management ability has remained unaddressed in most research. Sseremba (2022) highlights that management skills can render financial performance as well as the general operations of the savings groups compromised. Agrawal (2021) identifies that organizations are more likely to make better financial decisions, are good at dealing with risks, and invest in innovation to realize improved performance by having competent managers. Strugar Jela et al. (2022) affirm this stance by showing that being emotionally and analytically competent among managers maximizes organizational profitability significantly. That is where this study aims to examine the link between managerial ability and the profitability of VSLAs in Mitooma District. Simelton et al. (2021) recommend strengthening managerial ability in rural financial cooperatives for better decision-making and sustainability. Zainal and Nurdasanah Putri (2021) add that improved governance and leadership capability in community businesses are crucial in ensuring long-term profitability. The present study, therefore, provides timely advice to inform policy-making and improve capacity among VSLA leaders to ensure financial stability and growth of such groups.

2. Literature Review

Managerial competences and profitability

Village Savings and Loan Associations (VSLAs) are now critical financial inclusion and poverty reduction instruments, especially in rural areas. Okello and Mwesigwa (2022) highlight how they improve saving culture, loan accessibility, and household income, especially for women. However, their impact is limited by challenges such as low economic literacy, lack of support from the authorities, and the irregularity of attendance, calling for their long-term sustainability, especially in some rural areas such as the Mitooma District. Abdulai et al. (2022), in research on VSLAs in Ghana, recorded impressive gains such as increased investment in agriculture,

education, and health, but warned that pressure from domestic demands dilutes gains. Their findings also highlight the value of context-specific research, as local social organization, agricultural cycles, and group dynamics, common in Mitooma, could affect performance. Likewise, Maganga (2021) highlights VSLAs' role in women's empowerment in Malawi, though he points out that technical support and mentoring are important for long-term effect; he questions whether such structural support is being made available to women in Mitooma. Good governance and leadership are the keys to VSLA success.

Moreover, Messabia et al. (2023) argue that participatory governance and leadership commitment are crucial for SACCOs' resilience, but then raise an eyebrow at the informal management of member-managed VSLAs led by their members in districts such as Mitooma. Kiruru (2022) attributes the reality that financial sustainability not only calls for effective management but also liquidity and quality assets; major concerns for VSLAs with periodic contributions and seasonally induced financial stress. Zainal and Putri (2021), in the case of Indonesian village businesses, emphasize that there must be relevance of financial products to people's needs or else non-adherence. This finding can be used in Mitooma, where there are differences in household needs and require flexible savings mechanisms and participation from communities. In such environments, governance is not just about leadership roles but also about whether local finance cycles are congruent with group practice; a divergence that, if not addressed, could compromise trust and involvement. Managerial competences directly shape organizational performance, even in grassroots groups like VSLAs.

Additionally, Apreku-Djan et al. (2022) proved that leadership, technical skills, and risk management improve the financial performance of Ghanaian banks; these skills are also critical for informal groups. Agrawal (2021) confirms this by quoting that adaptive leadership is what drives MSME success, a lesson critical to Mitooma's VSLAs, demonstrating fluctuations in income by season. Namara et al. (2023) argue that technical skills dominate interpersonal skills in SACCOs, but in peer-operated VSLAs, softer skills like the ability to resolve conflicts and build trust may be more crucial. Byukusenge et al. (2021) suggest innovation as the bridge between competence and performance, suggesting that VSLA leaders in Mitooma need to adapt practices like mobile money and accommodative lending into the local context. Strugar Jelaa et al. (2022) also highlight emotional intelligence, noting that optimism and empathy can sustain cohesion and engagement; qualities especially important in Mitooma, where VSLAs play the dual roles of emotional support groups. Leadership in such situations, then, must incorporate technical expertise, innovation, and emotional sensitivity to ensure long-term success.

Manager's Knowledge and Profitability

Managerial expertise has emerged as a key driver of profitability in various financial institutions, and its relevance is especially crucial in grassroots financial structures such as Village Savings and Loans Associations (VSLAs). Krstić et al. (2023) conducted research among knowledge-intensive and smart firms to enhance profitability measurement by incorporating intellectual capital, a significant knowledge-based asset that may not be recorded in traditional financial statements. The work introduced the approach to Efficiency of Intellectual Capital (EIC) as a more satisfactory means for expressing knowledge contribution as an input of intellectual capital on financial outputs, with an illustration that it must substitute traditional Return on Assets (ROA) with Return on Total Employed Resources (EOR). Adopting observations made from experience gained through using observations in knowledge-firm datasets, the paper revealed that when accounting for intellectual capital, one greatly enhances profitability predictions' correctness. This shift in strategy reflects the new dynamics of contemporary firms where intangible knowledge assets are central to organizational performance. The research approach used in this study included quantitative analysis and conceptual reevaluation of financial measures. This article is especially pertinent to the present study because it highlights the importance of knowledge-based capabilities, particularly those of managers, in driving profitability. However, while the study makes valuable contributions to the knowledge of how knowledge enhances profitability in high-tech environments, it fails to consider grassroots financial institutions like Village Savings and Loans Associations (VSLAs), especially in rural Ugandan environments like Mitooma District. This creates a clear contextual gap, as the intellectual capital and managerial knowledge contribution to low-resource, community-based financial institutions is not well researched.

Gazi et al. (2024) examined the mediating and moderating roles of knowledge management and organizational commitment on customer profitability and loyalty in the Bangladeshi telecommunication sector. Using

structural equation modeling (SEM) and data from 100 consumers collected through online and offline surveys, the study suggested a comprehensive moderated-mediation model. The findings indicated that knowledge management, and its role in customer relationship management (CRM) in particular, plays a critical role in customer satisfaction improvement, which in turn increases customer profitability and loyalty. Secondly, the brand image was found to moderate the above-mentioned relationships, suggesting that abstract variables such as brand perception and knowledge sharing play important roles in financial performance. While this study delineates the role of knowledge-based practices in profitability in service industries, it is limited in its application to large corporate setups with sophisticated technology labs. It is not inclusive in its consideration of how managerial knowledge at the grassroots level affects profitability in informal or semi-formal financial institutions such as VSLAs. This is a significant gap, especially considering that VSLAs operate under much different socioeconomic dynamics where interpersonal skills, local trust, and functional financial ability play a stronger role than either formal CRM systems or brand positioning. This study, as valuable as it is, does not directly address how managerial acumen translates into financial performance in community-based organizations in rural Africa.

Đonlagić Alibegović and Mešanović (2022) researched the impact of knowledge management capabilities on the financial performance of companies in knowledge-intensive sectors in Bosnia and Herzegovina. A survey method was employed during the research to collect data from firms in high-knowledge industries. The results demonstrated a high, positive relationship between knowledge creation, knowledge application, and financial performance in the firms. This means that firms investing in purchasing and installing in-house knowledge assets will be in a position to demonstrate improved financial outcomes. The research employed a quantitative survey approach with emphasis placed on industries where intellectual and knowledge-based assets represent key performance metrics. While the findings support the premise that knowledge is a primary profitability driver, the research context, knowledge-intensive enterprises in Bosnia, is quite distinct from the informal financial sector of VSLAs in Uganda. It does not account for the basic managerial capabilities, record keeping, decision making, and community engagement that are often essential to the success of small, rural financial groups. Thus, this study provides conceptual evidence of the knowledge contribution to profitability but falls short of demonstrating exactly how grassroots managers in VSLAs apply their knowledge to promote group financial outcomes. This gap is what the current study is seeking to close by analyzing the practical knowledge facets (knowledge base, technical competency, analytical capacity, and inter-personal competencies) of VSLA managers in Mitooma District.

Al-Dmour, Al-Dmour, and Rababeh (2021) set their research agenda to commercial banks in Lebanon and explored how knowledge management operates, more precisely, acquisition, integration, and utilization operate in terms of digital financial innovation. The data collected by them, gathered from 181 bank managers via self-administered questionnaires, found that there was a robust positive relationship between knowledge management practices and financial innovation. Remarkably, the study also identified that managerial demographics, more notably experience and job designation, mediated the relationship. This suggests that the depth of a manager's experience and their hierarchical position in the organization can have an impact on how well knowledge turns into innovation. The research utilized a structured quantitative method based on knowledge-based theory and provides significant insights into how knowledge management informs institutional innovation and performance. While this study adds to the body of knowledge and financial performance literature, its focus on digital innovation in formal commercial banking in a middle-income country like Lebanon limits its applicability to informal financial settings like VSLAs in Uganda. Commercial bank managers' demographic characteristics and working patterns are entirely different from those of local VSLA leaders, who might lack formal education or extensive institutional networking. Thus, while the study confirms that knowledge management has a major impact on financial innovation, it does not explore how core managerial knowledge and technical skills impact profitability within rural informal savings groups. This is particularly relevant to the current study, which explores how technical skills and knowledge of VSLA managers in Mitooma District impact the financial performance of their group.

Manager's Skills and Profitability

Managerial skills are commonly acknowledged to be critical in enhancing profitability, particularly in environments where resource optimization, effective leadership, and people relationships are crucial determinants of success in finance. Okwurume (2023) conducted an empirical study whose purpose was to

explore the interaction between organizational profitability (OP) and managerial skills development (MSD) in multinational companies within Rivers State, Nigeria. The research utilized cross-sectional survey research as well as stratified purposive and random sampling to gather a sample of 132 managers from 12 multinational companies. The research used three hypotheses that utilized Spearman's rank order correlation technique to test the data at a significance level of 0.05. The research found that development in conceptual and technical managerial capabilities was not seen to have any statistically significant connection with profitability. However, development in human skills (HSD) like emotional intelligence, interpersonal communication, and team management was discovered to be moderately positively related to profitability. The researcher concluded that while MSD holds promise for potential benefits, external variables such as economic, social, and political circumstances also play an important role in determining profitability to a large extent in big organizations. Importantly, the research indicated that businesses still invest in MSD programs with a high focus on human skills since these were determined to yield the most concrete return on profitability. Furthermore, the study suggested training managers in information management skills to tackle business complexities before their occurrence. Even though findings are for multinational companies that have robust frameworks and assets, they have essential implications for fundamental financial programs like Village Savings and Loans Associations (VSLAs). In the case of rural Uganda's VSLAs, most importantly, the Mitooma District, human skill emphasis best fits because managers of VSLAs tend to utilize interpersonal trust, people mobilization in groups, and team leadership to manage money group funds, as well as group sustainability. However, Okwurume's study does not extend its scope to community or informal financial settings, hence creating a contextual and demographic gap that the present study seeks to fill by examining how building managerial capacity, more so human relations, can influence profitability in rural VSLAs.

Bode (2020) conducted a comprehensive literature-based review to examine the effect of managerial skills on the performance of corporate companies in Nigeria. The review of both theoretical and empirical research synthesis determined the findings in assessing the way various modes of managerial competencies enhance organizational performance. The article emphasized the point that sound and effective managerial capabilities play an essential role in shaping the productivity and overall organizational performance of the workers, subsequently leading to higher profitability at the organizational level. Bode highlighted the importance of having managers current in skills within specialist areas and proposed ongoing training and retraining programs as pivotal mechanisms for maintaining managerial effectiveness. No detailed skill sets like technical skills or conceptual skills were set by the study, but it all-around ratified the importance of multifaceted management skills, guaranteeing the attainment of strategic objectives, efficient use of resources, and enhanced employees' morale. Overall, the paper's findings were that managerial efficiency is a condition necessary to enable better performance and profitability over the long term for business institutions. Such findings are particularly applicable for community-led institutions like VSLAs operating in rural Uganda, where the job of managing is likely to be multifaceted and making both financial as well as social decisions. In such a setting, applied managerial skills, spanning from mere money management to planning, leadership, and coordination, may directly impact group performance and profitability. Bode's work does focus mainly on formal corporate settings, however, which are structurally, resourcefully, and procedurally different from the community-based, informal setting of VSLAs. Thus, even though the study acknowledges the importance of managerial skills, it fails to address the unique needs and situation of managers in rural VSLAs, especially in low-resource contexts like Mitooma District. This failure creates a knowledge gap, which the present study aims to fill through an examination of the impact of context-specific managerial skills on the profitability of VSLAs in a rural Ugandan context.

Ahmad and Ahmad (2021) explored the relationship between managerial skills and performance of small and medium-sized enterprises (SMEs) in Punjab, Pakistan, with a specific focus on strategic planning as the mediating role. Structural equation modeling (SEM) was employed to test the direct and indirect effects of managerial skills on business performance. The findings supported a strong positive relationship between managerial capacity and business performance, and further demonstrated that strategic planning significantly mediates this relationship. That is, while managerial capacity positively affects performance on its own, this effect is significantly amplified when managers also apply such capacity within a strategic planning context. Moreover, the study emphasized the need to utilize managerial competencies in the use of resources to boost the performance of SMEs. Effective planning allows managers to save resources, coordinate teamwork for organizational objectives, and anticipate changes that could impact business performance. In practice, this

means that profitability and sustainability of small enterprises are not only issues of having managerial capabilities at hand but also the degree to which these capabilities are utilized in bringing about well-designed structures and procedures. While the study was conducted in a formalized SME environment, the implications can be transferred to informal financial institutions such as VSLAs, especially in rural environments such as the Mitooma District. VSLAs do not normally employ formal planning documents or strategies, yet the principles of strategic allocation of resources and managerial anticipation remain equally relevant. The research finding shows that training in down-to-earth planning, resource coordination, and monitoring by VSLA managers can significantly increase the profitability of groups. Nevertheless, the climate of SMEs in Pakistan with increased access to infrastructure, resources, and government support mechanisms varies from that of rural Ugandan VSLAs, which have to deal with particular issues such as low levels of literacy, limited access to financial instruments, and dependence on trust within a community. Hence, while Ahmad and Ahmad provide insightful information on the strategic use of managerial competencies, the study does not specifically address how such skills function in informal, community-based financial institutions. This necessitates that the present study explore how managerial skills, in this case, planning and resource utilization, affect the profitability of VSLAs in the rural and resource-limited context of Mitooma District.

Manager's Abilities and Profitability

The notion of managerial capability has become increasingly popular in academic circles in recent times, thanks to its pivotal role in determining firm performance, including profitability. Anggraini and Sholihin (2023), through their systematic review of research spanning 1974 to 2020, gave a broad explanation of how managerial capability has been conceptualized, measured, and related to various organizational outcomes. Their examination, consisting of 120 scholarly papers, demonstrates how managerial effectiveness has evolved from a technically defined structure of narrow skills into a broader construct that involves strategic thinking, resource optimization, and decision-making wisdom. The research categorizes the available scholarship under firm performance, financial decisions, capital markets, and corporate social responsibility, among others. Across these topics, the trend is uniform: firms with extremely capable managers perform below their competitors, particularly in profitability, investment productivity, and adaptability to change. Moreover, the review also notes that the literature remains absent when it comes to examining how managerial ability operates in less formalized settings, including micro-enterprises or rural savings clubs. This has a window of opportunity to examine how management skills, ranging from economic literacy to communication with people and planning, are set to influence profitability within informal financial institutions like Village Savings and Loan Associations (VSLAs) in rural districts like Mitooma District. Given that these institutions are prone to being devoid of formal training systems or regulation, the inborn abilities of the managers can be more vital towards ensuring economic success.

Supporting the empirical experience of this field, Bhutta et al. (2021) conducted research in the environment of an emerging market—Pakistan—and found substantial evidence favoring the relationship between managerial ability and firm performance. Using a sample of 246 listed companies in the Pakistan Stock Exchange between the years 2009 and 2017, their research indicated that companies under the command of extremely talented managers had much higher levels of accounting-based as well as market-based performance. These effects were more pronounced in financially constrained firms, which suggests that managerial ability is a value for strategy when resources are not abundant and external assistance is limited. Noteworthy is that the paper employed strong statistical techniques, a two-stage least squares (2SLS) and Fama-MacBeth regressions, to control for endogeneity and firm differences. The key is that managerial ability yields intangible assets, such as better decision-making, efficient resource utilization, and risk management ahead of time, that drive profitability. In rural VSLAs, these are most relevant. Since such groups operate with little capital and under informalized governing structures, the presence of a manager who is not only competent but also versatile and inventive can be the reason an association either thrives or fails. A manager's competence in assessing lending risks, mobilizing member contributions, and record keeping can enhance members' confidence and the profitability of the group in the long run. Accordingly, evaluating managerial ability should be a strategic priority for enhancing the operational efficiency of VSLAs.

Managerial ability as a factor determining company performance is also made complex by its interaction with internal structures, like the allocation of capital, and external factors, like economic downturns. Ting et al. (2021), employing an empirical analysis of the Taiwanese electronics sector, demonstrated that managerial

ability positively affects company performance, with the capital structure acting as a mediator. More efficient managers were associated with firms with lower debt, which in turn contributed to superior financial performance. This finding supports the fact that not only do superior managers perform better in isolation but also drive firm-level financial choices that contribute to long-run profitability. Meanwhile, Oskouei and Sureshjani (2021) researched the effects of managerial talent during financial and economic crises and determined that high-talent managers engaged in less real earnings management, a manipulative act widely used to demonstrate an excellent financial performance. Their conclusion suggests that good managerial ability enhances good practice and sound financial reporting, which are badly required in tumultuous times. Applying these findings to VSLAs in Mitooma District, it is clear that a manager's competence is not only essential in day-to-day management but also when finances are tight or during an economic crisis. Managers who can manage such a situation masterfully—avoiding adverse lending habits, maintaining member trust, and strategically re-allocating resources—can safeguard the profitability of the association. This points to the need for training and selecting VSLA leaders based on observable skills, specifically financial management skills, problem-solving skills, and future planning. Identification of the mediating and moderating factors that determine how managerial skill impacts profitability will inform possible interventions to support the performance of VSLAs in rural Uganda.

3. Methodology

Research Design: The study adopted a cross-sectional research design, which enabled data collection from a diverse group of respondents within a specific period. This design was suitable because it allowed the researcher to gather views from a wide sample quickly and efficiently. The study used a quantitative approach to collect and analyze numerical data, enhancing objectivity and precision (Sedgwick, 2014; Sreejesh et al., 2014).

Study Population and Sampling: The study targeted all 180 registered Village Savings and Loan Associations (VSLAs) from 14 sub-counties and town councils in Mitooma District, along with 14 Community Development Officers (CDOs). A sample size of 124 VSLAs was determined using Yamane's (1967) formula with a margin of error of 5%. Simple random sampling was applied to select VSLA chairpersons, while purposive sampling was used to include all 14 CDOs, making a total sample size of 138 respondents. The number of VSLAs per sub-county was proportionately allocated to reflect their population sizes.

Data Collection Methods and Instruments: Quantitative data were collected using self-administered closed-ended questionnaires, distributed to 124 VSLA chairpersons and 14 CDOs. The questionnaire served as the main tool for primary data collection and was designed to capture information relevant to the study variables. To ensure validity, three experts evaluated the questionnaire using a relevance scale, and a Content Validity Index (CVI) greater than 0.7 was achieved, confirming its suitability (Shi et al., 2012; Davies et al., 2018).

Data Processing, Analysis and Interpretation: Collected data were cleaned, coded, and categorized for consistency before being analyzed using SPSS version 21. Descriptive statistics such as frequencies and percentages were used to summarize demographic data, while inferential statistics, including Pearson correlation and hierarchical regression, were employed to examine relationships between study variables. Data were presented in tables to ensure clarity and ease of interpretation.

Operationalization and measurement of variables

Table 1: Operationalization and Measurement of Variables

Variables	Dimension	Definition	Measurement	Sample Items
Managerial Competence	Knowledge	Understanding of financial, operational, and managerial practices relevant to VSLA management.	5-point Likert scale (Strongly Disagree to Strongly Agree)	I understand VSLA financial practices.
	Skills	Practical abilities to carry out VSLA functions such as planning, organizing, and record-keeping.	5-point Likert scale	I can prepare VSLA reports.
	Abilities	Capacity to mobilize members, manage conflicts, and ensure group discipline.	5-point Likert scale	I handle group issues effectively.
Profitability	Return on Equity	The net income earned as a percentage of members' equity (savings and shares).	Ratio calculation	What is your return on equity?
	Return on Assets	Efficiency in using assets (cash, loans, etc.) to generate profit.	Ratio calculation	What is your return on assets?
	Net Interest Margin	Difference between interest earned from loans and interest paid on savings.	Ratio calculation	What is your net interest margin?

4. Results of the Study

Table 2: Demographic Characteristics of the participants

Category	Details	Frequency	Percent (%)	Cumulative Percent (%)
Response Rate	VSLA Chairpersons	124	89.9	89.9
	CDOs	14	10.1	100.0
	Total	**138**	**100.0**	
Gender	Female	59	42.8	42.8
	Male	79	57.2	100.0
	Total	**138**	**100.0**	
Education Level	Postgraduate	2	1.4	1.4
	Degree	30	21.7	23.1
	Diploma	16	11.6	34.7
	Secondary	70	50.7	85.4
	Primary	20	14.5	100.0
	Total	**138**	**100.0**	
Time Spent in Business	Above 6 years	8	5.8	5.8
	Between 4 and 6 years	28	20.3	26.1
	Between 2 and 4 years	74	53.6	79.7
	Less than 2 years	28	20.3	100.0
	Total	**138**	**100.0**	

Source: Primary data

The table illustrates the response rate and most significant demographic characteristics of the study sample. It shows that a total of 138 anticipated respondents were included in the study, a response rate of 100%, out of which 124 (89.9%) were VSLA chairpersons and 14 (10.1%) community development officers (CDOs). In terms of gender, most were males (57.2%) compared to 42.8% females, which was relatively representative of the genders. The level of education on the highest available was discovered so that the participants' major had secondary schooling (50.7%), whereas others had primary (14.5%), degree (21.7%), diploma (11.6%), and

comparatively relatively few had postgraduate qualifications (1.4%). It shows respondents had reasonably sufficient educational achievements to provide well-informed responses. For business time, 53.6% had 2–4 years, 20.3% had less than 2 years, another 20.3% had 4–6 years, and 5.8% had over 6 years, indicating that the respondents had direct experience and understanding of VSLA operations.

Table 3: Demographic characteristics of the unit of analysis

Demographic Characteristic	Details	Frequency	Percent (%)	Cumulative Percent (%)
Capital Structure	Equity only	70	50.7	50.7
	Equity and Loans	35	25.4	76.1
	Loans, Equity, and Donations	25	18.1	94.2
	Equity and Donations	8	5.8	100.0
Years of Operation	Less than 5 years	80	57.9	57.9
	Between 5 and 10 years	32	23.2	81.1
	Between 10 and 15 years	18	13.0	94.1
	Above 15 years	8	5.9	100.0
Total		138	100.0	

Source: Primary data

The table presents two vital demographic characteristics of the VSLAs in Mitooma District: operation years and mix of capital. Fifty percent of the VSLAs (50.7%) utilized only equity as a source of capital, while 25.4% used both equity and loans, 18.1% used loans, equity, and donations, and only 5.8% used equity and donations. This means that most of the VSLAs are operating with minimal external capital, which may limit their growth potential. About years of operation, the highest percentage (57.9%) had operated for less than 5 years, 23.2% had operated between 5 and 10 years, 13.0% between 10 and 15 years, and only 5.9% had operated for over 15 years. This implies that the majority of the VSLAs are fairly new, and this could have implications for their stability, profitability, and growth.

Correlation analysis results and hypothesis testing

Pearson correlation analysis was conducted to examine the relationship between the study variables. The Pearson product-moment correlation index was used to assess the strength of the relationships. The hypotheses were tested based on levels of significance. All global variables and their respective constructs were coded and correlated with the dependent variable, profitability. The codes and correlations of the constructs were then explained in a brief write-up following the correlation matrix. The study findings are presented in the table below:

Table 4: Pearson Correlation Matrix

Variables	K	S	A	P
Knowledge (K)	1			
Skills (S)	-0.005	1		
Abilities (A)	.602**	-0.059	1	
Profitability of VSLAs (P)	.261**	.631**	.244**	1

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

The results in Table 4 indicate that there is a positive and significant relationship between managerial knowledge and VSLA profitability in Mitooma District ($r = .261$, $p<.01$). This implies that any positive change in managerial knowledge is associated with a positive with VSLA profitability in Mitooma District. The results also indicate that managerial skills have a positive and significant relationship with VSLA profitability in Mitooma District ($r = .631$, $p<.01$). This implies that any positive change in managerial skills is associated with a positive change in VSLA profitability in Mitooma District.

Finally, the results indicate that managerial abilities have a positive and significant relationship with VSLA profitability in Mitooma District (r = .244, p<.01). This implies that any positive change is associated with a positive change in VSLA profitability in Mitooma District.

Table 5: Regression results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.522	0.147		10.343	0.000
	Knowledge	0.065	0.025	0.147	2.612	0.010
	Skills	0.373	0.026	0.644	14.271	0.000
	Abilities	0.122	0.036	0.194	3.427	0.001
R	.701a					
R Square	0.492					
Adjusted R Square	0.486					
F	81.05					
Sig.	.000b					

a. Dependent Variable: Profitability of VSLAs

The results in Table 5 indicate that managerial knowledge was confirmed to be a significant predictor of VSLA profitability in Mitooma District (Beta = .147, p<.01). This implies that a unit increase in managerial knowledge will result in to 0.147 unit increase in VSLA profitability in Mitooma District. The results further indicate that managerial skills are a significant predictor of VSLA profitability in Mitooma District (Beta = 0.644, p<.01). This implies that a unit increase in managerial skills will result in to 0.644 unit increase in VSLA profitability in Mitooma District.

Managerial abilities were also confirmed to be a significant predictor of VSLA profitability in Mitooma District (Beta = .194, p<.01). This implies that a unit increase in managerial abilities will result in a 0.194-unit increase in VSLA profitability in Mitooma District. The results further show that 48.6% (Adjusted R Square =.486) of the variations in VSLA profitability are in Mitooma District. This further implies that the remaining 51.4% is explained by other factors not considered in this study.

Discussion

The findings align with the same study that has highlighted the central role of managerial competency in financial performance. Apreku-Djan et al. (2022) determined that managerial capability plays an important role in value-based financial performance in banks, with efficient management leading to improved financial performance. This agrees with the positive relationship between managerial capability and profitability determined in this current study. Amponsah et al. (2023) also noted that in the case of VSLAs in Northern Ghana, high levels of effective leadership skills were associated with higher productivity and profitability, further confirming that managerial skills are key to the success of such community-based financial institutions. Apart from that, Byukusenge et al. (2021) depicted in their study of Rwandan SMEs that managerial competence directly influenced firm performance through better decision-making and innovation, further supporting the assertion that VSLAs in Mitooma District could also benefit from better managerial leadership. Finally, Kabii and Kinyua (2023) expounded on the role of managerial competence being a keystone to the survival of business and financial viability, highlighting that improved leadership within financial institutions can be translated into more sustainable profitability. All these studies together corroborate the findings of this study and highlight the importance of managerial competency in raising the financial performance of VSLAs in Mitooma District.

5. Conclusion and Recommendations

Conclusion: The study's findings conclude that managerial competency has a significant influence on the profitability of the Village Savings and Loan Associations (VSLAs) in Mitooma District. From the analysis, a high positive correlation (r=0.658**) between managerial competency and financial performance was established, with significant relationships among the individual constructs of knowledge, skills, traits, and abilities. The low mean values of both managerial competency (2.98) and profitability (2.77), combined with high standard deviations, indicate inconsistency in leadership capability and financial performance in VSLAs. The results affirm that low managerial competency is a reason for low profitability, whereas improved leadership will most likely result in positive financial results.

Recommendations: It is thus advised that capacity-building interventions and specialized training be brought in to develop the managerial competencies of VSLA leaders in Mitooma District. Special focus should be laid on developing practical skills, financial knowledge, and leadership attributes that directly influence better decision-making and effective use of resources. Local governments and development partners should also provide high priority to supporting leadership development initiatives in financial institutions at the local level. Development of leadership ability will help reduce variability in performance and promote more sustainable profitability for the district VSLAs.

References

Abdulai, A.-G., Tetteh, E. N., & Asante-Addo, C. (2022). The Impact of Village Savings and Loan Associations (VSLAs) on Agricultural Investment and Household Welfare in Ghana. Journal of Development Studies, 58(2), 324–340.

Agrawal, A. (2021). Impact of Leaders' Competency on the Profitability of the Micro, Small, and Medium Enterprise. *Global Journal of Enterprise Information System, 13*(3), 20–34.

Ahmad, I., & Ahmad, S. B. (2021). Effect of managerial skills on the performance of small- and medium-sized enterprises: A case study in Pakistan. *The Journal of Asian Finance, Economics and Business, 8*(4), 161–170.

Al-Dmour, A., Al-Dmour, R., & Rababeh, N. (2021). The impact of knowledge management practice on digital financial innovation: the role of bank managers. *VINE Journal of Information and Knowledge Management Systems, 51*(3), 492–514.

Alesane, A., Yussif, K., & Tetteh Anang, B. (2019). Determinants of Village Savings and Loans Association membership and savings amounts in Awutu Senya West District of Ghana. *Cogent Economics & Finance (just-accepted)*, 1707004.

Ameer, A., Naz, F., Gul Taj, B., & Ameer, I. (2022). The impact of managers' personality traits on project success through affective professional commitment: the moderating role of organizational project management maturity system. *Journal of Facilities Management, 20*(2), 284–305.

Amponsah, D., Awunyo-Vitor, D., Wongnaa, C. A., Prah, S., Sunday, O. A., & Acheampong, P. P. (2023). The impact of women groundnut farmers' participation in Village Savings and Loans Association (VSLA) in Northern Ghana. *Journal of Agriculture and Food Research, 11*, 100481.

Anggraini, P. G., & Sholihin, M. (2023). What do we know about managerial ability? A systematic literature review. *Management Review Quarterly, 73*(1), 1–30.

Apreku-Djan, P. K., Ameyaw, F., Ayittah, S. K., Opare, E. A., & Apreku, I. K. O. (2022). Effect of managerial competence on value-based financial performance of banks. *International Journal of Academic Research in Business and Social Sciences, 12*(7), 692–726.

Bhutta, M. K. S., Rana, A. I., & Asad, M. (2021). Trade Facilitation Reforms and Firm Performance: Evidence from an Emerging Market. *Journal of International Trade and Economic Development*, 30(8), 1172–1191.

Bode, B. B. (2020). A Review on the Influence of Managerial Skills of Managers on Performance of Corporate Organizations in Nigeria. *International Journal of Management Science and Entrepreneurship, 19*(7), 196–208.

Byukusenge, E., Munene, J. C., & Orobia, L. A. (2021). Managerial competencies and business performance: innovation as a mediator in Rwandan SMEs. *International Journal of Law and Management, 63*(5), 445–463.

Davies, M., Nutley, S., & Hughes, J. (2018). Evidence-Based Policy Making: What is it? How does it work? What relevance for developing countries? University of St. Andrews, Research Unit for Research Utilization (RURU).

Dawuni, P., Mabe, F. N., & Tahidu, O. D. (2021). Effects of village savings and loan associations on agricultural value productivity in the Northern Region of Ghana. *Agricultural Finance Review, 81*(5), 657–674.

Đonlagić Alibegović, S., & Mešanović, M. (2022). Knowledge management implications for the financial performance: A survey analysis. *Management: Journal of Contemporary Management Issues, 27*(2), 247–260.

Gazi, M. A. I., Al Mamun, A., Al Masud, A., Senathirajah, A. R. B. S., & Rahman, T. (2024). The relationship between CRM, knowledge management, organization commitment, customer profitability, and customer loyalty in the telecommunication industry: The mediating role of customer satisfaction and the moderating role of brand image. *Journal of Open Innovation: Technology, Market, and Complexity, 10*(1), 100227.

Inam Bhutta, A., Sheikh, M. F., Munir, A., Naz, A., & Saif, I. (2021). Managerial ability and firm performance: Evidence from an emerging market. *Cogent Business & Management, 8*(1), 1879449.

Kabii, L. K. K., & Kinyua, G. (2023). Managerial competencies and business continuity: A review of literature. *International Journal of Education and Research, 11*(2), 65–90.

Kiruru, A. K. (2022). *Effect of Management Efficiency on Financial Performance of Deposit-taking Saccos in Kenya* (Doctoral dissertation, University of Nairobi).

Krstić, B., Bonić, L., Rađenović, T., Jovanović Vujatović, M., & Ognjanović, J. (2023). Improving profitability measurement: impact of intellectual capital efficiency on return on total employed resources in smart and knowledge-intensive companies. *Sustainability, 15*(15), 12076.

Lagu, Y. E. (2023). Financial Management of Village Savings and Loans Associations in West Nile, Uganda. *Financial Management, 9*(1).

Maganga, A. (2021). Impact of microfinance village savings and loan associations on women's empowerment and resilience against vulnerability in Malawi. *International Journal of Rural Management, 17*(2), 190–212.

Messabia, N., Beauvoir, E., & Kooli, C. (2023). Governance and management of a savings and credit cooperative: The successful example of a Haitian SACCO. *Vision, 27*(3), 397–409.

Muhunga Kule, B. J., Kamukama, N., & Nsambu Kijjambu, F. (2020). Credit management systems and financial performance of savings and credit cooperatives (SACCOS) in mid-western Uganda.

Muwereza, N. (2024). Village saving and loan associations and their contribution to employment creation: Evidence from smallholder farmers from eight districts in Uganda.

Namara, B., Oyagi, B., & Bateyo, A. (2023). Managerial competences and financial performance of savings and credit cooperatives in south western Uganda; A cross-sectional study.

Ndichu, J. K. (2021). *Effect of Credit Management Practices on Loan Performance in Self-Help Groups in Kenya* (Doctoral dissertation, KCA University).

Okello, T., & Mwesigwa, D. (2022). Analyzing the significance of village savings and loan association (VSLA) to community development in Uganda.

Okwurume, C. (2023). Managerial skills development and organizational profitability of multinational companies in Rivers State. *International Academy Journal of Management, Marketing and Entrepreneurial Studies, 10*(1), 16–32.

Oskouei, Z. H., & Sureshjani, Z. H. (2021). Studying the relationship between managerial ability and real earnings management in economic and financial crisis conditions. *International Journal of Finance & Economics, 26*(3), 4574–4589.

Sarwoko, E., & Nurfarida, I. N. (2021). Entrepreneurial marketing: Between entrepreneurial personality traits and business performance. *Entrepreneurial Business and Economics Review, 9*(2), 105–118.

Sedai, A. K., Vasudevan, R., & Pena, A. A. (2021). Friends and benefits? Endogenous rotating savings and credit associations as an alternative for women's empowerment in India. *World Development, 145*, 105515.

Sedgwick, P. (2014). Cross-sectional studies: Advantages and disadvantages. BMJ, 348, g2276.

Shi, J., Mo, X., & Sun, Z. (2012). Content Validity Index in Scale Development. Journal of Central South University (Medical Sciences), 37(2), 152–155.

Simelton, E., Mulia, R., Nguyen, T. T., Duong, T. M., Le, H. X., Tran, L. H., & Halbherr, L. (2021). Women's involvement in coffee agroforestry value-chains: Financial training, Village Savings and Loans Associations, and decision-making power in Northwest Vietnam.

Sreejesh, S., Mohapatra, S., & Anusree, M. R. (2014). Business Research Methods: An Applied Orientation. Springer.

Sseremba, J. K. (2022). *Managerial competence and performance of savings and Credit co-operative societies (SACCOs) in Uganda. A case of Walimu Sacco in Kampala* (Doctoral dissertation, Nkumba University).

Strugar Jelača, M., Bjekić, R., Berber, N., Aleksić, M., Slavić, A., & Marić, S. (2022). Impact of managers' emotional competencies on organizational performance. *Sustainability, 14*(14), 8800.

Ting, I. W. K., Tebourbi, I., Lu, W. M., & Kweh, Q. L. (2021). The effects of managerial ability on firm performance and the mediating role of capital structure: evidence from Taiwan. *Financial Innovation, 7*, 1–23.

Yamane, T. (1967). Statistics: An Introductory Analysis (2nd ed.). Harper and Row.

YEDI. (2018). African Youth Empowerment and Development Initiative (AYEDI); Village Savings and Loan Associations. Paper presented at The Bantwana Initiative of World Education, Inc., Bantwana.

Zainal, F. N. P., & Nurdasanah Putri, F. (2021, December). Government Management in Village-Owned Enterprises in Increasing Village Original Income In Kampar District. In *ICLSSE 2021: Proceedings of the 3rd International Conference on Law, Social Sciences, and Education, ICLSSE,* 9, 169.

Zell, E., & Lesick, T. L. (2022). Big five personality traits and performance: A quantitative synthesis of 50+ meta-analyses. *Journal of Personality, 90*(4), 559–573.