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Mobile Money Regulation and MSMEs Finance-Gap in Africa - Evidence Across Varying Income-Level Economies

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ABSTRACT

Micro, small and medium-sized enterprises (MSMEs) contribute significantly to economic development across Africa, but limited access to finance continues to hinder their growth and sustainability. Mobile money offers opportunities to improve financial inclusion, although the role of regulation in addressing the MSMEs financing gap remains unclear. This study examines the relationship between bank-led and non-bank-led mobile money regulatory dimensions and the MSMEs financing gap in low and lower-middle-income African economies. The study adopts a quantitative explanatory design and uses secondary data from the World Bank and the GSMA. It applies Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess the relationships between regulatory dimensions and the financing gap. The reported findings show significant relationships between the financing gap and all four bank-led regulatory dimensions: transparency requirements, international remittance, identity management and interoperability. For non-bank-led regulation, consumer protection and policy enablement show significant relationships with the financing gap, while integrity does not. The statistical results for authorisation require further verification before its significance can be determined. Overall, the findings show that different regulatory dimensions have different relationships with MSMEs financing. The study highlights the need for policymakers and financial regulators to consider the role of mobile money regulation in promoting financial inclusion and improving the financing environment for MSMEs across Africa.

1. Introduction

The foundation of Africa's economy is made up of small and medium businesses popularly known as MSMEs as it accounts for over 90% of all businesses and about 80% of all jobs in the continent (World Bank, 2023). Despite the enormous contribution of MSMEs and its future potentials to African economy, the growing complexities and uncertainties of the business environment have led to an increasingly dynamic, turbulent and low-survival rate in the subsector (Mazanai & Fatoki, 2012; Tuffour et al., 2022). Significant among the various complexities and growth-barriers is MSMEs access to external funding and financing facilities as cited by Carvajal and Didier (2024) that about 60% of MSMEs lack access to institutional credit in Africa. Over time, the peculiar nature and attributes of MSMEs made formal financial institutions sceptical about lending to the sub-sector (World Bank, 2020). The financial providers hence introduced stringent measures and stiffer lending practices that would potentially reduce credit access to small firms. The lending practices such as high interest rates, collateral requirements, long documentation timing and increased processing cost among others pose major threats to most small-scale enterprises hence acclaimed to discourage them from credit market participation (Gbandi & Amissah, 2014). To a large extent, this has hampered credit access to small firms resulting in an increasing growth gap in the sub-sector unlike their large counterparts. Due to the above, many small and medium firms in African continent are expanding their supply chains, forming strategic alliances, downsizing and restructuring; all of which increase uncertainty, hence, create intense complexity regardless of huge prospects for opportunities as provided by globalization and advances in technology.

Though MSMEs make up 90.5% of all documented enterprises and provide roughly 50% in GDP of most African nations. The World Bank (2023) argued that entrepreneurs still confront with substantial growth challenges beyond the conventional barrier of obtaining funding. A robust African economy depends on meeting the needs of this subsector and thereby enabling them to realize their full potentials. This suggests that the financial industry generally finds it difficult to fully assist budding MSMEs towards actualizing their potentials for growth and expansion thereby hindering inclusive growth of the continent. Inclusive growth has been a major challenge in African economy considering the increasing level of inequality, income disparity and the surging finance-gap to fuel budding enterprises in the continent. On one hand, several authors and recent studies on MSMEs financing suggest that income level to a large extent affect the growth of MSMEs thus influence national economic output (Engidaw, 2022). On the other hand, literature emphasised the potential contribution of mobile money and the antecedence of weak regulations across Africa. However, evidences from various national economies in Africa still record a huge gap in MSMEs survival due to various economic shocks and weak policies inclusive of mobile money regulations and there are insignificant empirical studies to address this (Abdul, 2026; Mouhtat & Touhami, 2024).

As Africa furthers its digital transformation path, mobile money is increasingly acknowledged as a potent stimulant for the expansion of MSMEs, the emergence of entrepreneurship and inclusive economic participation. Therefore, policymakers, financial institutions and development practitioners must comprehend the function of mobile money vis-avis its impact on MSMEs financing in an attempt to promote sustainable economic development across the continent. According to Greenacre (2018), in order to protect customers from fraud, cybercrime, financial abuse and to guarantee the security, stability and transparency of digital financial transactions, mobile money regulation is crucial in Africa. In other word, a reliable environment for a long-term expansion of digital financial services to MSMEs is created by effective regulation, which also fosters financial inclusion, innovation and interoperability. Despite its significant potential, the effect of mobile banking on the growth of MSMEs in Africa is not consistent. Numerous contextual elements, such as digital literacy, legal contexts, mobile network availability and trust in fintech services, influence the efficacy of mobile money as strategy for financial inclusion of MSMEs. This research therefore intends to examine the extent to which mobile money regulation affect MSMEs finance-gap in varying income-level of African economies in a bid to providing an alternative pathway for

emerging financing model towards actualizing inclusive growth. The broad objective of this study is to examine the extent to which mobile money regulation influences MSMEs finance-gap across varying income-level of African economies. The specific objectives are to:

i. examines the relationship between bank-led mobile money regulations on MSMEs finance-gap in low and low-middle income economies of Africa.

ii. investigate the correlation between non-bank mobile money regulations on MSMEs finance-gap in low and low-middle income economies of Africa.

2. Literature review

MSMEs and Mobile Money in Africa

Globally, MSMEs remained the core driver of economic activity as it accounts for over 90% of all businesses, over 70% of employment and 50% of Gross Domestic Product (International Finance Corporation, 2025). However, MSMEs' ability to expand and generate employment in emerging markets and developing economies (EMDEs) is still severely hampered by lack of access to financial services. Statistics on MSMEs contribution to African economy signifies that the subsector is critical to advancing African emerging economy in term of job creation, innovation and commercialization of inventions. According to the World Economic Forum (2024), a robust and growing MSMEs sector in Africa will generally boost national revenue, creates jobs, expands the tax base and frees up funds for social and economic infrastructure. Therefore, in modern African society, MSMEs have become key players in the larger eco-system and the world economy of firms' operations.

Generally, in most emerging African economies, MSMEs subsector accounts for seven out of ten formal employments generated (World Bank, 2023). Consequently, it is essential to consciously support MSMEs' through creating friendly environment and favourable policy considerations to bridge their growth-gaps thereby creating inclusive continent's economic advancement. More so, across African continent and regardless of income-level, MSMEs have significant roles in achieving various developmental goals that may include encouraging equitable and sustainable economic growth, giving everyone access to jobs and decent labour, supporting innovation, minimising income disparities and reducing poverty level (Iwedi, 2021; Mouhtat & Touhami, 2024).

Globally, the MSMEs finance gap which is the unmet potential demand for financing was valued at US$5.2 trillion in 2016 and increased to US$5.7 trillion in 2019, with about US$1.9tr for women-led MSMEs (International Finance Corporation, 2025). MSMEs subsector in the Sub-Saharan Africa has an unmet funding requirement of $331 billion (African Export-Import Bank, 2025; International Finance Corporation, 2025). According to Engidaw (2022) and Izzul et al. (2026), the huge finance gap constitutes a significant barrier to MSMEs capacity to make investments in growth, innovation and increased productivity. The MSMEs subsector is the backbone of African economies. Nonetheless, historically, the lack of collateral, short credit services and seeming inability to meet stringent lending conditions by the conventional banks have made it difficult for them to obtain external funding required for operational expansion. Hence, MSMEs are frequently regarded as high-risk firms devoid of major lending and investment by traditional financial institutions like banks.

Across varying income-level of Africa, MSMEs have a major role in creating jobs, reducing poverty and boosting the economy (International Finance Corporation, 2025; Ndung'u et al., 2026). However, many MSMEs that operate within the informal sector do encounter challenges such as inadequate financial access, high transaction costs, ineffective banking delivery and cash-flow management difficulties. To a large extent, mobile money addresses these challenges by devising a convenient, affordable and secured platform for conducting financial transaction, including payments, savings, money-transfers and access to credit. Mobile money adoption has significantly aided MSMEs to improve operational efficiency, increase

customer-base, reduce dependence on cash transactions and participate more effectively in the digital economy. Furthermore, mobile money supports business resilience by facilitating faster transactions, enhancing financial record-keeping and creating opportunities for access to digital financial products.

The emergence of mobile money is rapidly changing financial services in Africa and significantly influencing MSMEs' access to financing (Mpofu, 2025). In communities with limited traditional banking infrastructure, mobile money which enables users to store, transmit and receive money via telephones, have become an innovative tool of change in areas with inadequate traditional banking infrastructure. The impact of mobile money on the financial inclusion of MSMEs in Africa and the regulatory framework is examined in this study, alongside the extent to which these services have facilitated financial inclusion between formal and informal financial systems. Over past decades, the financial inclusion of the Africa MSMEs subsector has increased significantly largely due to the high adoption of mobile money system (GSMA, 2025). The MSMEs subsector is still working to increase total account access and usage as well as more equitable access according to age, gender, income and education. Furthermore, millions of adults in Sub-Saharan Africa still receive or make regular payments in cash, despite the fact that mobile money payments are becoming more widespread (African Export-Import Bank, 2025). This suggests ways to improve financial inclusion by digitizing payments.

Although the financing gap for MSMEs in Africa continues to pose a significant development concern, but, in another lens, same remains a huge market opportunity for financial service providers who can offer profitable and sustainable products to fill the gap (Abdul, 2026). Furthermore, Basson and Omoruyi (2025) emphasised that the financial market to MSMEs has long been constrained by high perceived risk to diverse range of MSMEs operators and managers who play crucial roles in Africa's supply chains, including manufacturing, services and agriculture. Recent advances in technology and data analytics are shifting the paradigm, making it increasingly viable to lend to MSMEs based on digital footprints powered by new innovations and fintech rather than traditional paper documentation and the judgment of relationship officers (Jagtiani & Lemieux, 2019). In Africa, more digital service providers outside the conventional financial services providers are beginning to recognize opportunities in MSMEs financing with its rewarding and promising potentials. Research indicates that market leaders have the capacity to outperform traditional banks in terms of returns on equity, assets and profitability. Hence, the need for African banks and other financial service providers to prioritizing innovative service offering to MSMEs.

Table 1. MSME Financing Supply, Potential Demand and Financing Gap in Selected African Economies

Country	Income	MSME Current Volume	MSME Potential Demand	MSME Finance Gap	Finance Gap (as % of GDP)
South Africa	Upper-Middle	40,341,696,818	91,598,004,197,750	51,256,307,380	13.69%
Tunisia	Lower-Middle	9,436,178,810	15,480,750,702	6,044,571,892	14.15%
Nigeria	Lower-Middle	8,621,262,054	129,810,234,453	121,188,972,399	29.82%
Kenya	Lower-Middle	5,245,955,432	23,504,822,825	18,258,867,393	20.89%
Ghana	Lower-Middle	3,306,947,530	14,690,501,984	11,383,554,454	18.05%
Angola	Lower-Middle	3,085,552,653	14,010,429,552	10,924,876,899	10.55%
Egypt	Lower-Middle	2,557,865,087	68,375,627,153	65,817,762,066	23.49%
Ethiopia	Low-income	2,033,508,537	9,552,046,270	7,518,537,733	8.94%

Country	Income	MSME Current Volume	MSME Potential Demand	MSME Finance Gap	Finance Gap (as % of GDP)
Côte d'Ivoire	Lower-Middle	1,922,591,352	6,539,873,641	4,617,282,289	8.55%
Zambia	Lower-Middle	1,786,199,623	2,574,381,508	788,181,885	3.27%
Tanzania	Lower-Middle	1,784,774,583	9,247,884,081	7,463,109,499	13.49%
Cameroon	Lower-Middle	1,678,766,538	16,897,142,316	15,218,375,779	40.70%
Mali	Low-income	1,073,064,851	1,538,141,066	465,076,216	2.92%
Congo	Lower-Middle	825,518,861	1,660,329,285	834,810,425	7.00%
Sudan	Low-income	801,158,162	13,055,450,468	12,254,292,305	34.76%

Source: World Bank, 2025

Mobile Money and Financial Inclusion in Africa

The literature has extensively established the phenomena of financial constraints of MSMEs particularly in emerging nations. Due to the above evidence in literature, numerous studies have clearly demonstrated these constraints that have led to the concept of an MSMEs funding gap (African Development Bank, 2024; African Export-Import Bank, 2025). On the other hand, the MSMEs finance gap has provided a huge market opportunity for alternative finance model to explore. In recent time, mobile money has significantly provided an alternative finance model for small businesses in Africa (Izzul et al., 2026). In other words, mobile money has become an emerging model and a viable alternative for young entrepreneurs and MSMEs financing in Africa. Hence, mobile money accounts for a sizable share of economic transactions in an increasing number of emerging nations of Africa.

Across Africa and in other developing regions, about two billion people have no access to conventional bank accounts (Greenacre, 2018). As a result, formal, electronic payment systems have not been accessible to members of this "unbanked" minority, who are typically the poorest citizens of developing nations. This community has is forced to rely on cash-based payment platforms rather than any other platforms. Approximately 1.6 billion unbanked people worldwide currently have access to mobile phones due to the fast-shifting economic landscape and the continued proliferation of mobile phones throughout developing nations (African Development Bank, 2024; GSMA, 2023). The weak access to any other payment platforms outside the cash transaction has not only limited the scope of business operations for small businesses, but limit investment opportunities and ultimately increased poverty level.

Mobile telecommunication companies have identified this opportunity and taken advantage of the growing penetration of mobile telecom to provide ‘mobile money’ payment services in most emerging or developing economies of Africa. Small business owners can use mobile money services, thereby having equal access to the same payment platforms features as offered by bank-based systems (GSMA, 2025). In this manner, small business owners have the opportunity to deposit cash into an account, hold money indefinitely, transfer money via SMS text messages to other mobile money users and/or exchange a portion of it for cash. Furthermore, individual owner of mobile money may typically use local agents’ networks, such as corner stores or other retail enterprises, to deposit and or withdraw money. For many of its users, mobile money seems to offer substantial economic and developmental advantages, as customers who are accessibility to mobile money would potentially with higher revenue, be in better position for higher investment opportunities and, better equipped to handle economic pressure (Bongomin et al., 2022).

In general, mobile money refers to the practice of using mobile phone networks to conduct financial transactions with funds maintained by mobile network operators (MNOs). Mobile money and wallets are defined by the International Monetary Fund (2019) as a pay-as-you-go digital medium of exchange and store of value through mobile applications offered by MNOs. According to Demirgüç-Kunt et al. (2022), mobile money is a financial product or service that is provided by Mobile Network Operators (MNOs) or any organisation that collaborates with MNOs. In terms of its functionality, mobile money refers to all the various initiatives (such as long-distance remittance, micro-payments and informal airtime) designed to use mobile telephony technology to offer financial services to the unbanked and convenience to the banked (African Development Bank, 2024).

According to Ernst & Young (2009), "mobile money" is synonymous with "mobile wallet," "mobile financial service," and "mobile payment," and it simply refers to services that facilitate and/or support electronic money transactions like account access, money transfers and mobile commerce via a mobile phone or telephony-aided devices. Accordingly, there are two mobile financial models in Africa, bank-led and nonbank-led. While the latter refers to a transformative outreach primarily aimed at the unbanked community, the former implies additional services provided by the bank to current customers through mobile banking applications. According to Bongomin et al. (2022), mobile banking that enables customers to access their bank accounts using their phones is distinct from mobile money. Most significantly, users of mobile money are not obliged to hold an account with a conventional bank or financial institution and can only conduct transactions through MNOs. In this regards, mobile money is an innovative product that is easily accessible, especially for the majority of MSMEs and the unbanked people in rural communities. Financial inclusion entails giving people and organisations access to practical and reasonably priced financial services and products such loans, deposits, insurance, payments and other related services (African Export-Import Bank, 2025).

Mobile Money Market and Regulation in Africa

Globally and especially in emerging countries in Africa, the emergence of digital financial services and financial technology (fintech) solutions has demonstrated a huge potential for financial inclusion. In several African nations, access to financial services has been transformed by digital platforms including mobile money services (Bongomin et al., 2022). For example, millions of unbanked population and businesses now have easier access to credit, savings and payments courtesy of financial services like M-Pesa in Kenya; EcoCash in Zimbabwe; Opay and Moniepoint in Nigeria; Momo and GhanaPay in Ghana; and, Zapper and Skrill in South Africa (Jagtiani & Lemieux, 2019). These innovative financial technology services have reduced MSMEs' dependency on conventional banking systems by providing new alternatives for funding. Accordingly, fintech platforms can provide MSMEs with more flexible and customized financial products, easy accessibility to finance and frequently at lower rates. In a similar vein, Jagtiani and Lemieux (2019) highlighted that employing alternative data, like transaction histories and social media activity, enables better credit risk assessment, ultimately expanding financing options for MSMEs with short financial histories.

Mobile money is the primary transaction train that drives daily financial transactions in several African marketplaces. Onoriode and Paschal (2025) opined that Africa's contemporary financial markets organically develop on mobile money infrastructure. It provides distribution, scalability and accessibility in a manner that traditional rails find difficult to match. Mobile money is the primary transaction train that drives daily financial transactions in many African markets. The financial system includes bill payment, collections, transfers, disbursements and agent cash-in/cash-out. Because mobile money infrastructure facilitates size, accessibility and distribution in a manner that traditional rails find difficult to match, African financial markets naturally revolve around it. Africa is at the forefront of a financial revolution and mobile money is its engine (African Export-Import Bank, 2025). In many regions of the continent, mobile money

services have surpassed traditional banking infrastructure with hundreds of millions of active users, providing services to previously unbanked and underbanked population (GSMA, 2024).

Across different regions and income-level in Africa, mobile money has thrived well in past decade (African Development Bank, 2025; International Finance Corporation, 2025). The African mobile money market is vibrant, dynamic and highly competitive with several giants leading the pace (African Development Bank, 2024). Accordingly, Africa is fast evolving in financial innovation powered by mobile money adoption. In this regards, mobile money services with hundreds of millions of active users, have surpassed the traditional banking infrastructure in many regions of the continent, giving previously unbanked and underbanked communities and businesses vital financial tools. The majority of the most successful mobile money providers in Africa are currently expanding their offerings, providing more individuals and small enterprises access to credit facilities, savings account opportunities, mobile-enabled insurance products and other relevant services (GSMA, 2025).

In 2024, there were over 2.1 billion registered accounts for the services of mobile money globally and this accounts for a 14% annual increase (GSMA, 2025). Similarly, the monthly active accounts increased by 11% to 514 million. The adoption and usage of mobile money in west and east Africa accounted for the majority of the growth for both measures. More report form GSMA (2025) provides that mobile money accounts handled almost 108 billion transactions totalling more than $1.68 trillion in 2024. Additionally, the expansion of mobile money agent networks across the globe has been facilitated by its spontaneous growth in Sub-Saharan Africa. More than 28 million mobile money agents were registered in the region in 2024, which is 20% higher than in 2023. About 10 million of them were monthly active, which represents a 17% yearly growth. Furthermore, with an average income per user increasing from $2.86 in 2023 to $3.51 in 2024, mobile money presents organizations and business units with a strong financial case for the unbanked individuals and small businesses.

Table 2. Mobile Money Regulatory Index

General Information		Index Score	Dimension Scores					
Country	Year	Index	Transparency Requirements	Authorisation	Consumer Protection	Integrity	Operation Oversight, Organisation & Governance	Policy Enablement
South Africa	2024	79.27	52.00	90.00	83.33	83.33	81.70	78.13
South Africa	2025	79.27	52.00	90.00	83.33	83.33	81.70	78.13
Tunisia	2024	79.19	68.75	89.95	66.67	93.33	68.00	81.25
Tunisia	2025	79.19	68.75	89.95	66.67	93.33	68.00	81.25
Nigeria	2024	84.59	100.00	85.00	100.00	100.00	66.00	56.25
Nigeria	2025	86.09	100.00	85.00	100.00	100.00	76.00	56.25
Kenya	2024	88.00	100.00	100.00	100.00	60.00	95.00	65.00
Kenya	2025	88.00	100.00	100.00	100.00	60.00	95.00	65.00

General Information		Index Score	Dimension Scores					
Country	Year	Index	Transparency Requirements	Authorisation	Consumer Protection	Integrity	Operation Oversight, Organisation & Governance	Policy Enablement
Ghana	2024	95.06	100.00	100.00	100.00	93.33	90.00	83.75
Ghana	2025	96.19	100.00	100.00	100.00	93.33	85.00	96.25

Source: GSMA Report, 2025

Africa remains global giant in mobile money operations; therefore, Africa's mobile money revolution is not only a regional success story but a global paradigm shift, demonstrating how technology can empower communities and close the financial gaps. Significantly, countries across varying income-levels in Africa have adopted mobile money as a tool to bridge MSMEs finance gap providing alternative model for small business growth. According to GSMA (2025), the successful launch and operations of M-Pesa, which has established standards for mobile financial services has placed Kenya as the global leader in mobile money. It was reported that over 77% of Kenyans actively utilize mobile money services, such as Airtel Money, T-Kash and Equitel Money (Communications Authority of Kenya, 2025). These systems make it simple for customers to send money, pay bills, access savings and apply for credit facilities via mobile money service

3. Methodology

This study adopts a quantitative explanatory research design as the study uses secondary data from the World Bank and GSMA database; it analyses existing cross-national evidence. Prior to PLS-SEM analysis, the extracted secondary data undergo data screening and preparation. The procedure involves checking for outliers, incorrect country codes, missing observations, duplicate records and disparities in measuring scales. To estimate the measurement and structural models, the study uses Partial Least Squares Structural Equation Modelling (PLS-SEM), as it accommodates multidimensional constructs in exploratory and prediction-oriented research and is reasonably flexible with regard to distributional assumptions. The determination of validity and reliability of the constructs was carried out through the evaluation of measurement model. Cronbach's alpha and composite reliability are used to assess internal consistency. To evaluate convergent validity, Average Variance Extracted (AVE) was used, while Variance Inflation Factor (VIF) used for collinearity. Statistical significance is evaluated using bootstrapped t-values, p-values and confidence intervals, frequently at the 5% significance level ($p < 0.05$).

The hypotheses were evaluated using the bootstrapped path coefficients, t-statistics, p-values and confidence intervals obtained from the PLS-SEM analysis. Statistical significance was assessed at the 5% significance level ($p < .05$). For each regulatory dimension, the null hypothesis was rejected when the relevant path coefficient was statistically significant and the corresponding p-value was below .05; otherwise, the null hypothesis was not rejected. The direction of each relationship was interpreted based on the sign of the path coefficient and the operational definition of the MSMEs finance-gap variable.

Structural Model Assessment

In this study, structural model evaluates the interactions of endogenous variable, MSMEs finance gap and the exogenous variables, mobile money regulation proxied with - (Transparency Requirement, Int'l Remittance, Identity Management, Interoperability). As a result, the structural model's path coefficient signifies its linkages, R2, F2 and Q2 were all evaluated in the study.

Table 3. Multi-collinearity Test

Variables	N	VIF	Tolerance
Transparency requirement	54	1.023	.542
Int'l Remittance	54	1.000	.941
Identity Management	54	1.030	.495
Interoperability	54	1.010	.336

Source: PLS-SEM Output, 2026

In table 3 above, the VIF values were less than 5, tolerance values were greater than 0.20 and condition indices were less than 30. This demonstrates that multi-collinearity did not arise among the exogenous latent constructs. Thus, the table offers more proof that multicollinearity issues were not present in the study's data.

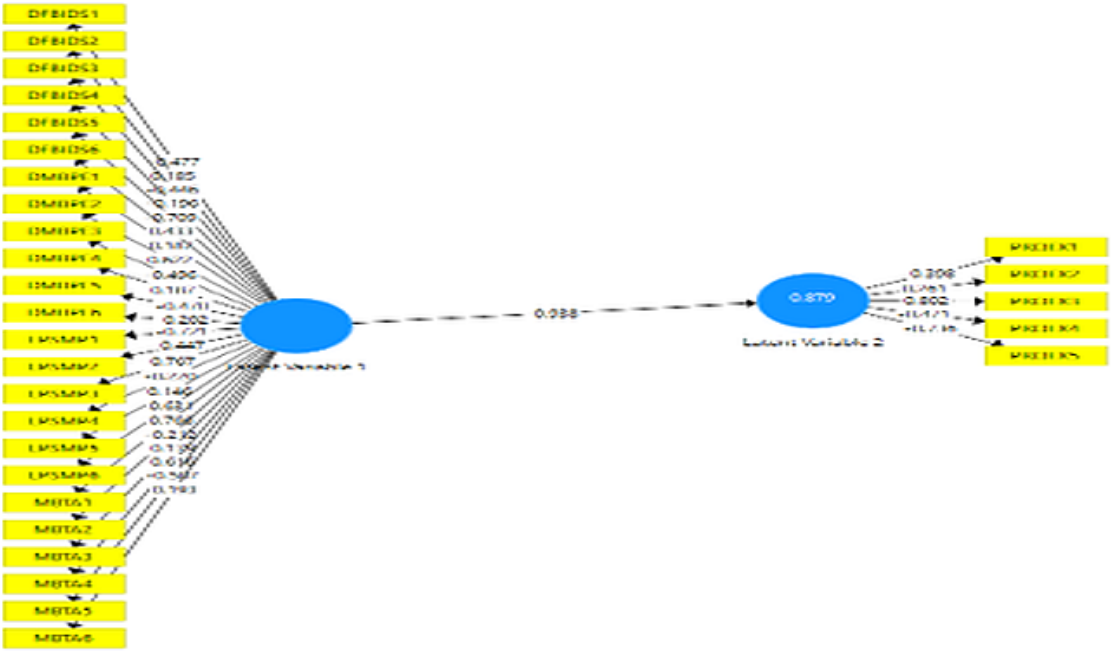


Figure 1. Measurement of variables

Figure 1 displays the path coefficients, t-values and standard error at which the hypotheses were supported or not. The t-values in this study were calculated using 5000 resampling iterations in repetitive bootstrapping. The justification for the selection of 5000 samples is because it ensures that every model parameter has empirical sampling distribution and the standard deviation of the distribution served as proxy of the parameter 's empirical standard error (Hair *et al.,* 2012).

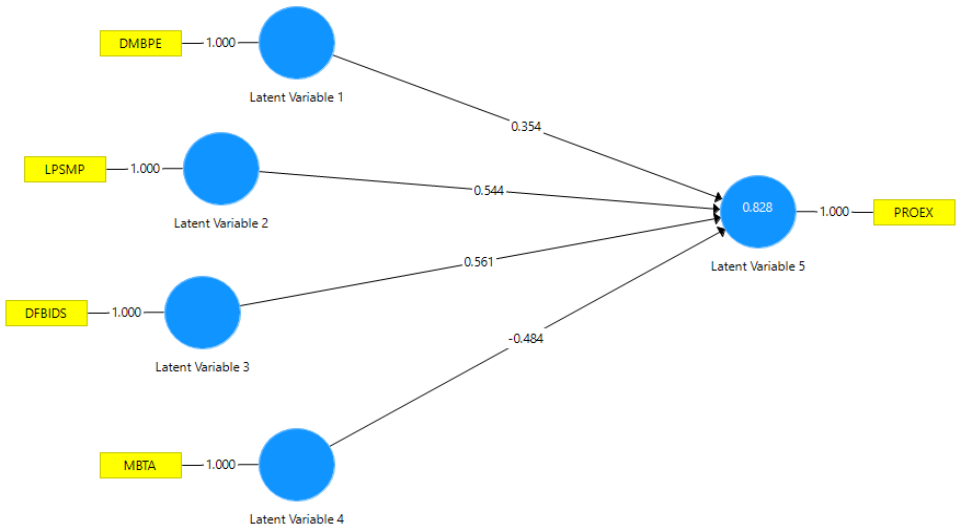


Figure 2. Measurement Model (Algorithm testing)

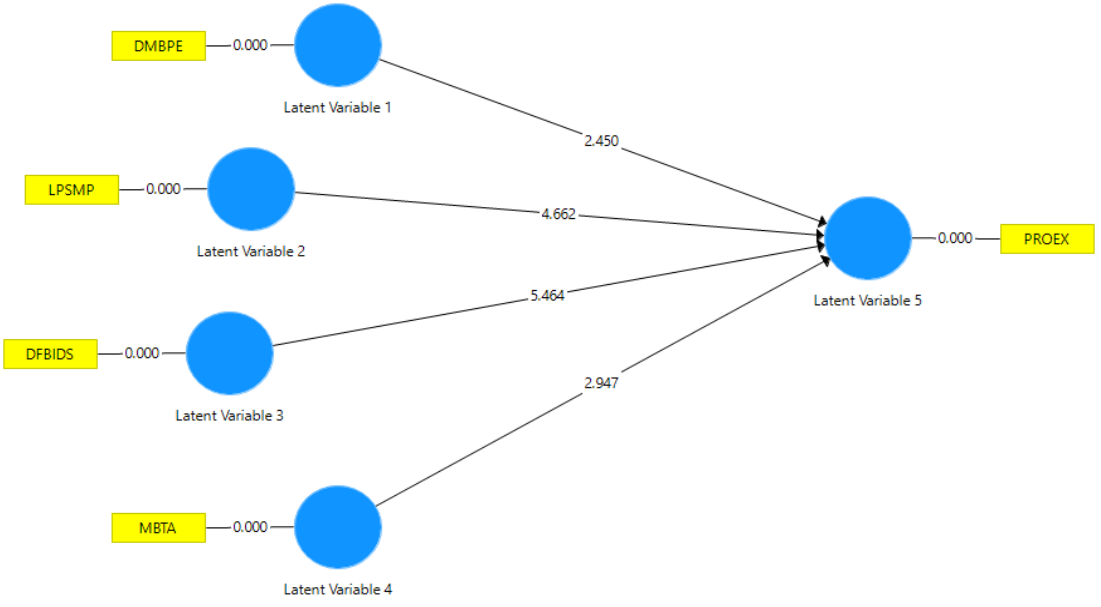


Figure 3. Structural Model (Bootstrapping @5000)

Table 4. Structural Model Results for Bank-Led Mobile Money Regulation and the MSMEs Financing Gap

Constructs	Original-Sample (O)	Sample-Mean (M)	Standard-Deviation (STDEV)	T-Statistics (|O/STDEV|)	P-Values
Transparency requirement -> MSMEs Finance-Gap	0.554	0.386	0.145	2.450	0.005
International Remittance -> MSMEs Finance Gap	0.544	0.568	0.117	4.662	0.001
Identity Management -> MSMEs Finance Gap	0.561	0.542	0.103	5.464	0.001
Interoperability -> MSMEs Finance Gap	0.484	0.518	0.164	2.947	0.003

Source: PLS-SEM Output, 2026

The results in Table 4 indicate statistically significant relationships between all four bank-led mobile money regulatory dimensions and the MSMEs finance gap, based on the reported p-values. Transparency requirements had a positive path coefficient ($\beta = 0.554$, $t = 2.450$, $p = .005$). International remittance also showed a positive path coefficient ($\beta = 0.544$, $t = 4.662$, $p < .001$). Identity management was positively associated with the MSMEs finance gap ($\beta = 0.561$, $t = 5.464$, $p < .001$), while interoperability also showed a positive path coefficient ($\beta = 0.484$, $t = 2.947$, $p = .003$). Subject to verification of the reported statistics, these results support rejecting the dimension-specific null hypotheses for the four relationships. However, the positive coefficients indicate the direction of association only; whether they represent an increase or a reduction in the financing gap depends on how the dependent variable is measured and coded.

Test of Hypothesis 1

H01: Bank-led mobile money regulatory dimensions have no statistically significant relationship with the MSMEs finance gap in low and lower-middle-income African economies.
H1: At least one bank-led mobile money regulatory dimension has a statistically significant relationship with the MSMEs finance gap in low and lower-middle-income African economies.

Test of Hypothesis 2

H02: Non-bank-led mobile money regulatory dimensions have no statistically significant relationship with the MSMEs finance gap in low and lower-middle-income African economies.
H2: At least one non-bank-led mobile money regulatory dimension has a statistically significant relationship with the MSMEs finance gap in low and lower-middle-income African economies.

The above hypothesis predicts the effect of non-bank led mobile money regulations on MSMEs finance gap using multiple regressions analysis.

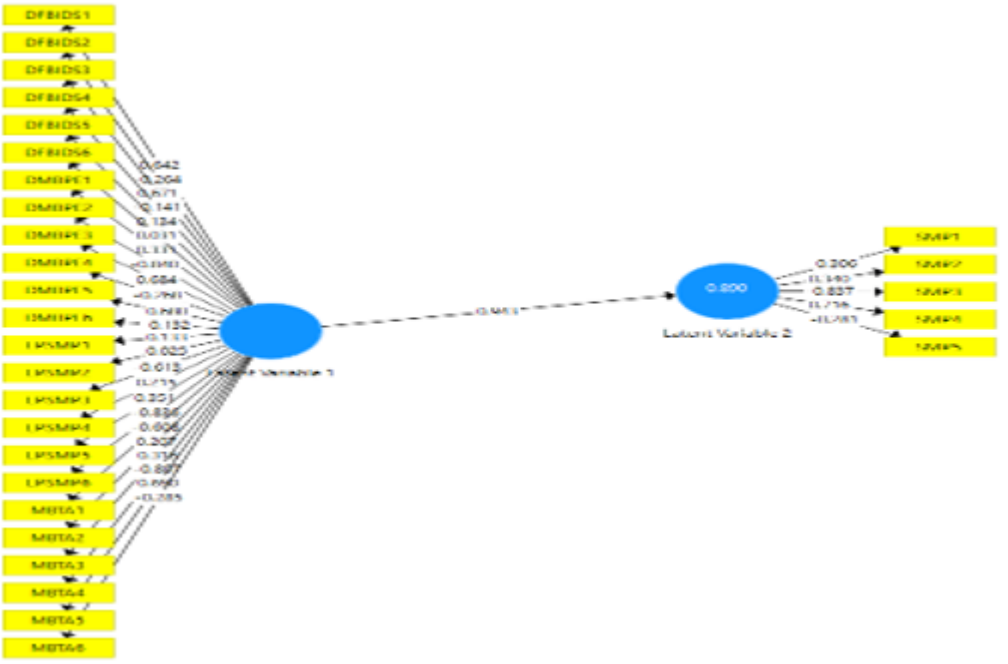


Figure 4. Measurement of variables

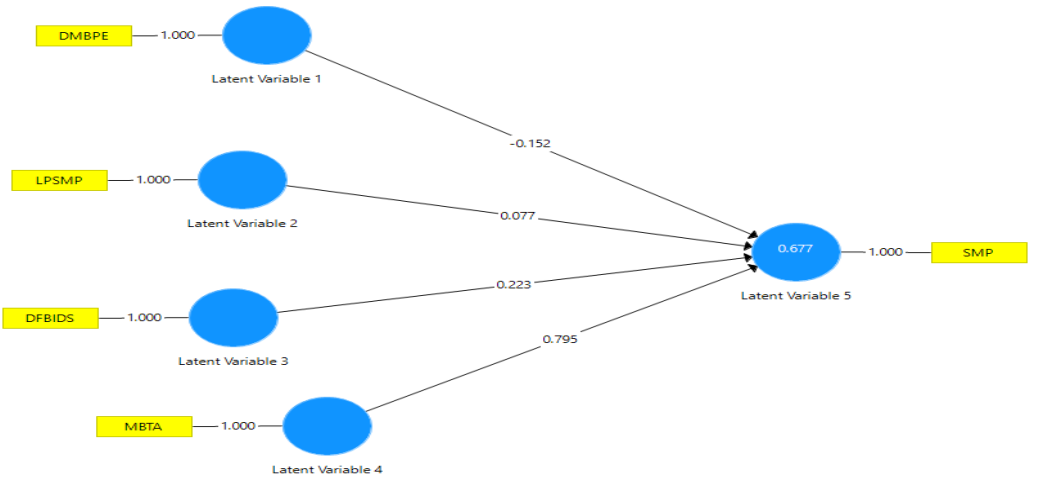


Figure 5. Variable Measurement

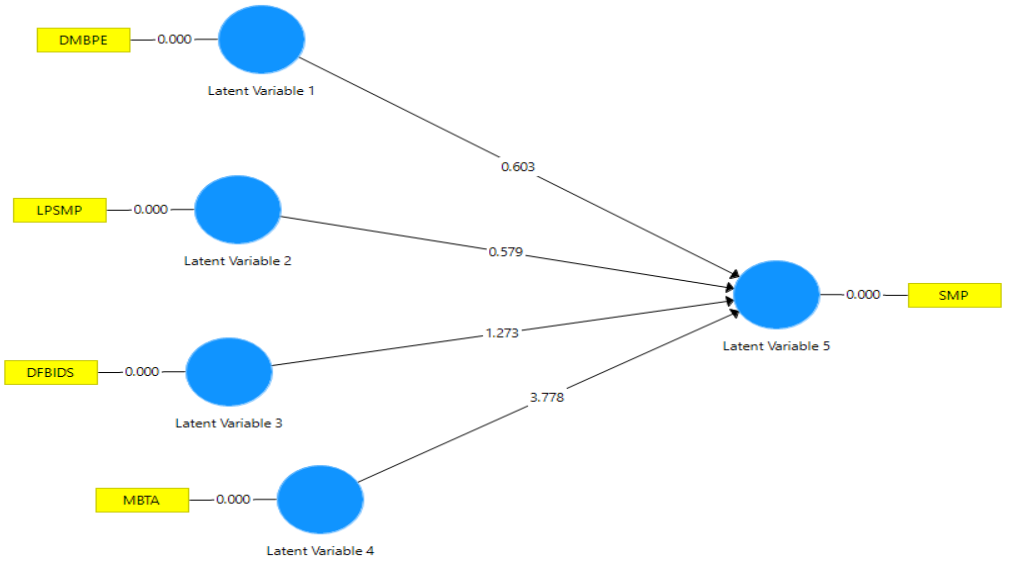


Figure 6. Measurement Model (Algorithm testing)

Table 5. Structural Model Results for Non-Bank-Led Mobile Money Regulation and the MSMEs Financing Gap

Construct	Original-Sample (O)	Sample-Mean (M)	Standard-Deviation (STDEV)	T-Statistics (|O/STDEV|)	P-Values
Consumer protection -> MSMEs finance-gap	5.152	0.471	0.152	5.103	0.000
Integrity -> MSMEs finance gap	0.077	0.068	0.132	0.579	0.563
Authorisation -> MSMEs finance gap	0.223	0.208	0.175	1.273	0.001
Policy enablement -> MSMEs finance gap	0.795	0.810	0.211	3.778	0.000

Source: PLS-SEM Output, 2026

Table 5 reports the relationships between four non-bank-led mobile money regulatory dimensions and the MSMEs finance gap. Based on the reported results, consumer protection was statistically significant ($\beta = 5.152$, $t = 5.103$, $p < .001$) and policy enablement was also statistically significant ($\beta = 0.795$, $t = 3.778$, $p < .001$). In contrast, integrity was not statistically significant ($\beta = 0.077$, $t = 0.579$, $p = .563$). The reported results for authorisation are inconsistent because the table gives $t = 1.273$ and $p = .001$; these values should be checked against the original PLS-SEM output before a conclusion is drawn. Accordingly, the evidence currently reported supports significant relationships for consumer protection and policy enablement, but it does not support the claim that all four dimensions are statistically significant. The overall hypothesis should be evaluated according to the model and testing procedure used, rather than inferred solely from the significance of individual dimensions.

4. Findings and Discussion

The broad objective of this study was to examine the impact of mobile money regulation on the MSMEs finance gap in varying income-level economies of Africa. The findings of the study are indicated by data

extracted from the GSMA and world bank database on mobile money regulatory index of 2024 and 2025 analysed through structural equation models. The findings indicate that the four bank-led mobile money regulatory dimensions were reported as statistically significant in their relationships with the MSMEs finance gap, subject to verification of the reported statistics. For non-bank-led mobile money regulation, consumer protection and policy enablement were reported as statistically significant, whereas integrity was not statistically significant. The reported statistics for authorisation require verification before its significance can be determined. These findings suggest that the relationships between regulatory dimensions and the MSMEs finance gap may differ across dimensions. Therefore, conclusions about the significance of individual regulatory dimensions should be based on their respective path coefficients and verified statistical tests. The findings should not be interpreted as evidence that every non-bank-led regulatory dimension is significant.

The findings of hypothesis one is in alliance with the studies of Achieng and Malatji (2022); Osabutey and Jackson, (2024) and Mpofu (2025); while the results of hypothesis two align with the findings of Umar et al. (2025); Onoriode and Paschal (2025). The study of Achieng and Malatji (2022) and Mpofu (2025) found that MSMEs are key to African economic growth and financial access through a stronger mobile money policy between commercial banks and mobile money operators such that promote interoperability and safe identity management are key institutional solutions. Achieng and Malatji (2022) also found that interoperability of mobile money operators significantly influences access to finance by small businesses in rural areas. Also, Osabutey and Jackson, (2024) found that mobile money with strong policy on privacy and security are essential for MSMEs growth in Africa. On the other hand, Onoriode and Paschal (2025) identified digital literacy, regulatory support and infrastructural integrity among SMEs as moderating factor for mobile money adoption across the Sub-Sahara African region. Umar et al. (2025) found that the wholistic integration of mobile money services as a medium of bridging SMEs finance gap can be demonstrated through effective policy support across Africa and same must exhibit integrity, transparency and enabled for international remittances.

It is found that consumer protection and policy-enablement are enabling regulations that build trust and markets, both expand access to MSMEs funding. While on the other hand, integrity and authorisation are restrictive regulations that control entry and behaviour, both ensure safety but do not by themselves expand access and can even constrain MSMEs. The above justifies the weak relationship of integrity and authorisation on MSMEs finance gap in the study. By implication, the results of the hypotheses have established the significance of mobile money regulation on MSMEs finance gap in varying income economies of Africa. MSMEs have been generally acknowledged as the bedrock of industrial development of nations across the globe and strong financial institutions with diverse offering are strategically expected to provide support for their growth. Though, several research have been conducted on the impact finance on the growth of micro, small and medium scale enterprises in recent time, the result above has established that mobile money regulation have significant effect on financial inclusion of MSMEs in African economy. While some studies found that financial technology has not contributed to the financial inclusion of small businesses and some claimed only little contribution have been made, this finding has empirically established the significant contribution of mobile money regulations on MSMEs finance gap in low income and low and low-middle income economies of Africa.

5. Conclusion

This study investigated mobile money regulation and micro small and medium enterprises' finance gap in varying economy of Africa. Literature assert that mobile money regulation is subcategorized into bank-led and non-bank led. Findings reveal that strong mobile money regulation is a crucial institutional tool with high potential to bridging Africa's MSMEs financing gap. Specifically, the reported results indicate statistically significant relationships between the four bank-led mobile money regulatory dimensions and the MSMEs finance gap, although the corresponding statistics should be verified before final interpretation.

For non-bank-led mobile money regulation, consumer protection and policy enablement were reported as statistically significant, whereas integrity was not statistically significant. The result for authorisation requires verification. These findings indicate that the relationship between mobile money regulatory dimensions and the MSMEs finance gap may vary across dimensions.

Therefore, in Africa, mobile money regulation such that promote trust, increased transparency, user protection, safe digital transactions and inclusion of financial service to the underserved businesses have significant effect on MSMEs finance gap particularly with effective regulations. On one hand, this study concludes that African nations can adopt mobile money services not just as a payment platform but as a platform to improve MSMEs financial inclusion through various digital financial products by creating a stable and attractive regulatory environment. Since a bulk of African small businesses operating in the rural environment have no access to formal banking services and this limits their financial access, mobile money instruments will potentially be an innovative alternative if proper regulations are put in place.

This study also conclude that the strength of mobile money operations depends largely on the quality of existing regulatory framework that allows healthy expansion of their services in meeting the demands of MSMEs in Africa. The study reveals that the pressing areas for regulatory intervention for MSMEs financial inclusion are consumer protection, service integrity, authorisation and enabling policies for interoperability. While enabling policies could promote innovation, competition, interoperability and access to finance; integrity will promote trust and safety of the system; a fit-for-purpose authorisation framework can incentivize responsible players to enter the market and effective consumer protection can increase trust in digital financial services. As a result, in Africa, regulation of mobile money should be geared towards creating an enabling environment that balances financial integrity, consumer protection, with innovation and interoperability rather than focusing on the regulation of mobile money operators and agents alone. As stated, 'policy developments and regulations are necessary drivers in the mobile money industry' (GSMA, 2024). This study buttress and emphasised on GSMA Report that policy development and regulatory changes are essential forces in the mobile money sector.

Furthermore, a collective policy action will be required from African governments and central banks, financial regulators, mobile network operators, financial institutions, fintechs and MSMEs in order to close the African MSMEs financing gap. African governments should increase access to digital infrastructure and financial literacy; strengthen digital ID; clarify regulatory standards; promote interoperability; and develop/support proportionate regulatory frameworks that balance innovation with new risks. The study established that other complementary drivers such as digital infrastructure, affordability, financial literacy, institutional capacity building and credit access need to be considered in order to create long-term and sustainable closures of the gap. However, it highlights mobile money regulation as one avenue to drive financial inclusion when it comes to MSME financing. It is established that effective mobile money regulation will promote MSMEs financial inclusion through lower transaction costs, increase business resilience, thereby bridging the financing-gap.

The study concludes that mobile money being the backbone of global financial inclusion is pertinent for MSMEs growth and how it is regulated directly determines whether it closes or widens the MSMEs finance gap in Africa. A well-designed mobile money regulation can be the single biggest lever to close Africa's MSMEs finance gap estimated at over $330 billion by the World Bank. It does this by turning everyday mobile transactions into credit history, lowering costs and expanding access. Enabling mobile money regulation in Africa can close the MSMEs finance gap by turning digital transaction data into credit histories and lowering payment costs, making capital more accessible to small businesses.

Finally, the study established that mobile money regulation alone cannot completely eliminate the MSMEs financing gap, as access to finance is influenced by several interconnected economic, technological, institutional and social factors. Complementary drivers such as digital infrastructure,

affordability of financial services, financial literacy, institutional capacity, credit information systems, digital identity, availability of appropriate financial products and access to formal credit must therefore be addressed simultaneously. Strengthening these complementary conditions will enable MSMEs to advance above the rudiment of basic mobile transaction towards a more advanced financial service transaction, inclusive of digital credit, savings, insurance, merchant financing and investment opportunities. In this regard, across Africa, effective mobile money regulation should be viewed as part of a broader financial inclusion strategy rather than as an isolated regulatory intervention.

Data Availability:

The data supporting the findings of this study are available from the author upon reasonable request.

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Ethics Approval

Ethical approval and research authorisation was granted by the University of South Africa Research Ethics Management Unit, on 29th July 2026 with Ref #: 14587

Conflict of Interest

The author declares that there is no conflict of interest in this study

Author's Contribution

Adebayo, P.O: Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing – Original Draft, Writing – Review & Editing, Visualization, Project Administration and Funding Acquisition.

Disclosure of AI Use

AI was responsibly used specifically for grammar and spelling checks

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References

Abdul, F. A. (2026). Process improvement as a driver of employee development: A study of SMEs in Southwest Region of Nigeria. *Journal of International Business, Economics and Entrepreneurship, 11*(1), 1–18. https://doi.org/10.24191/jibe.v11i1.7629

Achieng, M. S., & Malatji, M. (2022). Digital transformation of small and medium enterprises in sub-Saharan Africa: A scoping review. *The Journal of Transdisciplinary Research in Southern Africa, 18*(1), 1–13. https://doi.org/10.4102/td.v18i1.1257

African Development Bank. (2024). *African economic outlook 2024: Driving African transformation.* https://www.afdb.org/sites/default/files/documents/publications/african_economic_outlook_aeo_2024_0.pdf

African Development Bank. (2025). *African economic outlook 2025: Making Africa's capital work better for African development.* https://www.afdb.org/sites/default/files/documents/publications/afdb25-01_aeo_highlights_english_020625.pdf

African Export-Import Bank. (2025). *African trade in a changing global financial architecture.* https://media.afreximbank.com/afrexim/African-Trade-Report_2025.pdf

Basson, N., & Omoruyi, O. (2025). Internal and external factors affecting the growth of SMMEs: A qualitative study. *Southern African Journal of Entrepreneurship and Small Business Management, 17*(1), 2–14. https://doi.org/10.4102/sajesbm.v17i1.919

Bongomin, G. O. C., Munene, J. C., & Akol, C. (2022). Financial literacy, financial inclusion and mobile banking in SMEs: Empirical evidence from Uganda. *Journal of African Business, 23*(1), 91–110.

Carvajal, A. F., & Didier, T. (2024). *Boosting SME finance for growth: The case for more effective support policies.* World Bank. http://documents.worldbank.org/curated/en/099092724122562655

Communications Authority of Kenya. (2025). *Fourth quarter sector statistics report for the financial year 2024/25.* https://www.ca.go.ke/sites/default/files/2025-09/Sector%20Statistics%20Report%20Q4%202024-2025_1.pdf

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). *The Global Findex database 2021: Financial inclusion, digital payments and resilience in the age of COVID-19.* World Bank. https://doi.org/10.1596/978-1-4648-1897-4

Engidaw, A. E. (2022). Small businesses and their challenges during COVID-19 pandemic in developing countries: In the case of Ethiopia. *Journal of Innovation and Entrepreneurship, 11*, Article 1. https://doi.org/10.1186/s13731-021-00191-3

Ernst & Young. (2009). *Mobile money: An overview for global telecommunications operators.* https://www.ey.com/

Gbandi, E. C., & Amissah, G. (2014). Financing options for small and medium enterprises (SMEs) in Nigeria. *European Scientific Journal, 10*(1), 327–340. https://eujournal.org/index.php/esj/article/view/2565

Greenacre, J. (2018). *Regulating mobile money: A functional approach.* Pathways for Prosperity Commission. https://pathwayscommission.bsg.ox.ac.uk/Jonathan-Greenacre-paper/

GSMA. (2023). *Mobile money: How digital payments have impacted economic growth.* https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/mobile-money-how-digital-payments-have-impacted-economic-growth/

GSMA. (2024). *The impact of mobile money interoperability on financial inclusion: Evidence from five country case studies.* https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/wp-content/uploads/2024/01/The-impact-of-mobile-interoperability.pdf

GSMA. (2025). *The state of the industry report on mobile money 2025.* https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/the-state-of-the-industry-report-on-mobile-money-2025/

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modelling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414–433. https://doi.org/10.1007/s11747-011-0261-6

International Finance Corporation. (2025). *Factsheet: Micro, small & medium enterprises (MSMEs).* https://www.ifc.org/content/dam/ifc/doclink/latest/msme-s-factsheet-ifc-financial-institutions-group.pdf

International Monetary Fund. (2019). *Annual report 2019: Our connected world.* https://www.imf.org/external/pubs/ft/ar/2019/eng/assets/pdf/imf-annual-report-2019.pdf

Iwedi, M. (2021). Institutional credit and the growth nexus of SMEs in Nigeria: The banking sector perspective. *Journal of Development Economics and Finance, 1*(2), 280–301. https://arfjournals.com/image/78021_4_iwedi.pdf

Izzul, A. H., Jasber, K. G. S., & Rozianawaty, O. (2026). Bridging the digital gap: Factors influencing digital economy adoption in small enterprises. *Journal of International Business, Economics and Entrepreneurship, 11*(1), 32–42. https://doi.org/10.24191/jibe.v11i1.8520

Jagtiani, J., & Lemieux, C. (2019). The roles of alternative data and machine learning in fintech lending: Evidence from the Lending Club consumer platform. *Financial Management, 48*(4), 1009–1029. https://doi.org/10.1111/fima.12295

Mazanai, M., & Fatoki, O. (2012). Access to finance in the SMEs sector: A South African perspective. *Asian Journal of Business Management, 4*(1), 58–67.

Mouhtat, I., & Touhami, F. (2024). Unravelling the key determinants of SME failure in Africa: Insights from a systematic literature review and sector-specific analysis. *Journal of Logistics, Informatics and Service Science, 11*(7), 250–280. https://doi.org/10.33168/JLISS.2024.0714

Mpofu, O. (2025). Mobile money and SMEs in sub-Saharan Africa: Bridging the financial access gap. *International Journal of Research in Business and Social Science, 14*(7), 297–305. https://doi.org/10.20525/ijrbs.v14i7.4506

Ndung'u, C. W., Paul, S. N., & Mung'atu, J. K. (2026). Nexus between entrepreneurial market drivers and growth of micro and small enterprises owned by physically challenged entrepreneurs in Kenya. *Journal of International Business, Economics and Entrepreneurship, 11*(1), 71–86. https://doi.org/10.24191/jibe.v11i1.10990

Onoriode, E., & Paschal, E. (2025). Fintech and financial inclusion: Evaluating the impact of mobile banking on SME growth in sub-Saharan Africa. *Journal of Economics and Finance (IOSR-JEF), 16*(3), 30–43. https://www.iosrjournals.org/iosr-jef/papers/Vol16-Issue3/Ser-6/D1603063043.pdf

Osabutey, E. L. C., & Jackson, T. (2024). Mobile money and financial inclusion in Africa: Emerging themes, challenges and policy implications. *Technological Forecasting and Social Change*, 202, 123339. [1]

Tuffour, J. K., Amoako, A. A., & Amartey, E. O. (2022). Assessing the effect of financial literacy among managers on the performance of small-scale enterprises. *Global Business Review, 23*(5), 1200–1217. https://doi.org/10.1177/0972150919899753

Umar, U. H., Baita, A. J., Hamadou, I., & Abduh, M. (2025). Digital finance and SME financial inclusion in Africa. *African Journal of Economic and Management Studies, 16*(1), 18–33. https://doi.org/10.1108/AJEMS-08-2023-0323

World Bank. (2020). *Nigeria economic report* (No. 2). http://documents.worldbank.org/curated/en/337181468100145688

World Bank. (2023). *A new era in development.* https://documents1.worldbank.org/curated/en/099092823161580577/pdf/BOSIB055c2cb6c006090a90150e512e6beb.pdf

World Bank. (2025). *Annual report 2025: Creating jobs, growing economies.* https://documents1.worldbank.org/curated/en/099503310092520301/pdf/SECBOS-8b71cac3-074c-43c1-ac8c-c3b5fc34cb5b.pdf

World Economic Forum. (2024). *Empowering small and medium-sized enterprises through digital business model innovation.* https://www3.weforum.org/docs/WEF_Empowering_Small_and_Medium_Sized_Enterprises_through_Digital_Business_Model_Innovation_2024.pdf



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