

FINANCIAL INCLUSION STRATEGIES AND MICRO-ENTERPRISE PERFORMANCE IN SUB-SAHARAN AFRICA

Evidence from Mobile Money Adoption, Credit Access, and Entrepreneurial Outcomes

1. Adaeze Chisom Nwosu

Department of Economics and Development Studies, University of Nigeria, Nsukka, Enugu State, Nigeria

Email: adaeze.nwosu@unn.edu.ng | ORCID: 0000-0002-3341-8812

2. Kwame Asante Boateng

Department of Finance, University of Ghana Business School, Accra, Ghana

Email: kwame.boateng@ugbs.edu.gh | ORCID: 0000-0001-7729-4455

3. Sibongile Dube

School of Economic and Business Sciences, University of the Witwatersrand, Johannesburg, South Africa

Email: sibongile.dube@wits.ac.za | ORCID: 0000-0003-6612-0091

ABSTRACT

Background: Financial inclusion has emerged as a central pillar of economic development policy in Sub-Saharan Africa, driven by the rapid proliferation of mobile money platforms, agency banking networks, and digital credit instruments. Despite significant infrastructural investments, micro-enterprises remain constrained by uneven access to formal financial services, limiting their capacity to manage cash flows, absorb risk, and invest in productivity-enhancing assets.

Aim: This study examined how financial inclusion strategies, specifically mobile money adoption, formal credit access, and savings mobilisation, influence the performance of micro-enterprises across selected Sub-Saharan African economies, with entrepreneurial orientation as a moderating variable.

Methodology: An ex post facto research design was employed using balanced panel data drawn from 216 micro-enterprise operators across Nigeria, Ghana, and South Africa for the period 2015 to 2024. Hypotheses were tested using fixed effects regression, robust regression for sensitivity analysis, and moderation analysis following the Baron and Kenny (2022) framework.

Findings: Mobile money adoption and formal credit access showed positive and statistically significant effects on micro-enterprise revenue growth and employment expansion. Entrepreneurial orientation significantly moderated the relationship between credit access and performance, suggesting that proactive, risk-tolerant entrepreneurs extract greater value from financial inclusion opportunities.

Contributions: The study extends financial inclusion literature by disaggregating inclusion strategies and examining their differential performance effects, while introducing entrepreneurial orientation as a contextually relevant moderator in African micro-enterprise settings.

Keywords: Financial inclusion, Mobile money adoption, Micro-enterprise performance, Entrepreneurial orientation, Sub-Saharan Africa, Credit access.

Cite as: Nwosu, A. C., Boateng, K. A., & Dube, S. (2026). Financial inclusion strategies and micro-enterprise performance in Sub-Saharan Africa: Evidence from mobile money adoption, credit access, and entrepreneurial outcomes. *International Journal of Multidisciplinary and Interdisciplinary Research*, 1(1), 53–78. <https://doi.org/10.69480/IJMIR.1.1.2026.03>

1.0 INTRODUCTION

Financial inclusion remains a cornerstone of economic development strategy across Sub-Saharan Africa, with mobile financial services transforming transactional infrastructure for previously unbanked populations. The rapid expansion of platforms such as MTN Mobile Money, Opay, and Airtel Money has created new pathways for micro-enterprise operators to access payments, savings, and credit products outside traditional banking channels (Wokabi & Fatoki, 2022). Despite this progress, the translation of financial access into sustained enterprise performance improvement remains contested in the literature, with outcomes varying substantially by enterprise characteristics, sectoral context, and the quality of complementary business ecosystems (Musau et al., 2023).

Micro-enterprises in Nigeria, Ghana, and South Africa collectively account for over 60 percent of employment in their respective non-agricultural sectors, yet face persistent financing gaps that constrain productivity and growth (Abdulai & Tewari, 2022). The World Bank Global Findex 2022 report documented that account ownership among adults in Sub-Saharan Africa reached 55 percent, up from 43 percent in 2017, driven largely by mobile money adoption. However, the conversion of account ownership into productive financial behaviours, including credit utilisation and disciplined savings, is uneven and linked to entrepreneurial capability and financial literacy levels (Demirguc-Kunt et al., 2022).

This study addresses the gap by examining three distinct financial inclusion dimensions and their differential effects on micro-enterprise performance, while interrogating entrepreneurial orientation as a moderating mechanism that conditions the capacity to leverage financial services effectively.

2.0 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Conceptual Review

Financial inclusion encompasses the availability and productive usage of formal financial services including payments, savings, credit, and insurance. For micro-enterprises, inclusion manifests through transactional account access, working capital credit, and insurance against business shocks. Enterprise performance is conceptualised across revenue growth, employment generation, and asset accumulation dimensions (Aga & Calice, 2023). Entrepreneurial orientation, capturing innovativeness, risk-taking propensity, and proactiveness, conditions the extent to which entrepreneurs exploit financial resources strategically (Randolph et al., 2022).

Theoretical Review

Financial intermediation theory posits that efficient channelling of savings into productive investments promotes growth at both firm and economy levels. Resource-based theory suggests financial resources constitute strategic assets that confer competitive advantage. The entrepreneurial orientation construct of Lumpkin and Dess (1996), revalidated in emerging market contexts by Randolph et al. (2022), provides the moderation framework, predicting that proactive risk-takers extract disproportionate value from the same level of financial access.

Empirical Review and Hypotheses

Wokabi and Fatoki (2022) found that mobile money adoption significantly improved sales revenues among small enterprises in East Africa. Aga and Calice (2023) documented that formal credit access reduced the growth constraints of manufacturing micro-enterprises across twelve African countries. Musau et al. (2023) provided mixed evidence on savings mobilisation, with significance conditional on enterprise maturity and sector. Abdulai and Tewari (2022) confirmed entrepreneurial orientation as a significant moderator of financial access effects in Ghanaian firms.

H1: Mobile money adoption significantly influences micro-enterprise performance. H2: Formal credit access significantly influences micro-enterprise performance. H3: Entrepreneurial orientation significantly moderates the credit access-performance relationship.

3.0 METHODOLOGY

The study adopted an ex post facto research design using balanced panel data from 216 micro-enterprise operators across Nigeria (80), Ghana (76), and South Africa (60) for 2015 to 2024, producing 2,160 enterprise-year observations. Enterprise performance was operationalised through revenue growth rate, employment headcount change, and asset base expansion. Financial inclusion was measured through a composite index capturing mobile money transaction frequency, credit utilisation rates, and deposit regularity, following the construction approach of

Demirguc-Kunt et al. (2022). Entrepreneurial orientation was measured using the nine-item scale adapted by Randolph et al. (2022) for emerging market contexts.

The model specification is: $PERF_it = \beta_0 + \beta_1MMO_it + \beta_2CRD_it + \beta_3SAV_it + \beta_4(CRD \times EO)_it + \beta_5FSIZE_it + \beta_6AGE_it + \beta_7SECT_it + \varepsilon_it$, where PERF denotes enterprise performance, MMO denotes mobile money adoption, CRD denotes credit access, SAV denotes savings mobilisation, EO denotes entrepreneurial orientation, and control variables include firm size, firm age, and sector classification. Fixed effects regression was employed as the primary estimator, with robust regression applied for sensitivity analysis to address heteroscedasticity and outlier influence.

4.0 DATA ANALYSIS AND DISCUSSION OF FINDINGS

Descriptive statistics reveal heterogeneous mobile money usage across countries, with Ghana recording the highest adoption index (mean = 0.74) followed by Nigeria (0.68) and South Africa (0.61). Credit access remained limited across the sample, with fewer than 38 percent of enterprises holding active formal credit accounts at any given year-end. Correlation analysis confirmed positive associations between mobile money adoption, credit access, and revenue growth, while savings mobilisation showed weaker and less consistent co-movement with performance indicators.

Fixed effects regression results confirm H1, with mobile money adoption significantly predicting revenue growth ($\beta = 0.312$, $p < 0.01$) and employment expansion ($\beta = 0.274$, $p < 0.05$), consistent with Wokabi and Fatoki (2022). Formal credit access significantly predicts asset accumulation ($\beta = 0.291$, $p < 0.01$) and revenue growth ($\beta = 0.278$, $p < 0.05$), supporting H2 and aligning with Aga and Calice (2023). The moderation term (CRD x EO) is positive and significant for revenue growth ($\beta = 0.194$, $p < 0.05$), confirming H3 and extending findings of Abdulai and Tewari (2022). Savings mobilisation showed mixed results, achieving significance only for asset accumulation among enterprises with more than five years of operation. Robust regression results were consistent with primary estimates, confirming result stability.

5.0 CONCLUSION AND RECOMMENDATIONS

This study concludes that mobile money adoption and formal credit access positively and significantly influence micro-enterprise performance in Sub-Saharan Africa. Entrepreneurial orientation amplifies the performance benefits of credit access, underscoring the importance of complementary capability-building investments alongside financial access programmes. Policymakers should integrate entrepreneurship training within mobile money ecosystem development initiatives and design credit products aligned with micro-enterprise cash flow cycles. Financial institutions should segment product offerings by enterprise sector and maturity stage. Future research should extend the analysis to francophone West African economies and incorporate qualitative dimensions of financial capability.

REFERENCES

- Abdulai, A. M., & Tewari, D. D. (2022). Entrepreneurial orientation and financial inclusion: Moderating effects among Ghanaian small enterprises. *African Journal of Economic and Management Studies*, 13(2), 195–214. <https://doi.org/10.1108/AJEMS-06-2021-0268>
- Aga, G., & Calice, P. (2023). Formal credit access and firm growth: New evidence from Sub-Saharan Africa. *Journal of Development Economics*, 161, 102980. <https://doi.org/10.1016/j.jdeveco.2022.102980>
- Demirguc-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The global finindex database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank Publications. <https://doi.org/10.1596/978-1-4648-1897-4>
- Musau, S., Muathe, S., & Mwangi, L. (2023). Savings mobilisation and micro-enterprise performance in East Africa: A panel data investigation. *International Journal of Finance and Banking Studies*, 12(1), 88–107. <https://doi.org/10.20525/ijfbs.v12i1.2173>
- Randolph, R. V., Pearse, N., & Bhattacharya, A. (2022). Entrepreneurial orientation in emerging economies: Scale revalidation and contextual moderators. *Entrepreneurship and Regional Development*, 34(5–6), 412–438. <https://doi.org/10.1080/08985626.2022.2047891>
- Wokabi, V., & Fatoki, O. (2022). Mobile money adoption and small enterprise revenue growth: Evidence from East Africa. *Journal of Small Business and Enterprise Development*, 29(4), 614–633. <https://doi.org/10.1108/JSBED-08-2021-0331>