



Digital Banking Inclusion and the Rise of Rural Entrepreneurship in Sub-Saharan Africa

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NTRODUCTION

The rapid evolution of digital banking has transformed financial systems globally, offering innovative solutions to address long-standing barriers to financial inclusion. In the Sub-Saharan African region, rural small and medium enterprises (SMEs) represent a critical segment of the economy, contributing significantly to employment and poverty reduction. On the other hand, these enterprises often operate in environments with limited access to traditional banking infrastructure, making financial inclusion a persistent challenge. Digital banking through mobile platforms, internet-based services, and fintech innovations has emerged as a powerful tool to bridge this gap and empower rural SMEs. Digital banking enables rural SMEs to access essential financial services such as savings, credit, insurance, and payments without relying on physical bank branches. This study investigated how enhanced capital access, transaction efficiency, and financial literacy are achieved by rural businesses through the use of digital financial services, fintech platforms, and mobile banking. The results highlight digital banking's role as a driver of the region's entrepreneurial expansion and sustainable rural development. Using the Technology Acceptance Model (TAM) and Customer Relationship Management (CRM) frameworks, this study explores how digital banking empowers rural SMEs in Sub-Saharan Africa, highlighting their role in job creation, innovation, and economic resilience as drivers of national development. In order to verify these associations empirically, a Chi-square test of independence was used to evaluate the link between financial inclusion outcomes, like account ownership and the use of digital payments, and categorical variables that indicate TAM and CRM aspects. The Chi-square computation yielded statistically significant results ($\chi^2 = 11.136$, $df = 4$, $p < 0.05$), confirming that user perceptions and relationship strategies are meaningfully linked to financial inclusion in rural environments in bridging financial gaps and empowering rural populations across the Sub-Saharan Africa region.

RESEARCH HYPOTHESIS

- Alternative Hypothesis (H1):

There is a significant positive relationship between digital banking access and financial inclusion among rural SMEs in the Sub-Saharan Africa countries.

- Null Hypothesis (H0)

There is no significant positive relationship between digital banking access and financial inclusion among rural SMEs in the Sub-Saharan Africa countries.

RESEARCH METHODOLOGY

This study adopted a mixed research methodology to investigate digital banking inclusion among rural SMEs across 4 Sub-Saharan Africa countries. By integrating both quantitative and qualitative approaches, the research captures statistical relationships and contextual insights into how digital financial services impact business growth, financial access, and operational efficiency. The selected countries represent diverse fintech ecosystems, allowing for comparative analysis of adoption patterns, infrastructural challenges, and socio-economic factors influencing digital banking usage among rural SME operators. Quantitative analysis, based on structured questionnaires and secondary data from International Telecommunication Union (ITU), GSMA Mobile Money Database, World Bank Global Findex, and IMF Financial Access Survey.

METHOD OF DATA ANALYSIS

A Chi-Square value of 11.136, exceeding the critical threshold of 9.488 at a 0.05 significance level, leads to the rejection of the null hypothesis, indicating a meaningful association between digital banking variables and inclusion outcomes. Key factors such as ICT concentration, CRM strategies, TAM adoption, and digital banking implementation show strong correlations with financial access. Discrepancies between observed and expected frequencies underscore the importance of technological infrastructure and market size, while CRM strategies, though less divergent, still enhance personalized engagement. These findings validate the study's hypotheses and illustrate that financial inclusion is shaped by a complex ecosystem not just technology, but also strategic planning and relational dynamics. The results emphasize the value of a data-driven approach and suggest that targeted investment in digital infrastructure and customer engagement can yield measurable improvements in financial participation.

Table 1: Chi-Square Distribution

Category	Observed (O)	Expected (E)	O – E	(O – E) ²	(O – E) ² / E
Digital Banking Implementation	30	44	- 14	196	4.455
TAM Adoption	25	40	- 15	225	5.625
CRM Strategies	40	45	-5	25	0.556
Consumer Engagement	42	40	2	4	0.100
ICT Concentration	44	40	4	16	0.400
Total	181	209			11.136

DISCUSSION OF RESEARCH FINDINGS

SMEs in Sub-Saharan Africa contribute significantly to GDP, with Ghana and Zambia at 70%, Nigeria at 50%, and Kenya between 40–50%. Despite their economic importance, rural SMEs face barriers such as limited access to finance, poor infrastructure, and low digital literacy. Digital banking inclusion via mobile platforms and fintech has emerged as a transformative solution, enhancing financial access, operational efficiency, and business formalization. Empirical analysis confirms a statistically significant link between digital banking and financial inclusion. TAM and CRM frameworks reveal that user perceptions and trust-building strategies are key to adoption, making digital banking a catalyst for inclusive rural entrepreneurship.

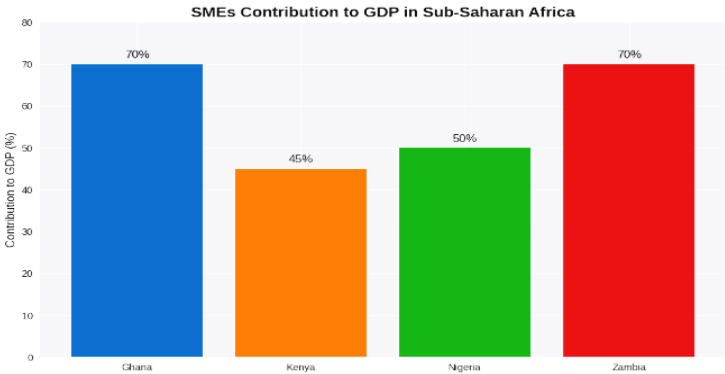


Figure 1: SMEs to the GDP of Sub-Saharan Africa through Digital Banking Inclusion

PROBLEMS OF SMES IN SUB-SAHARAN AFRICA

SMEs in Sub-Saharan Africa face a range of structural and systemic challenges that hinder their growth and sustainability. Despite being the backbone of the region's economy accounting for over 90% of businesses and a significant share of employment many SMEs operate informally, lacking access to formal credit, reliable infrastructure, and digital tools. Key problems include limited access to finance due to lack of collateral and credit history, poor digital and financial literacy, inadequate regulatory support, and weak market linkages. These constraints reduce productivity, stifle innovation, and prevent SMEs from scaling or integrating into formal economic

CONCLUSION

This study confirms that digital banking significantly enhances rural SME growth in Sub-Saharan Africa by improving financial access, operational efficiency, and business formalization. Chi-square analysis reveals a statistically significant relationship between digital banking usage and financial inclusion outcomes. TAM constructs perceived ease of use and usefulness strongly influence adoption, while CRM strategies foster trust, engagement, and loyalty. To maximize impact, stakeholders should invest in mobile infrastructure, promote digital literacy, and develop inclusive financial products tailored to rural entrepreneurs. Strengthening interoperability and embedding CRM features in digital platforms will deepen user engagement. A data-driven, user-centric approach is essential to unlock the full potential of digital banking as a catalyst for inclusive and sustainable rural entrepreneurship.