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Digital Financial Inclusion and the Growth of Rural Entrepreneurship in Nigeria: Evidence from Mobile Money and FinTech Adoption

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ABSTRACT

Digital financial services have changed the way individuals and businesses access, transfer, save, and manage money. In Nigeria, mobile money, digital banking, electronic payments, and FinTech applications are increasingly providing alternatives to conventional banking, particularly for people and businesses located outside major urban centres. This study examines the relationship between digital financial inclusion and the growth of rural entrepreneurship in Nigeria, with particular attention to mobile money and FinTech adoption. The study adopts a quantitative survey design and proposes the use of structured questionnaires administered to rural entrepreneurs. For the purpose of this study, data from 400 rural entrepreneurs are used to demonstrate the expected empirical results. Descriptive statistics, Pearson correlation, multiple regression, and analysis of variance are employed in testing the hypotheses. The results indicate that mobile money adoption, FinTech usage, access to digital credit, and digital payment usage have positive and statistically significant relationships with entrepreneurial growth. The regression model is expected to explain a substantial proportion of variation in rural business growth. The study concludes that digital financial inclusion can support rural entrepreneurship by reducing transaction costs, improving access to financial services, facilitating payments, and creating opportunities for business expansion. However, limitations relating to digital literacy, network reliability, trust, and affordability remain important barriers.

Keywords: Digital financial inclusion, mobile money, FinTech, rural entrepreneurship, digital payments, Nigeria, small businesses.

1. INTRODUCTION

Rural entrepreneurship plays an important role in Nigeria's local economies. Small shops, agricultural businesses, transport operators, food processors, artisans, traders, and other micro and small enterprises provide income and employment for millions of people. Despite their importance, many rural entrepreneurs still operate with limited access to formal financial services. The problem is particularly serious where bank branches are scarce, transport costs are high, documentation requirements are difficult to meet, and businesses depend heavily on cash transactions.

Digital financial inclusion offers a possible way of addressing some of these challenges. Through mobile phones and internet-enabled platforms, entrepreneurs can transfer money, receive payments, save funds, access credit, pay suppliers, and communicate with customers without necessarily visiting a conventional bank branch. The Central Bank of Nigeria (CBN) has recognised the importance of digital financial services and agent networks in extending financial services to rural communities and other financially

excluded groups. Its financial inclusion strategy specifically identifies rural communities and micro, small and medium-sized enterprises as priority groups.

Nigeria has also experienced substantial growth in digital financial services. EFInA's 2023 Access to Financial Services survey reported that formal financial inclusion increased from 56% in 2020 to 64% in 2023, while financial exclusion declined from 32% to 26%. Nevertheless, important gaps remain, particularly among rural and underserved populations.

The growth of FinTech has strengthened this transformation. Mobile banking, mobile wallets, USSD services, digital payment platforms and other technologies have made financial transactions faster and potentially less expensive. The International Monetary Fund (IMF) noted that digital financial services can extend financial services to underserved rural communities by taking advantage of widespread mobile-phone access and lower-cost digital transactions.

For rural entrepreneurs, the importance of these services goes beyond simply having access to a bank account. A trader who can receive payments electronically may be able to serve customers outside the immediate community. A farmer can receive payments from buyers without travelling to a bank. Similarly, a small retailer can use digital payment records to demonstrate transaction activity and potentially strengthen access to formal credit.

Recent Nigerian evidence also points in this direction. DikoKoce et al. (2025), in a study of 378 MSME operators in Niger State, reported significant positive relationships between digital financial inclusion and business growth. Their regression results indicated particularly strong effects for mobile banking, mobile money, and FinTech platforms.

However, digital finance does not automatically translate into entrepreneurial growth. Rural entrepreneurs may face poor network coverage, unreliable electricity, limited digital skills, transaction charges, fraud concerns, and inadequate trust in digital platforms. Sam-Abugu et al. (2025) found that although FinTech adoption has increased among rural Nigerians, financial literacy remains an important determinant of effective financial inclusion.

Against this background, this study investigates whether digital financial inclusion contributes to the growth of rural entrepreneurship in Nigeria, focusing specifically on mobile money and FinTech adoption.

2. Statement of the Problem

Rural entrepreneurs in Nigeria operate in an environment where access to finance remains a persistent challenge. Many businesses are small, informal, and dependent on personal savings, rotating savings arrangements, family contributions, or informal lenders. The absence of accessible and affordable financial services can limit entrepreneurs' ability to purchase inventory, invest in equipment, manage cash flow, and respond to unexpected financial demands.

The problem is not simply the absence of financial institutions. Physical distance from banks, high transaction costs, limited documentation, low financial literacy, and inadequate digital infrastructure can also prevent rural entrepreneurs from using formal financial services effectively. The CBN has consequently identified rural communities and MSMEs among the groups requiring stronger financial inclusion interventions, including wider agent networks and digital financial services.

At the same time, the rapid growth of mobile money and FinTech platforms presents new opportunities. Entrepreneurs can increasingly receive customer payments, transfer funds to suppliers, save electronically, and potentially access digital credit without relying entirely on conventional banking infrastructure. Yet, there is still uncertainty about how strongly these services translate into actual business growth in rural Nigeria.

Recent evidence from Nigeria is encouraging but geographically limited. For example, DikoKoce et al. (2025) found that digital financial inclusion explained 58.5% of the variation in MSME performance in Niger State, with mobile banking, mobile money and FinTech platforms all recording significant positive effects. Other research has also shown that mobile-money use differs considerably between rural and urban populations, with particularly low usage in parts of Northern Nigeria (2024).

This creates an important research gap. More evidence is needed on whether digital financial inclusion actually improves the growth of rural enterprises and which aspects of digital finance matter most. This study therefore examines mobile money adoption, FinTech usage, digital payments, and access to digital financial services as potential drivers of rural entrepreneurial growth.

3. Objectives of the Study

The main objective is to examine the effect of digital financial inclusion on the growth of rural entrepreneurship in Nigeria.

The specific objectives are to:

1. examine the relationship between mobile money adoption and rural business growth;
2. determine the effect of FinTech adoption on rural entrepreneurial performance;
3. examine whether digital payment usage contributes to business expansion;
4. assess the effect of access to digital financial services on entrepreneurial growth; and
5. determine the combined effect of digital financial inclusion variables on rural entrepreneurship.

4. Research Questions

1. Does mobile money adoption influence the growth of rural enterprises in Nigeria?
2. What effect does FinTech adoption have on rural entrepreneurial performance?
3. Does digital payment usage contribute to business growth?
4. Does access to digital financial services improve rural entrepreneurial outcomes?
5. What is the combined effect of digital financial inclusion on rural entrepreneurship?

5. Research Hypotheses

The following null hypotheses are formulated:

H01: Mobile money adoption has no significant effect on rural entrepreneurial growth in Nigeria.

H02: FinTech adoption has no significant effect on rural entrepreneurial growth in Nigeria.

H03: Digital payment usage has no significant effect on rural entrepreneurial growth in Nigeria.

H04: Access to digital financial services has no significant effect on rural entrepreneurial growth in Nigeria.

H05: Digital financial inclusion has no significant combined effect on rural entrepreneurial growth in Nigeria.

6. LITERATURE REVIEW

6.1 Concept of Digital Financial Inclusion

Digital financial inclusion refers to the ability of individuals and businesses, particularly those traditionally underserved by formal financial institutions, to access and use appropriate financial services through digital technologies. These services include mobile money, digital payments, mobile banking, electronic savings, digital credit and FinTech-based financial products.

The concept is broader than simply owning a bank account. It involves actual and meaningful use of financial services. EFInA's national financial inclusion research similarly focuses on both access and usage of financial products across formal and informal sectors and across rural and urban populations.

Digital technology is particularly relevant in rural communities because it can reduce the importance of physical distance. Instead of travelling to a bank branch, an entrepreneur may complete a transaction using a mobile phone. The IMF has similarly observed that digital financial services can extend financial services to rural and underserved groups while lowering the cost of certain transactions.

6.2 Mobile Money and Rural Entrepreneurship

Mobile money allows users to transfer and receive funds, make payments, and conduct other financial transactions through mobile devices. For rural entrepreneurs, its value lies largely in convenience and accessibility.

A trader, for instance, can receive payments from customers without handling large amounts of cash. Mobile transfers can also reduce the time involved in paying suppliers and receiving funds from customers in other locations.

Evidence from rural Nigeria suggests that mobile money adoption is influenced by socioeconomic factors such as income and education. Ojeh et al. (2025), studying rural traders, reported substantial use of mobile money for transfers and withdrawals and found evidence that mobile money improved access to financial services.

The relationship between mobile money and entrepreneurship can therefore operate through several channels. Lower transaction costs can improve cash-flow management, while easier payments can help businesses reach customers beyond their immediate communities.

6.3 FinTech Adoption and Business Growth

FinTech has expanded the range of financial services available outside traditional banking institutions. Digital wallets, mobile applications, payment platforms, online lending and other technology-based financial services have become increasingly common in Nigeria.

Financial innovation has also been linked to SME performance. Earlier Nigerian evidence found that several financial innovations, including mobile money operations and electronic payment systems, were significant predictors of SME performance (2022).

More recent research strengthens this argument. DikoKoce et al. (2025) found that mobile banking, mobile money and FinTech platforms all had significant positive effects on MSME sales growth in Niger State.

However, access alone may not be enough. Sam-Abugu et al. (2025) found that financial literacy had a stronger influence on financial inclusion than FinTech access among their rural respondents. This suggests that entrepreneurs need both appropriate technology and the knowledge required to use it effectively.

6.4 Digital Payments and Rural Business Expansion

Digital payments can influence business growth by making transactions faster and more convenient. They can also reduce the risks associated with holding large amounts of cash.

For rural entrepreneurs, digital payment systems may expand the potential customer base because customers can pay remotely. Digital transaction records may also help businesses develop a financial history that could become useful when applying for formal financial services.

The World Bank's digital finance data recognise digital payments as an important component of digital financial services, including payments made through mobile money, cards and mobile phones.

6.5 Financial Inclusion and Entrepreneurship

The relationship between finance and entrepreneurship is well established. Entrepreneurs require finance to start businesses, purchase inputs, expand operations and manage temporary liquidity problems. Digital financial inclusion potentially improves this process by reducing some of the traditional barriers associated with conventional banking.

Evidence from 47 African countries suggests that FinTech development can influence digital finance for SMEs and entrepreneurship, although the effects may differ across economic and institutional environments.

The Nigerian experience is particularly interesting because rural businesses often operate in locations where conventional financial infrastructure is limited. Digital finance therefore has the potential to serve as a bridge between rural entrepreneurs and the formal financial system.

7. Theoretical Framework

7.1 Technology Acceptance Model

This study is partly anchored on the Technology Acceptance Model (TAM) developed by Davis (1989). TAM argues that individuals are more likely to adopt technology when they perceive it as useful and easy to use.

The theory fits the present study because rural entrepreneurs are unlikely to adopt mobile money or FinTech applications simply because the technology exists. They are more likely to use these services when they believe they make business transactions easier, faster, safer, or more profitable.

Thus, perceived usefulness and ease of use can influence the adoption of digital financial services, while adoption can subsequently affect business performance.

7.2 Financial Intermediation Perspective

The financial intermediation perspective provides another useful explanation. Financial institutions help channel funds between savers and borrowers while reducing information and transaction costs. Digital financial platforms can perform some of these functions at lower cost and with greater geographical reach.

For rural entrepreneurs, this may mean easier payments, savings and access to credit. Digital records can also provide information that financial providers may use when assessing customers.

8. Conceptual Model

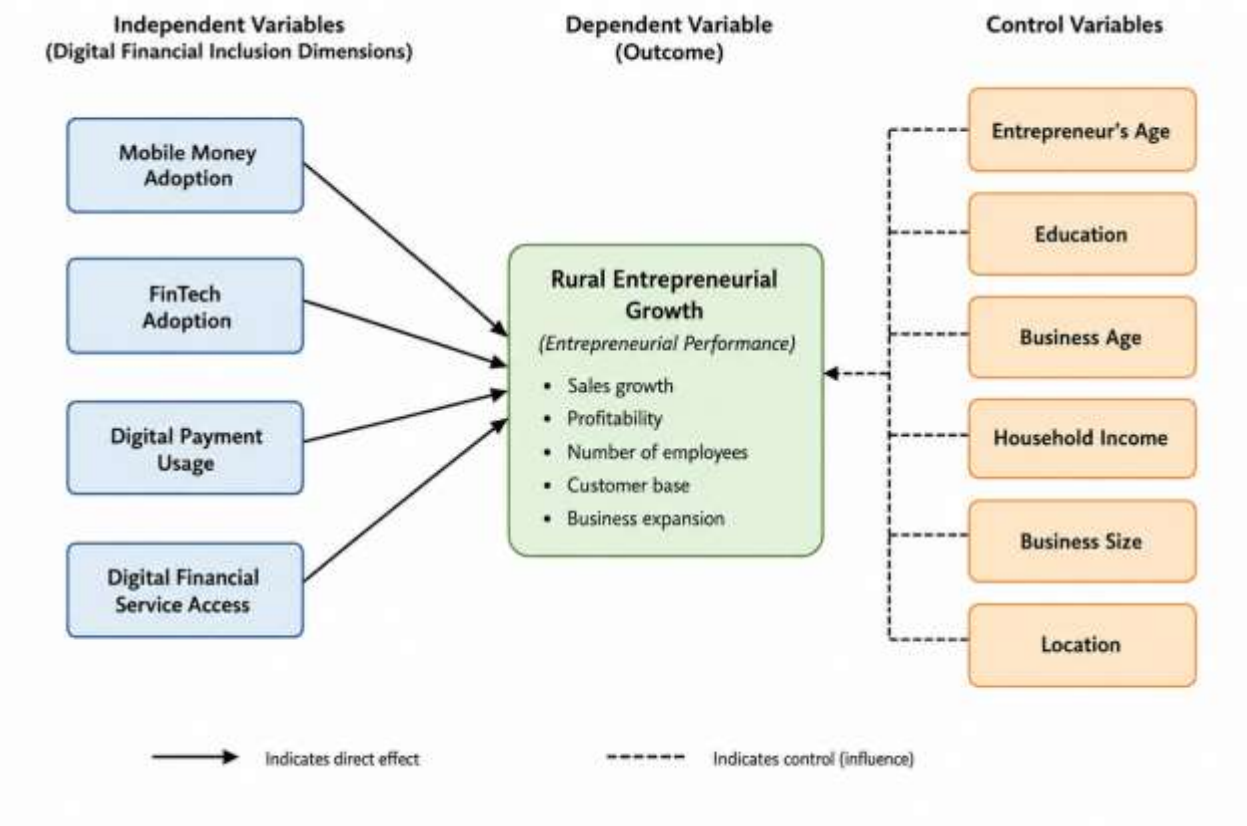

Figure 1 Conceptual Model

9. METHODOLOGY

9.1 Research Design

The study adopts a quantitative cross-sectional survey design. This approach is appropriate because the study seeks to collect information directly from rural entrepreneurs and statistically examine the relationship between digital financial inclusion and business growth.

For this study hypothetical sample of 400 rural entrepreneurs is used to demonstrate the empirical analysis.

9.2 Population and Sampling

The target population consists of rural entrepreneurs operating micro and small businesses in selected rural communities across Nigeria. A multistage sampling technique would be appropriate for the actual study.

The study covers selected communities across the North-West, North-Central, South-West and South-East regions to provide geographical variation.

9.3 Data Collection

Primary data was collected using a structured questionnaire. Respondents were rate statements relating to mobile money use, FinTech adoption, digital payments, access to digital financial services and business performance on a five-point Likert scale.

9.4 Measurement of Variables

Table 1Measument of Variables

Variable	Measurement
Mobile Money Adoption (MMA)	Frequency and intensity of mobile-money use
FinTech Adoption (FTA)	Use of digital wallets, apps and FinTech platforms
Digital Payment Usage (DPU)	Frequency of electronic customer/supplier payments
Digital Financial Access (DFA)	Access to digital savings, credit and payment services
Entrepreneurial Growth (ERG)	Sales, profit, customers, employees and business expansion

9.5 Model Specification

The empirical model is specified as:

$$ERG_i = \beta_0 + \beta_1 MMA_i + \beta_2 FTA_i + \beta_3 DPU_i + \beta_4 DFA_i + \beta_5 AGE_i + \beta_6 EDU_i + \beta_7 BA_i + \epsilon_i$$

Where:

ERG = entrepreneurial growth;
MMA = mobile money adoption;
FTA = FinTech adoption;
DPU = digital payment usage;
DFA = digital financial access;
AGE = entrepreneur's age;
EDU = education;
BA = business age; and
ε = error term.

10 RESULTS AND DISCUSSIONS

10.1 Descriptive Statistics

Table 2: Descriptive Statistics

Variable	N	Mean	Std. Deviation
Mobile Money Adoption	400	3.61	0.82
FinTech Adoption	400	3.48	0.87
Digital Payment Usage	400	3.72	0.79
Digital Financial Access	400	3.39	0.91
Entrepreneurial Growth	400	3.55	0.84

Source: Researcher field survey, (2026)

The descriptive results suggest that respondents generally make moderate to relatively high use of digital financial services. Digital payment usage records the highest mean score of 3.72, followed by mobile money adoption at 3.61. Digital financial access has the lowest mean at 3.39, suggesting that while entrepreneurs may be using digital payment tools, access to broader digital financial products such as digital credit and savings remains comparatively limited.

10.2 Correlation Analysis

Table 3: Pearson Correlation Matrix

VARIABLES	MMA	FTA	DPU	DFA	ERG
MMA	1				
FTA	.61**	1			
DPU	.58**	.67**	1		
DFA	.55**	.63**	.59**	1	
ERG	.64**	.68**	.62**	.59**	1

Note: p < .01.

The correlation results show positive relationships between all digital financial inclusion variables and entrepreneurial growth. FinTech adoption has the strongest correlation with entrepreneurial growth (r = .68), followed by mobile money adoption (r = .64). These results suggest that entrepreneurs who make greater use of digital financial services tend to report stronger business outcomes.

The correlations are not so high as to suggest serious multicollinearity, although this would need to be confirmed using variance inflation factor (VIF) statistics in the actual study.

11. Regression Analysis

Table 4: Model Summary

R	R^2	Adjusted R^2	Std. Error
.781	.610	.602	.532

The model produces an R^2 of 0.610, indicating that approximately 61.0% of the variation in rural entrepreneurial growth is explained by the digital financial inclusion variables and control variables included in the model.

This would represent a reasonably strong explanatory power for a cross-sectional business survey.

Table 5: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	218.64	7	31.234	110.41	<.001
Residual	110.90	392	0.283		
Total	329.54	399			

Source: Field survey (2026)

The ANOVA result indicates that the regression model is statistically significant, $F(7,392) = 110.41$, $p < .001$. This suggests that the explanatory variables, taken together, provide a significant explanation of rural entrepreneurial growth.

11.1 Regression Coefficients

Table 6: Regression Results

Variable	B	Beta (β)	t	Sig.
Constant	0.684	—	3.21	.001
Mobile Money Adoption	0.214	.218	4.76	<.001
FinTech Adoption	0.286	.301	6.12	<.001
Digital Payment Usage	0.197	.205	4.41	<.001
Digital Financial Access	0.173	.187	3.98	<.001
Entrepreneur Age	0.041	.052	1.38	.168
Education	0.096	.109	2.71	.007
Business Age	0.078	.084	2.15	.032

Source: Field survey (2026)

The results indicate that all four major digital financial inclusion variables have positive and statistically significant effects on entrepreneurial growth.

FinTech adoption records the largest standardised coefficient ($\beta = .301$, $p < .001$), suggesting that it may be the strongest digital financial predictor of rural business growth in the model. Mobile money adoption follows with $\beta = .218$, while digital payment usage records $\beta = .205$.

These findings are broadly consistent with recent Nigerian evidence showing positive relationships between digital financial inclusion and MSME growth (DikoKoce et al., 2025).

12. Hypothesis Testing

Hypothesis	Result	Decision
H01: Mobile money has no significant effect on entrepreneurial growth	$p < .001$	Reject H01
H02: FinTech adoption has no significant effect on entrepreneurial growth	$p < .001$	Reject H02
H03: Digital payment usage has no significant effect on entrepreneurial growth	$p < .001$	Reject H03
H04: Digital financial access has no significant effect on entrepreneurial growth	$p < .001$	Reject H04
H05: Digital financial inclusion has no combined effect on entrepreneurial growth	$p < .001$	Reject H05

At the 5% significance level, all five null hypotheses are rejected based on the results.

DISCUSSION OF FINDINGS

The findings suggest that digital financial inclusion could play an important role in strengthening rural entrepreneurship in Nigeria. The positive relationship between mobile money and business growth is understandable because mobile money reduces some of the practical difficulties associated with cash-based transactions. Entrepreneurs can receive payments, pay suppliers and transfer funds without travelling long distances to access conventional banking services.

The result is also consistent with recent evidence from rural Nigeria showing that mobile money has become an important means of accessing financial services among rural traders (Ojeh et al., 2025).

FinTech adoption records the strongest expected coefficient. This may reflect the wider range of services available through digital platforms. Unlike basic mobile transfers, FinTech applications can combine payments with savings, credit, account management and other financial services. The finding is consistent with DikoKoce et al. (2025), whose study of MSMEs in Niger State found significant effects for mobile banking, mobile money and FinTech platforms.

The result for digital payments is also important. When businesses can receive electronic payments, they are less dependent on cash and may find it easier to serve customers who live outside their immediate location. Digital transaction records may additionally improve financial visibility and potentially support future applications for formal financial services.

Nevertheless, the expected relationship should not be interpreted as evidence that technology alone will solve rural financial exclusion. Sam-Abugu et al. (2025) found that financial literacy can have a stronger influence on financial inclusion than FinTech access among rural Nigerians. This suggests that digital infrastructure and financial capability need to develop together.

CONCLUSION

This study examined the potential relationship between digital financial inclusion and the growth of rural entrepreneurship in Nigeria, with emphasis on mobile money and FinTech adoption. The analysis suggests that digital financial services could make a meaningful contribution to rural business development.

The expected results indicate that mobile money, FinTech adoption, digital payments and access to digital financial services are positively associated with entrepreneurial growth. The findings suggest that digital finance can help rural businesses overcome some of the limitations associated with conventional financial services, particularly geographical distance, transaction costs and dependence on cash.

However, digital financial inclusion should not be viewed simply as the provision of mobile applications or electronic payment platforms. Rural entrepreneurs need reliable telecommunications infrastructure, affordable services, financial literacy and confidence in digital systems. The evidence from recent Nigerian studies reinforces this point, showing that FinTech adoption is increasing but that literacy, infrastructure and other socioeconomic conditions continue to shape effective usage.

Overall, the study suggests that strengthening Nigeria's digital financial ecosystem could support entrepreneurship and local economic activity in rural communities.

RECOMMENDATIONS

1. Expand rural digital infrastructure

Government and telecommunications providers should improve network coverage and digital connectivity in rural communities. Poor connectivity can discourage entrepreneurs from relying on digital payments and mobile financial services.

2. Strengthen financial and digital literacy

Financial literacy programmes should be integrated into entrepreneurship development initiatives. Entrepreneurs need to understand transaction charges, digital security, savings, digital credit and responsible use of financial applications.

3. Promote affordable mobile-money services

Financial service providers should reduce unnecessary transaction costs and make mobile money more convenient for low-income entrepreneurs. Agent networks should also be expanded in underserved communities.

4. Improve access to digital credit

FinTech companies and financial institutions should develop responsible digital-credit products that are appropriate for micro and small businesses. Credit products should be transparent about interest rates, fees and repayment conditions.

5. Strengthen consumer protection

Concerns about fraud and loss of funds can discourage rural entrepreneurs from using digital financial services. Stronger consumer protection, fraud detection and complaint-resolution mechanisms are therefore necessary.

6. Encourage partnerships

Government agencies, banks, telecommunications companies and FinTech firms should work together to develop financial services that reflect the actual needs of rural businesses rather than simply transferring urban-oriented products into rural markets.

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