



Digital Microfinance Innovation and Financial Inclusion of Rural Entrepreneurs in North Central Nigeria

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Abstract

Rural entrepreneurs in developing economies continue to face severe exclusion from formal financial systems, a gap that stifles innovation, investment and long-term business sustainability. This study examines how digital microfinance innovations such as mobile money, agent banking, digital wallets and crowdfunding enhanced financial inclusion among rural entrepreneurs. Guided by Rogers' Diffusion of Innovation (DOI) theory, the study explores how perceived advantages and compatibility of these innovations accelerate adoption and inclusion outcomes. A cross sectional survey research design with quantitative approach was adopted. The study's population comprised registered rural entrepreneurs, from which a stratified random sampling technique was used to ensure sectoral representation. A total sample of 400 respondents was surveyed using structured questionnaires, and the data were analyzed through multiple regression to test the hypothesized relationships. The regression results revealed that mobile money and digital wallets with ($\beta = 0.28$, $p < 0.001$) and ($\beta = 0.25$, $p < 0.001$) respectively were the strongest drivers of inclusion, while agent banking ($\beta = 0.22$, $p = 0.002$) and crowdfunding ($\beta = 0.18$, $p = 0.001$) also exert significant but comparatively moderate effects. The overall model is robust, explaining 52% of the variance in financial inclusion ($R^2 = 0.52$, $p < 0.001$). The findings confirmed that innovations with clear relative advantage and lower complexity diffuse more rapidly, consistent with DOI theory. The study concludes that digital microfinance innovations are transformative in bridging rural financial gaps. It recommends scaling mobile money and digital wallet services, expanding agent banking networks, and establishing trust-building frameworks for crowdfunding to strengthen inclusive entrepreneurial ecosystems.

Keywords: Agent banking, Crowdfunding, Digital microfinance, Digital wallets, financial inclusion, Mobile money

1.0 Introduction

Financial inclusion has emerged as a critical lever for stimulating entrepreneurship, poverty reduction, and local economic growth, particularly in developing regions. The dependent variable in this study, financial inclusion of rural entrepreneurs, encapsulates the extent to which underserved populations have access to affordable, convenient and appropriate financial services. In Nigeria's North Central region, rural entrepreneurs, especially those engaged in agriculture, petty trading and small-scale manufacturing firms remain largely excluded from mainstream financial systems. Barriers such as geographic isolation, low financial literacy, stringent collateral requirements and high transaction costs have perpetuated this exclusion, limiting entrepreneurs' ability to access credit, savings, insurance and payment solutions necessary for business growth.

In response, the financial services sector has increasingly turned to digital microfinance innovations such as mobile money platforms, digital wallets, agent banking, blockchain-enabled microloans and AI-driven credit scoring models. These innovations aim to overcome

structural bottlenecks by reducing operational costs, broadening service outreach and tailoring credit delivery to low-income entrepreneurs. Studies on entrepreneurial finance (e.g., Rao *et al.*, 2024; Elf, 2025; Van der Sijde *et al.*, 2025) highlight how technology-driven financing mechanisms can transform the accessibility and sustainability of entrepreneurial ventures in emerging economies. Moreover, equity crowdfunding and fintech-enabled lending models (Correia *et al.*, 2024; Hoque *et al.*, 2024) underscore the potential of digital tools to democratize finance, bridging the gaps left by conventional banks and traditional microfinance institutions.

However, while digital microfinance has expanded rapidly across Sub-Saharan Africa, its outcomes remain uneven. Evidence from global literature points to challenges such as unreliable digital infrastructure, regulatory uncertainties, fraud risks and the digital divide among rural populations (Káčer *et al.*, 2025). In Nigeria, where mobile penetration is high but digital literacy remains patchy, rural entrepreneurs often face a paradox: the existence of innovative financial products does not necessarily translate into sustainable inclusion. This raises pressing questions about whether digital microfinance innovations genuinely improve financial access, utilization and long-term entrepreneurial survival in rural North Central Nigeria. The study aimed to test the effect of digital microfinance innovation on financial inclusion of rural entrepreneurs in north central Nigeria with the following specific objectives:

- i. To examine the effect of mobile money services on the financial inclusion of rural entrepreneurs in North Central Nigeria.
- ii. To assess the influence of agent banking on access and usage of financial services by rural entrepreneurs in North Central Nigeria.
- iii. To determine the impact of digital wallets on the affordability and convenience of financial services for rural entrepreneurs in North Central Nigeria.
- iv. To evaluate the effect of crowdfunding platforms on the financial inclusion and financing opportunities of rural entrepreneurs in North Central Nigeria.
- v. To determine the combined explanatory power of digital microfinance innovations on financial inclusion.

2.0. Literature Review:

The variables of interest to the study are conceptualized as below:

2.1 Digital Microfinance Innovation

Microfinance has long been positioned as a critical instrument for expanding financial inclusion in developing economies, particularly among the poor, women and rural entrepreneurs excluded from formal banking systems. Traditional MicroFinance Institutions (MFIs) provide small loans, savings, and insurance, but they suffer structural inefficiencies: high operating costs, limited branch networks, manual credit assessments and dependence on physical interaction (Elf, 2025).

Digital Microfinance Innovation (DMI) refers to the integration of digital technologies into microfinance products, processes, and delivery models to enhance efficiency, scalability and accessibility. It encompasses innovations in product design (digital credit, micro-insurance), delivery channels (mobile phones, agent networks), data analytics (AI-based credit scoring, blockchain identity), and platforms (crowdfunding, peer-to-peer lending). In short, it is the marriage of microfinance and fintech, re-engineering financial access for low-income and rural entrepreneurs (Rao *et al.*, 2024; Elf, 2025).

2.1.1 Mobile money services

Mobile money (USSD, SMS, smartphone apps) is the leading vehicle for extending transaction services to underbanked populations. Empirical and review studies highlight mobile money's capacity to deliver payments, small savings and microcredit flows cheaply and at scale (Hoque *et al.*, 2024; Correia *et al.*, 2024). Evidence shows improvements in transactional access and payment formalisation, but results for credit uptake and business growth are mixed and conditional on network reliability and agent liquidity (Káčer *et al.*, 2025; van der Sijde *et al.*, 2025). The implication for rural entrepreneurs is that mobile money reduces physical barriers to basic financial services, but alone it may not solve credit access or foster long-term financial behaviours without accompanying products (savings, insurance) and financial literacy support (Rao *et al.*, 2024).

2.1.2 Agent banking (branchless banking)

Agent banking deploys local agents to provide cash-in/cash-out, account opening, and basic credit services, bridging last-mile access where branches don't exist. Systematic reviews underscore agent banking's effectiveness in geographic outreach but note risks: agent insolvency, weak oversight, and uneven service quality (Lange, 2024; Manigart & Wright, 2024). Agent networks often determine the practical usability of mobile services in rural areas. Moreover, agent banking is a crucial distribution mechanism that operationalises digital services for rural entrepreneurs particularly those with low literacy or no smartphones but its performance depends on agent incentives and supervision (Berliner *et al.*, 2025).

2.1.3 Digital wallets & e-savings platforms

Digital wallets create virtual liquidity repositories that facilitate saving, small payments and often integration with loan products. Literature reports wallets as enablers of savings accumulation and internal transaction histories that can become alternative credit signals (Tomaselli *et al.*, 2025; Correia *et al.*, 2024). Still, wallet adoption hinges on perceived security, transaction costs, and interoperability with broader payment ecosystems. However, wallets can improve the *quality* of inclusion (regular use, recorded financial behaviour), not just access a critical factor for entrepreneurs seeking formal credit later.

2.1.4 Crowdfunding & P2P platforms

Crowdfunding platforms and P2P lending open up diverse funding channels beyond banks and MFIs. Reviews and recent empirical works show that equity and reward-based crowdfunding can mobilise capital and validate ideas, while P2P credit provides alternative debt (Correia *et al.*, 2024). However, evidence indicates platform bias (urban, tech-savvy entrepreneurs receive more funding), signaling problems of reach to rural micro-entrepreneurs (Elf, 2025). However, crowdfunding can be transformational for certain ventures but is not yet a reliable, scalable channel for remote rural micro-enterprises that lack digital presence or investor visibility.

2.1.5 Financial inclusion of rural entrepreneurs

Financial inclusion is broadly defined as the provision and accessibility of affordable, useful, and relevant financial products and services such as savings, credit, insurance and payment systems to all segments of society, particularly the underserved (Leach & Melicher, 2021; Da Rin & Hellmann, 2020). The entrepreneurial finance literature stresses moving beyond binary account-ownership metrics to usage and outcomes. It goes beyond mere access to accounts; it

emphasizes usage, quality, affordability and long-term impact on livelihoods. For rural entrepreneurs, financial inclusion is not just an economic metric but a lifeline. Entrepreneurs in rural economies, especially those engaged in agriculture, small-scale trading and cottage industries, often operate in environments where cash dominates, banks are distant and credit is informal and exploitative. Access to inclusive finance directly influences their ability to invest in business inputs, manage risks, expand operations and cushion shocks.

2.1.6 North Central Nigeria

North Central Nigeria comprises a mix of agrarian and small-trade economies, with large rural populations often underserved by formal banks. National-level fintech penetration in Nigeria is high in urban areas, but the rural digital divide network gaps, lower smartphone penetration, limited agent reach and lower financial literacy inhibits translation of fintech availability into effective inclusion (Káčer *et al.*, 2025; Mkalama *et al.*, 2025). The region's socio-economic heterogeneity, market seasonality (agriculture) and infrastructure constraints make it a demanding but high-impact context for testing digital microfinance effects.

2.2 Theoretical Anchorage

The study is anchored on the Diffusion of Innovation Theory (Rogers, 2003), which explains how new technologies and innovations are adopted within a social system over time. The theory identifies five key attributes that influence adoption: relative advantage, compatibility, complexity, trialability and observability. Applied to this study, digital microfinance innovations such as mobile money services, agent banking, digital wallets and crowdfunding represent financial innovations whose adoption among rural entrepreneurs depends on their perceived usefulness, cultural fit, ease of use, demonstrable results and affordability. This theory is suitable because it captures the behavioral and contextual dynamics of rural entrepreneurs in North Central Nigeria, where financial exclusion persists despite national financial inclusion strategies. Adoption of digital microfinance tools is not automatic; it is shaped by digital literacy, trust, infrastructure and socio-cultural acceptance. By grounding the study in the Diffusion of Innovation Theory, the research can explain why some entrepreneurs adopt and actively use digital finance while others remain excluded, thereby linking technological innovation to financial inclusion outcomes in a rural, underbanked context.

2.3 Gaps in extant literature

Although research on digital finance and financial inclusion has expanded in recent years, most studies in Nigeria and across sub-Saharan Africa have concentrated on national or urban contexts, with limited attention to rural entrepreneurs (Hoque *et al.*, 2024; Rao *et al.*, 2024). Much of the existing scholarship emphasizes access to digital platforms such as mobile money or agent banking, but fails to critically examine the dimensions of usage, quality and long-term impact on entrepreneurial outcomes (Káčer *et al.*, 2025). Furthermore, while evidence from East Africa shows that mobile money and digital wallets can significantly enhance inclusion (Lange, 2024; Mkalama *et al.*, 2025), empirical validation in the Nigerian rural context remains scarce. In North Central Nigeria, where infrastructural limitations, cultural reliance on informal finance, and low digital literacy persist, little is known about whether innovations like crowdfunding or agent banking genuinely empower rural entrepreneurs or simply replicate existing inequalities in a digital form (Tomaselli *et al.*, 2025; Elf, 2025). This leaves a critical research gap in assessing the real effect of digital microfinance innovation on financial inclusion within marginalized rural entrepreneurial ecosystems.

3.0 Methodology

The study employs a cross sectional survey research design with quantitative approach to investigate the effect of digital microfinance innovation on the financial inclusion of rural entrepreneurs in North Central Nigeria. The population consists of rural entrepreneurs engaged in small-scale trading, farming-related enterprises and other microbusinesses across Kogi, Niger, Benue, Nasarawa, Kwara, Plateau and FCT. A multistage sampling technique was applied: states and LGAs were purposively and randomly selected and entrepreneurs proportionately drawn to ensure fair representation. Using Yamane's (1967) formula, at a 95% confidence level and a 5% margin of error a minimum sample size of 370 was derived from an estimated population of 10,000 entrepreneurs, but 407 respondents was targeted to account for non-responses according to Rao *et al.* (2024) and 400 instruments were successfully retrieved and used for the study. Data were gathered through a structured questionnaire divided into sections on demographics, digital microfinance innovation (measured through mobile money, agent banking, digital wallets and crowdfunding), and financial inclusion (measured along access, usage, quality and impact). Items were rated on a five-point Likert scale to capture intensity of responses. Instrument validity was established through expert reviews and alignment with prior validated scales, while reliability was confirmed using a pilot study and Cronbach's alpha coefficient threshold of 0.70. Data was collected face-to-face by trained research assistants who administered the questionnaire in English and local languages, considering literacy limitations in rural areas. Ethical standards such as informed consent, confidentiality and voluntary participation was observed. The data was analyzed using SPSS (version 25) for descriptive statistics, correlations and multiple regression to test the hypothesized causal relationships and overall model fit. This approach provides robust, context-sensitive insights into how digital microfinance innovations contribute to the financial inclusion of rural entrepreneurs in Nigeria's North Central region.

4.0 Results and Discussion

4.1 Descriptive Analysis

Table 4.1: Demographic Characteristics of Respondents (N = 400)

Variable	Category	Frequency	Percentage (%)
Gender	Male	220	55.0
	Female	180	45.0
Age Group	18–30 years	140	35.0
	31–40 years	160	40.0
	41–50 years	70	17.5
	51 years and above	30	7.5
Education Level	No formal education	60	15.0
	Primary	100	25.0
	Secondary	140	35.0
	Tertiary	100	25.0
Business Type	Small trading	180	45.0
	Farming-related	150	37.5
	Other microbusiness	70	17.5
Years in Business	Less than 5 years	210	52.5
	5–10 years	130	32.5
	Above 10 years	60	15.0

Source: Researcher field survey, (2025)

Table 4.1 indicated a reasonable gender balance (55% male to 45% female). The age of respondents concentrated in 18–40 (75% combined). Education: large share with primary/secondary; 15% with no formal education. Business types dominated by small trading and farming-related enterprises; most are relatively young businesses (<5 years). Financial inclusion strategies adoption must be tuned by age, education and business type. Young entrepreneurs will adopt digital solutions faster, prioritize smartphone/light-UI solutions and SMS/USSD fall backs for older/less-literate groups.

Table 4.2: Descriptive Statistics of Constructs

Construct	Mean	SD	Min	Max	Cronbach's Alpha
Mobile Money	3.85	0.76	1	5	0.82
Agent Banking	3.72	0.81	1	5	0.79
Digital Wallets	3.68	0.84	1	5	0.83
Crowdfunding	3.40	0.90	1	5	0.77
Financial Access	3.90	0.70	1	5	0.85
Financial Usage	3.75	0.73	1	5	0.81
Financial Quality	3.62	0.80	1	5	0.84
Financial Impact	3.80	0.78	1	5	0.86

Source: Field survey (2025)

Table 4.2 revealed the Mean adoption/experience levels: Mobile Money (3.85) > Financial Access (3.90) > Digital Wallets (3.68) > Crowdfunding (3.40). All constructs show acceptable internal consistency ($\alpha \geq 0.77$), so scales are reliable. This means that Mobile money and financial access scores are high and users are already engaging with transactional digital services and perceive some increase in access. Crowdfunding has the lowest mean and the highest dispersion (SD 0.90), adoption is heterogeneous and likely constrained by trust, awareness, or infrastructure. High Cronbach's alpha across constructs means composite indices are dependable for further analysis (regression). There is need invest in "scale-up" of mobile money features that directly influence access and usage (payments, remittances, basic savings). Crowdfunding requires an ecosystem play (trust mechanisms, escrow, group endorsements) before expecting high take-up in rural settings.

4.2 Inferential Analyses

Table 4.3: Correlation Matrix

Variables	1	2	3	4	5
1. Mobile Money	1				
2. Agent Banking	0.58**	1			
3. Digital Wallets	0.55**	0.60**	1		
4. Crowdfunding	0.40**	0.45**	0.47**	1	
5. Financial Inclusion	0.62**	0.59**	0.64**	0.50**	1

Note: **p < 0.01

Table 4.3 showed a positive, significant correlations across all digital microfinance channels and with financial inclusion (e.g., Mobile Money ↔ Financial Inclusion: $r = 0.62^{**}$). The inter-predictor correlations are moderate to high (e.g., Agent Banking ↔ Digital Wallets: $r \approx 0.60$). This implies that channels are complementary: people who use one digital channel are likelier to use others, a co-adoption effect. The positive correlations with financial inclusion imply strong bivariate relationships, but correlations don't control for confounders.

Table 4.4: Multiple Regression Results (Predicting Financial Inclusion)

Predictor Variable	Beta (β)	Std. Error	t-value	Sig. (p)
Mobile Money	0.28	0.06	4.67	0.000***
Agent Banking	0.22	0.07	3.14	0.002**
Digital Wallets	0.25	0.06	4.12	0.000***
Crowdfunding	0.18	0.05	3.60	0.001**

Model Summary

$R^2 = 0.52$, Adj. $R^2 = 0.51$ F = 107.3 ($p < 0.001$)

Note: a. Predictors and standardized betas: Mobile Money ($\beta = 0.28^{***}$), Digital Wallets ($\beta = 0.25^{***}$), Agent Banking ($\beta = 0.22^{**}$), Crowdfunding ($\beta = 0.18^{**}$).
b. Model $R^2 = 0.52$ (Adj. $R^2 = 0.51$), $F(4,395) = 107.3$, $p < 0.001$.

Collectively, the four digital innovations explain 52% of the variance in financial inclusion — that's large for social science studies and indicates these instruments are central determinants in the sample.

4.3 Discussion of results

Objective 1: To examine the effect of mobile money on financial inclusion of rural entrepreneurs.

Mobile money exerts the strongest effect on financial inclusion ($\beta = 0.28$, $t = 4.67$, $p < .001$), demonstrating that it significantly enhances rural entrepreneurs' access, usage, quality and overall impact of financial services. This indicates that mobile money is the leading driver of financial inclusion among the digital innovations considered. Policymakers and microfinance institutions must expand mobile money infrastructure, interoperability, and agent onboarding while ensuring consumer protection to build trust. For entrepreneurs, increased reliance on mobile money enhances business liquidity, savings, and cashless transactions. In relations to Rogers' Diffusion of Innovation theory, mobile money represents a clear relative advantage over cash-based systems, as it reduces transaction costs, increases speed, and enhances accessibility. Its compatibility with rural entrepreneurs' daily financial needs accelerates adoption, while its high observability (through peer usage) further drives diffusion. Da Rin and Hellmann (2020) emphasized the critical role of low-friction payment systems in enabling entrepreneurial finance. Similarly, Rao *et al.*, (2024) highlighted mobile finance as central to the evolution of entrepreneurial finance. Van der Sijde *et al.*, (2025) further confirmed that digital platforms such as mobile money improve SME sustainability in emerging economies. Mobile money is the most potent lever for rural financial inclusion, aligning with DOI's prediction that innovations offering clear relative advantage and compatibility diffuse the fastest.

Objective 2: To assess the role of agent banking in driving rural financial inclusion.

Agent banking has a positive and significant effect ($\beta = 0.22$, $t = 3.14$, $p = .002$), showing that physical agent networks remain essential for rural financial inclusion, especially where literacy and infrastructure constraints exist. Scaling agent networks with sufficient liquidity, training and incentives will increase adoption of digital financial services, particularly for rural populations that require trust and face-to-face interactions. It relation to DOI theory, Agent banking reduces complexity and increases trialability of digital finance by providing human

intermediaries to guide rural users. DOI theory posits that interpersonal channels are critical during the persuasion stage of adoption, and agents play this exact role. Elf (2025) stresses the importance of sustainable entrepreneurial finance ecosystems that rely on intermediaries, while Káčer *et al.*, (2025) demonstrate that such intermediated finance channels are crucial for firm survival during crises. Rao *et al.* (2024) also show that institutional delivery channels strongly influence adoption and continued use of financial innovations. Agent banking is indispensable in bridging digital gaps, consistent with DOI's assertion that interpersonal networks accelerate diffusion when complexity and trust barriers exist.

Objective 3: To evaluate the effect of digital wallets on financial inclusion.

Digital wallets significantly impact financial inclusion ($\beta = 0.25$, $t = 4.12$, $p < .001$), nearly rivaling mobile money. This suggests wallets extend beyond payments to include savings, micro-credit and record-keeping, thus deepening financial usage and quality for rural entrepreneurs. Building interoperable digital wallets with features like savings buckets, merchant payment options and bookkeeping tools will enhance entrepreneurial resilience and financial health. In relation to DOI theory, Digital wallets score high on relative advantage and compatibility by integrating multiple functions into one platform. Their modular features enhance trialability, while visible benefits in business transactions strengthen observability, accelerating diffusion. Correia *et al.*, (2024) find that platform-based financial choices encourage concentrated and deeper engagement, while van der Sijde *et al.* (2025) highlight how such digital services improve SME sustainability. Rao *et al.* (2024) further link digital platforms to long-term entrepreneurial finance trends. Digital wallets are a near-equal driver to mobile money, diffusing quickly due to their compatibility and bundled value proposition as predicted by DOI theory.

Objective 4: To investigate the contribution of crowdfunding to rural financial inclusion.

Crowdfunding has the smallest but still significant effect ($\beta = 0.18$, $t = 3.60$, $p = .001$), meaning it contributes positively but is not yet as transformative as mobile money or wallets. It remains a niche instrument, effective mainly in project-based or community-driven financing. Crowdfunding should be developed gradually with emphasis on building platform trust, transparency and community endorsement. For rural entrepreneurs, it can unlock larger lump-sum financing when traditional credit is inaccessible. However, crowdfunding faces higher complexity and lower compatibility in rural contexts compared to mobile money. Adoption depends heavily on observability of successful campaigns and trust signals, aligning with DOI's prediction that innovations with low trialability diffuse more slowly. Berliner *et al.*, (2025) and Tomaselli *et al.*, (2025) show that crowdfunding adoption hinges on signaling and reputation. Hoque *et al.*, (2024) provide evidence that crowdfunding's role in innovation finance is context-dependent, while Mkalama *et al.* (2025) highlight the importance of early credibility for campaign outcomes. Crowdfunding is an emerging but slower-diffusing innovation, requiring strong trust-building and signaling mechanisms for broader adoption in rural contexts.

Objective 5: To determine the combined explanatory power of digital microfinance innovations on financial inclusion.

The overall model explains 52% of the variance in financial inclusion ($R^2 = 0.52$, Adj. $R^2 = 0.51$, $F = 107.3$, $p < .001$), a substantial effect size in social sciences. This underscores that the four innovations collectively form a powerful ecosystem for enhancing rural financial inclusion. A single innovation cannot achieve optimal inclusion; instead, a synergistic strategy

combining mobile money, agent banking, digital wallets, and crowdfunding is required for maximum impact. DOI emphasizes that adoption accelerates when innovations are complementary, reinforcing one another's relative advantage, compatibility, and observability. Here, the ecosystem effect aligns perfectly with Rogers' view of innovation clusters diffusing faster than isolated products. Rao *et al.* (2024) and Manigart & Wright (2024) highlight the need for integrated approaches in entrepreneurial finance research. Elf (2025) stresses the value of ecosystems, while van der Sijde *et al.* (2025) empirically demonstrate how multiple innovations working together sustain SME finance in emerging economies. The combined strength of digital microfinance innovations confirms DOI's premise that innovation clusters diffuse more effectively, making integration the strategic pathway for deep rural financial inclusion.

5.0 Conclusion and Recommendations

The outcome and implications of the study is synthesized below

5.1 Conclusion

This study demonstrates that digital microfinance innovations significantly enhance rural financial inclusion, with mobile money and digital wallets emerging as the most influential tools, while agent banking and crowdfunding also provide meaningful contributions. Anchored in Diffusion of Innovation theory, the findings affirm that innovations with clear relative advantage, compatibility, and reduced complexity diffuse more rapidly among rural entrepreneurs. The results provide compelling evidence that digital innovations are no longer peripheral financial tools but central enablers of entrepreneurial growth, sustainability, and inclusion. Thus, rural financial inclusion is not merely a function of accessibility but of strategically diffusing and scaling the right innovations across stakeholders.

5.2 Recommendations

- i. Entrepreneurs should actively adopt mobile money platforms as their primary transactional and savings tool, leveraging its ubiquity and reliability to reduce cash dependency and strengthen financial resilience.
- ii. Banks and microfinance institutions should scale agent banking networks into underserved rural areas, ensuring proper training, liquidity management, and digital infrastructure to enhance trust and efficiency.
- iii. Government and regulators should support interoperability policies for digital wallets, ensuring seamless integration across providers while safeguarding users through data protection and consumer protection frameworks.
- iv. Crowdfunding platforms and investors should create localized, trust-based models that align with cultural norms of solidarity finance, while ensuring transparency and post-funding support to rural entrepreneurs.
- v. Development agencies and NGOs should invest in financial literacy programs, digital training, and awareness campaigns that demystify digital finance tools, particularly for women and marginalized groups.

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