RECONFIGURING INFORMAL FINANCE: EVIDENCE FROM MOBILE MONEY ADOPTION IN KADUNA STATE, NIGERIA

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Abstract

The increasing penetration of mobile money services in sub-Saharan Africa has brought new opportunities for expanding financial inclusion, particularly among unbanked populations. In Kaduna State, Nigeria, where informal financial systems such as ajo and esusu remain dominant, this study examines the extent to which mobile money services are reshaping or reinforcing traditional financial practices. Using a mixed-methods approach, data were collected from 400 survey respondents, 20 key informant interviews, and four focus group discussions across urban and rural communities. Quantitative analysis revealed that while mobile money usage is growing, especially for small transfers and airtime purchases, informal systems continue to play a central role in savings and community-based lending. Logistic regression results indicate that mobile phone ownership, education level, and proximity to agents significantly influence the likelihood of reducing dependence on informal finance. Qualitative findings highlight trust, cultural familiarity, and social support as key reasons why many users still rely on traditional systems. The study concludes that mobile money services have not displaced informal finance in Kaduna but instead operate alongside it, reflecting a hybrid pattern of financial behaviour. Policy efforts aimed at enhancing digital financial inclusion must take into account the embedded role of informal systems and focus on building trust, expanding agent networks, and promoting financial literacy at the grassroots level.

Keywords: Mobile money, Informal finance, financial inclusion, Digital payments, Kaduna State, Nigeria, Trust, Unbanked population

1.0 Introduction

The growth of mobile money services across sub-Saharan Africa has significantly reshaped the way people manage financial transactions, offering new options for saving, borrowing, and transferring money—particularly for those excluded from formal banking structures. In Nigeria, where large segments of the population remain outside the traditional financial system, mobile money has emerged as a potential tool for deepening financial inclusion (Adebayo, Adedoyin, & Omankhanlen, 2021). Kaduna State provides a compelling context for analysis, given its blend of urban and rural communities and the persistence of informal financial practices rooted in local customs.

Informal financial systems encompass non-institutional and community-driven mechanisms that enable individuals to access credit, manage savings, and cope with risk. Examples include rotating savings groups, cooperative societies, thrift collectors, and informal money lenders (Bouman, 1995; Aryeetey, 2008). These systems thrive on social trust and mutual accountability, often filling the gap left by the limited reach of formal financial institutions, especially among low-income earners.

Although mobile money platforms are becoming more widely available in Nigeria, informal finance continues to dominate in many communities—particularly in rural settings and among vulnerable

populations. This coexistence brings to the fore important issues related to trust, adaptability, and financial decision-making. While evidence from East African countries like Kenya indicates that mobile money has sometimes replaced traditional informal channels (Jack & Suri, 2014; Mbiti & Weil, 2016), the Nigerian case remains less clearly defined. Most of the existing research emphasizes general adoption patterns or focuses on urban areas, leaving a critical gap in understanding how mobile money interacts with informal finance in the culturally distinct and technologically underserved northern regions.

Kaduna State is particularly relevant for such an investigation due to its mixture of modern mobile infrastructure and enduring traditional financial practices. However, little is known about how mobile money services are affecting the financial choices of people who continue to rely on informal systems. This study addresses this gap by exploring whether mobile money services in Kaduna State are substituting, complementing, or coexisting with informal financial systems. The study evaluates the extent in which the adoption of mobile money services influenced participation in informal financial systems in Kaduna State and to determine whether individuals shift away from or continue to engage with informal financial practices despite access to mobile money.

The study contributes to a more nuanced understanding of financial inclusion in Nigeria, with implications for policymakers, financial service providers, and development practitioners working to improve access and trust in financial systems across diverse contexts.

2.0 Literature Review

The proliferation of mobile money services across sub-Saharan Africa has generated widespread scholarly interest in their implications for financial inclusion and the structure of local financial systems. In contexts where formal banking infrastructure remains limited, mobile money platforms have emerged as a pivotal mechanism for enabling basic financial services—savings, payments, transfers, and credit—via mobile devices. Scholars have documented significant economic transformations in countries such as Kenya, Tanzania, and Uganda, attributing part of their progress in financial inclusion to innovations in digital finance (Jack & Suri, 2014; Demirgüç-Kunt et al., 2022).

2.0 Literature Review

Although the Central Bank of Nigeria has made sustained efforts since 2009 to promote mobile money as a financial inclusion tool, adoption across the country remains inconsistent. Various challenges—including weak network infrastructure, regulatory delays, and widespread digital illiteracy—have hindered progress, particularly in rural and northern regions of the country (Adebayo, Adedoyin, & Omankhanlen, 2021). Kaduna State presents a compelling context for examining these dynamics. Its combination of urban centres and vast rural communities highlights a dual financial environment where formal institutions and deeply rooted informal systems operate side by side.

Informal financial systems—such as rotating savings and credit associations (ROSCAs), thrift collectors, and local moneylenders—have long served as alternatives to formal banking in Nigeria. These community-based arrangements offer flexible access to credit and savings, often relying on mutual trust and cultural legitimacy rather than institutional oversight (Bouman, 1995; Aryeetey, 2008). In Kaduna, local models like *ajo*, *adashe*, and *esusu* remain widely used, especially among informal traders, artisans, and low-income earners. While these practices are valued for their accessibility and personal networks, they are constrained by limitations such as exposure to default risk, lack of formal recourse, and limited scalability.

Recent research has begun to explore how mobile money is affecting financial behaviours in Nigeria's less urbanized areas. For example, Umar and Suleiman (2021) reported that while mobile money has improved access to emergency funds in northern Nigeria, it has done little to replace traditional savings methods due to enduring trust in informal practices. Similarly, Yakubu and Ocheja (2022) observed

that during the COVID-19 lockdown, usage of mobile money increased for small-scale transactions, but many residents in Kaduna and Kano still turned to informal lending systems—especially for larger, agriculture-related financial needs.

Aliyu et al. (2023) highlighted the significant influence of religious and community leaders in shaping public attitudes toward mobile financial platforms in the North. Their findings emphasize that digital inclusion strategies must consider these social dynamics, as long-standing informal networks remain central to how people navigate financial decisions.

Evidence from other parts of Africa offers contrasting insights. In Kenya, for instance, Jack and Suri (2014) found that users of M-Pesa reduced their reliance on informal remittance systems and savings groups, as digital services offered faster, more secure options. Mbiti and Weil (2016) also documented a positive shift from informal to formal financial behaviour among mobile money users, suggesting a substitution effect. However, this trend is not universal. In Ghana, research by Bateman, Duvendack, and Loubere (2019) found that many individuals continue to rely on local savings groups while using mobile money for limited functions like bill payments or receiving remittances. This pattern reflects a hybrid financial culture influenced by practical needs and social norms.

In Nigeria, the interaction between mobile money and informal finance remains underexplored—particularly in northern states where digital infrastructure is weaker and cultural traditions play a more prominent role. Olayemi and Adeniran (2020) noted that in these regions, many people maintain a strong preference for familiar, communal financial arrangements and are cautious of impersonal, technology-driven systems. The role of mobile money agents—who often serve as intermediaries—can also shape perceptions of trust and reliability, especially in communities with previous exposure to financial fraud or poor service delivery (GSMA, 2023).

A number of studies have examined the factors that influence mobile money adoption, often drawing from frameworks such as the technology acceptance model and diffusion of innovation theory. Key variables include perceived ease of use, service cost, accessibility, and peer influence (Chitungo & Munongo, 2013). However, across most contexts, trust continues to be the single most important factor—both in the platform and in the agents who facilitate its use. In environments like rural Kaduna, where institutional confidence is weak, individuals often prefer familiar financial systems, even when digital options are available.

Demographics also play a role. Women, for instance, are often more likely to rely on informal groups due to unequal access to digital devices, lower literacy, and reduced participation in agent networks dominated by men (UNCTAD, 2022). These gendered realities introduce another layer of complexity into the adoption of mobile money services in traditional communities.

Despite increasing scholarly attention to digital finance, relatively few empirical studies have focused on how mobile money is reshaping informal financial practices in Nigeria's northern states. The existing literature largely centres on national trends or urban populations. There is a pressing need for localized research that considers how digital platforms interact with traditional financial behaviour and how individuals adapt to innovation within their socio-cultural contexts.

3.0 Methodology

3.1 Research Design

This research adopted a mixed-methods design, integrating both quantitative and qualitative techniques to provide a comprehensive understanding of the influence of mobile money services on informal financial behaviour among unbanked residents of Kaduna State. The quantitative component was based on a descriptive cross-sectional survey, while qualitative insights were gathered through key informant

interviews and focus group discussions. This approach allowed for a more nuanced exploration of patterns, perceptions, and contextual factors shaping financial choices within the study area.

3.2 Study Area

The research was conducted in Kaduna State, located in northwestern Nigeria. The state was chosen due to its demographic diversity, varying levels of financial access, and co-existence of both formal and informal financial systems. Data collection focused on both urban (Kaduna North and Zaria) and rural (Giwa and Igabi) local government areas to capture a balanced perspective.

3.3 Population and Sampling Technique

The target population included individuals without formal bank accounts, users of informal financial systems such as rotating savings groups and local money lenders, and users and agents of mobile money services.

A multi-stage sampling method was used. First, four local government areas were selected purposively to reflect geographic and socio-economic diversity. Within each LGA, wards were randomly selected. In the final stage, households and individual respondents were selected using systematic random sampling. The study sampled a total of 400 respondents for the survey and conducted 20 key informant interviews and 4 focus group discussions.

3.4 Instruments of Data Collection

Data were collected using a structured questionnaire for the survey, and a semi-structured interview guide for key informants and focus groups. The questionnaire included sections on demographic characteristics, financial behaviour, use of mobile money, and experience with informal finance. Instruments were pre-tested in a pilot study and translated into Hausa to accommodate non-English-speaking participants.

3.5 Method of Data Analysis

Quantitative data were analysed using descriptive and inferential statistics, with the aid of SPSS (version 26). Frequency tables and cross-tabulations were used to summarize demographic characteristics and financial behaviours. To examine the influence of key predictors such as mobile phone ownership, education level, and proximity to agents, on changes in informal financial participation, a multinomial logistic regression model was employed. This model was appropriate given the dependent variable had three nominal categories:

a. no change in informal participation,

b. reduced usage, and

c. complete withdrawal.

The multinomial logistic regression enabled the comparison of these outcomes relative to a base category, allowing for the identification of factors that increase or decrease the likelihood of shifting away from informal finance.

3.6 Validity, Reliability, and Ethical Considerations

The validity of the instruments was ensured through expert review and pre-testing, while reliability was confirmed by calculating Cronbach's Alpha for relevant survey sections, with a benchmark of 0.7 for internal consistency.

Ethical clearance for the study was obtained from the Kaduna State Research Ethics Committee. Informed consent was secured from all participants, and confidentiality was strictly maintained throughout the data collection and reporting process.

4.0 Results and Discussion

4.1 Respondents' Demographic Profile

Table 1 presents the demographic distribution of the study participants. Of the 400 respondents, the majority were aged between 25–45 years, with a slightly higher proportion of males (54%) compared to females (46%). Rural residents made up 68% of the sample, reflecting the study's emphasis on the unbanked population.

Table 1: Demographic Characteristics of Respondents (N = 400)

Gender	Frequency	Percentage
Male	216	54
Female	184	46

Age	Frequency	Percentage
18-24	82	20.5
25-45	248	62
Above 45	70	17.5

Residence	Frequency	Percentage
Rural	272	68
Urban	128	32

Bank account owner	Frequency	Percentage
Yes	120	30
No	280	70

4.2 Patterns of Mobile Money Usage

Figure 1 below illustrates the main purposes for which mobile money services were used among respondents. Airtime purchase and person-to-person transfers were the most frequent uses.

Figure 1: Common Uses of Mobile Money Among Respondents

Use Case	Percentage
Airtime Purchase	45
Money Transfer	42
Bill Payment	13

4.3 Participation in Informal Financial Systems

Table 2 displays the types of informal financial systems respondents participated in. Rotating savings groups (*ajo/esusu*) and cooperative societies were the most common. Nearly 74% of all respondents were active participants in informal financial arrangements. The most popular forms included rotating savings groups (*esusu*, *ajo*) and contributions to burial societies or cooperative societies. Many respondents (especially women and older adults) expressed a preference for informal systems due to familiarity, trust, and perceived lower risk of fraud.

Table 2: Forms of Informal Financial Participation

Informal System Type	Frequency	Percentage (%)
Rotating Savings (*esusu)*	158	39.5
Money Lenders	86	21.5
Cooperative Societies	100	20
Burial/Religious Associations	56	14

4.4 Relationship Between Mobile Money and Informal Finance

A cross-tabulation analysis revealed a partial shift from informal systems among mobile money users, as shown in Table 3. About 18% of mobile money users reported that they had stopped participating in informal systems altogether. However, about 35% said they had reduced their reliance on informal borrowing and saving due to the convenience and privacy of mobile money services.

Table 3: Mobile Money Impact on Informal Financial Participation

Effect on Informal Use	Frequency	Frequency
No change	188	47
Reduced usage	140	35
Completely stopped	72	18

The logistic regression model (Table 4) identified education, proximity to mobile money agents, and phone ownership as significant predictors ($p < 0.05$) of decreased informal finance dependence.

Table 4: Logistic Regression Predicting Reduction in Informal Financial Use

Variable	Coefficient (B)	Std. Error	Prob.
Mobile phone ownership	1.134	0.308	0.002
Secondary education or higher	0.847	0.294	0.005
Distance to mobile money agent	-0.721	0.267	0.007
Constant	-2.231	0.456	0.009

4.5 Insights from Key Informant Interviews

Interviews with mobile money agents and local group leaders highlighted key dynamics. Many agents noted that while mobile money use is increasing, informal financial systems remain dominant in rural areas, particularly among older residents. Group leaders expressed concerns that digital platforms could weaken social ties and communal obligations traditionally reinforced through rotating savings groups.

Focus group discussions revealed that trust remains a major barrier. Several participants cited fears of fraud, account hacking, and poor customer service as reasons for hesitating to fully embrace mobile

money. Others stated that while digital services are faster, informal groups provide more flexibility and social support.

4.6 Discussion

The results of this study support earlier findings which indicate that mobile money does not outright replace informal financial systems but instead functions as a complementary option that broadens access to financial services (Aryeetey, 2008; Mbiti & Weil, 2016). In the context of Kaduna, mobile money has contributed to reducing reliance on informal lending, especially for minor transactions and emergency needs. However, it has not supplanted the social cohesion and community-based trust that informal systems provide.

This pattern of usage points to the emergence of a hybrid financial model, in which individuals navigate between familiar, trust-driven systems and modern digital platforms. Such behavior is shaped by deeper cultural and structural realities, including limited financial literacy, the influence of religious norms, infrastructural limitations, and the central role of interpersonal relationships in financial decision-making.

Nevertheless, the broader adoption of mobile financial services remains constrained by persistent challenges. Issues such as lack of trust, weak mobile network coverage, low levels of digital literacy, and insufficient agent representation—especially in remote areas—continue to limit deeper integration. These findings underscore the importance of policies that not only improve access to digital finance but also build trust, safeguard users, and promote financial education at the community level.

5.1 Conclusion

This study examined the impact of mobile money services on informal financial systems in Kaduna State, with a focus on how digital finance affects saving and borrowing behaviors among unbanked individuals. The findings indicate that while mobile money is gaining traction—particularly for simple transactions like transfers and airtime purchases—informal systems such as *ajo* and *esusu* remain deeply rooted due to cultural familiarity, trust, and social capital.

Rather than replacing informal finance, mobile money appears to function alongside it, producing a hybrid pattern of financial engagement. Factors such as mobile phone ownership, education level, and proximity to agents were found to influence the likelihood of shifting away from informal systems. However, qualitative insights reveal that many individuals still prefer informal channels for reasons related to flexibility, group support, and trust.

5.2 Recommendations

1. Expand Digital and Financial Literacy Programs: Stakeholders should design inclusive education campaigns tailored to rural populations to demystify mobile money usage and reduce fear of fraud or error.

2. Strengthen Consumer Protection Mechanisms: Regulators and service providers must ensure there are transparent grievance channels, responsive customer support, and legal safeguards to boost user confidence in digital transactions.

3. Foster Integration with Informal Groups: Instead of promoting mobile money as a substitute, providers can explore partnerships with existing savings groups, cooperatives, and ROSCAs to digitize operations without disrupting social cohesion.

4. Increase Agent Network Coverage: Special attention should be given to under-served rural communities by licensing more mobile money agents and ensuring physical accessibility to services.

5. Involve Community Influencers in Outreach: Trusted voices such as religious leaders, market heads, and traditional rulers should be engaged in public awareness efforts to legitimize mobile platforms and counter suspicion.

6. Promote Gender-Inclusive Strategies: Recognizing that women often rely more on informal finance, policies should address digital gender gaps through targeted programs that improve women's access to mobile phones, ID registration, and agent services.

7. Encourage Ongoing Local Research and Monitoring: State-level financial inclusion efforts should be informed by regular data collection and user feedback, particularly from rural and low-income communities.

5.3 Policy Implications

The findings underscore the importance of adopting a context-sensitive approach to digital financial inclusion. Policymakers and financial service providers must recognize that informal financial systems serve not only economic functions but also social and cultural purposes. Attempts to scale mobile money should not seek to displace informal systems abruptly but rather find ways to build on their strengths. Integrating digital tools with traditional practices, while ensuring user protection and financial education, is likely to yield more sustainable results in settings like Kaduna State.

5.4 Study Limitations

This study is not without limitations. First, the analysis relied heavily on self-reported data, which may be subject to recall bias or social desirability bias. Second, while efforts were made to include both urban and rural populations, the findings may not be fully generalizable to all regions of Nigeria due to differences in infrastructure, literacy, and cultural attitudes toward finance. Future studies could expand the geographical scope and include longitudinal data to observe behavioural shifts over time.

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