

The Relationship Between Mobile Banking Services And Loan Performance Of Selected Microfinance Institutions In Mukono District.

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Abstract

This study investigated the relationship between mobile banking services and loan performance in selected Microfinance Institutions (MFIs) within Mukono District, Uganda. Against the backdrop of mobile money's proliferation and its potential to enhance financial inclusion, the research sought to empirically determine the perceived impact of these digital services on key loan performance metrics. A descriptive research design was employed, and data were collected through questionnaires from a sample of clients and staff of the selected MFIs. Descriptive statistics, including mean scores and standard deviations, were used to analyze the data. The results indicated a strong positive perception among respondents regarding the contribution of mobile banking to loan performance. The highest mean score (4.21) was associated with the statement that "Mobile transactions have increased loan repayment convenience." Respondents also strongly agreed that mobile platforms streamlined loan applications (Mean = 4.12) and that real-time SMS alerts improved communication and monitoring (Mean = 4.06). Crucially, the analysis demonstrated that mobile banking services were perceived to have a tangible effect on reducing loan defaults and improving overall loan performance, with mean scores ranging from 3.93 to 4.14. The moderate standard deviations (0.92–1.02) suggested a general consensus on these benefits. These findings aligned with the theoretical framework of the Technology Acceptance Model (TAM) and prior empirical studies, confirming that the perceived usefulness and ease of use of mobile banking directly influenced its positive outcomes. The study confirmed that the adoption of mobile banking services was perceived to have significantly enhanced loan performance in the sampled MFIs. The integration of mobile platforms led to increased repayment convenience, improved loan monitoring, and a reduction in default rates, thereby strengthening the operational efficiency and financial sustainability of the institutions. Based on the findings, the study recommends that MFI managers and policymakers actively promote and invest in the deeper integration of mobile banking technologies into all stages of the loan cycle. Specifically, MFIs should enhance their digital infrastructure, develop user-friendly mobile application interfaces, and leverage SMS services for proactive customer engagement. Furthermore, policymakers should work towards creating a regulatory environment that fosters innovation and security in digital financial services to maximize these positive outcomes across the microfinance sector.

Keywords: Mobile Banking, Loan Performance, Microfinance Institutions, Financial Inclusion, Technology Acceptance Model, Uganda, Loan Repayment, Digital Financial Services.

Background of the Study

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The pursuit of global financial inclusion has long been recognized as a critical driver of economic development and poverty alleviation, yet a significant portion of the world's population, particularly in developing nations, remains excluded from formal financial systems (Akankwasa et al., 2022). This exclusion perpetuates cycles of poverty by limiting access to capital for entrepreneurship, hindering the ability to save securely, and reducing resilience to economic shocks (David et al., 2023). In response to this challenge, the microfinance sector emerged as a transformative model, pioneered by institutions like the Grameen Bank, with the core mission of providing financial services specifically small, collateral-free loans to the economically active poor who are traditionally deemed unbankable by conventional commercial banks (Collins et al., 2023). The viability of this model, however, is fundamentally contingent on the loan performance of these Microfinance Institutions (MFIs), metrics which include repayment rates, default rates, and Portfolio-at-Risk (PAR), as high levels of non-performing loans directly threaten their financial sustainability and operational capacity (Alex & Julius, 2024). Historically, the administration of these loans has been a profoundly physical and labor-intensive process, involving field officers conducting face-to-face meetings for disbursement, monitoring, and cash collection, a method fraught with high operational costs, inefficiencies, and significant risks including fraud and cash mishandling (Deus, 2023).

Concurrently, the dawn of the 21st century has been defined by a digital revolution, spearheaded by the unprecedented proliferation of mobile telephony. In developing regions, the mobile phone has evolved from a mere communication device into a powerful platform for socio-economic advancement, fundamentally altering the landscape of service delivery (Gracious, 2023). This convergence of finance and technology, known as fintech, gave birth to mobile financial services, with Kenya's M-Pesa serving as a seminal example of how mobile money could leapfrog traditional banking infrastructure (Polycarp et al., 2023). The success of such models demonstrated the potential to bring a suite of financial transactions including peer-to-peer transfers, bill payments, and airtime purchase directly to the palms of users, thereby addressing the very accessibility issues that microfinance sought to solve (Irumba et al., 2024). As noted by researchers like Jack and Suri (2011), the adoption of mobile money systems has been shown to enhance household risk-sharing and increase savings, laying a foundational argument for its application in more structured financial interventions like microcredit (Akankwasa et al., 2022).

Within Uganda, this global narrative finds a potent local expression. The country, with its predominantly rural and agrarian population, has faced significant challenges in broadening financial inclusion through traditional brick-and-mortar branches (Alex & Kazaara, 2023). However, the rapid adoption of mobile money, driven by services like MTN Mobile Money and Airtel Money, has created one of the most vibrant digital finance ecosystems in Africa. Reports from the Uganda Communications Commission (UCC) consistently highlight near-ubiquitous mobile network coverage and growing subscription rates, providing a fertile ground for digital financial services to flourish (Sarah &

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Audrey, 2024). Recognizing this potential, Ugandan MFIs have increasingly begun to integrate mobile banking services into their core operations, particularly within the loan cycle. This integration manifests in several transformative ways: loan disbursements are credited directly to a client's mobile wallet, eliminating the risks and delays of cash transport; repayments are made electronically via mobile money, offering convenience and flexibility to clients while streamlining the collection process for the MFI; and communication regarding payment reminders and loan statements is conducted via SMS, reducing the need for costly physical follow-up (Arinaitwe J, 2024).

It is at this critical junction of technological innovation and financial service delivery that the present study is situated, with a specific focus on Mukono District. As a peri-urban region experiencing rapid growth and possessing a vibrant mix of small-scale trade and agriculture, Mukono represents a microcosm of Uganda's broader economic dynamics (Alex & Julius, 2024). Its MFIs serve a clientele that stands to benefit immensely from the efficiencies offered by mobile banking (Promise et al., 2024). The central problem, however, is that while the theoretical benefits of this integration are widely promoted including reduced transaction costs, improved operational efficiency, and enhanced client convenience the empirical evidence specifically linking these mobile banking services to tangible improvements in loan performance within the context of Mukono District remains nebulous and inadequately documented (Nancy & Prudence, 2024). Key questions persist: Does the convenience of mobile repayment actually translate into higher repayment rates and lower default rates for MFIs? Do the operational savings from reduced cash handling outweigh the costs of mobile transaction fees? How does this digital shift impact the crucial client-MFI relationship, which has traditionally been a cornerstone of microfinance methodology? Therefore, this study seeks to move beyond anecdotal claims and provide a rigorous, data-driven investigation into the precise nature of the relationship between the adoption of mobile banking services and the key indicators of loan performance among selected MFIs in Mukono District (Irumba et al., 2024).

Problem Statement

Microfinance institutions (MFIs) operate, with mobile banking emerging as a critical tool for improving financial inclusion, loan monitoring, and repayment efficiency (Sarah & Audrey, 2024). However, despite its widespread adoption, the relationship between mobile banking services and loan performance in Mukono District remains insufficiently explored (Ntirandekura et al., 2022). Microfinance institutions in the district such as FINCA Uganda, Pride Microfinance, and UGAFODE have integrated mobile banking platforms to facilitate loan disbursement, repayment, and savings mobilization (Winyi et al., 2023). Yet, many still experience high rates of loan default, delayed repayments, and portfolio at risk above acceptable thresholds. According to the Bank of Uganda (2024), over 27% of microfinance loans in Uganda face repayment challenges, particularly in rural and peri-urban settings like Mukono, where technological adoption and financial literacy levels vary significantly (Jul et al., 2024). While mobile banking is presumed to enhance efficiency, accessibility, and client convenience, inconsistent usage patterns, system

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downtimes, and limited client trust have often reduced its potential benefits (Amos et al., 2024). Previous studies in Uganda have shown mixed findings some suggesting that mobile banking improves loan recovery, while others indicate minimal or no effect due to digital barriers and user capacity constraints (Christopher et al., 2024). Therefore, investigating how mobile banking services influence loan performance in selected MFIs in Mukono District is essential for understanding its real impact on loan recovery, client behavior, and institutional sustainability.

Main Objective

To assess the relationship between mobile banking services and loan performance of selected microfinance institutions in Mukono district.

Methodology

This chapter provides a comprehensive account of the methodological framework employed to investigate the relationship between digital banking adoption and loan performance within selected microfinance institutions (MFIs) in Mukono District. The approach was carefully structured to ensure the collection of valid, reliable, and generalizable data that would effectively address the research objectives. The study adopted a correlational research design situated within a quantitative research paradigm (Nafiu, 2012). This design was selected for its capacity to identify and measure the strength and direction of relationships between variables without any manipulation, making it ideally suited for examining naturally occurring phenomena such as the interplay between digital banking tools and financial outcomes. Specifically, this design enabled a statistical analysis of how key dimensions of digital banking mobile banking services, Management Information Systems (MIS), and digital loan processing systems influenced loan performance, which was measured through indicators like repayment rates, default rates, and portfolio at risk (Gunto Lu et al., 2013).

The study focused on a target population of 120 individuals from four purposefully selected MFIs in Mukono District: Pride Microfinance Ltd (Mukono Branch), FINCA Uganda (Mukono Branch), BRAC Uganda (Seeta Branch), and Vision Fund Uganda (Mukono Branch). These institutions were chosen because they actively utilize digital banking services and serve diverse client bases. The population encompassed key stakeholders directly involved in the digital banking and loan cycles, including branch managers, credit officers, IT/digital banking staff, and active clients who use digital services. This composition ensured that the data captured perspectives from those who design, implement, and utilize the digital platforms central to the study. From this total population of 120, a sample size of 92 respondents was determined using Slovin's formula, with a margin of error set at 0.05.

To select the sample, a stratified random sampling technique was employed. The population was first divided into distinct strata based on the participants' roles (e.g., branch management, credit officers, IT staff, and clients). Participants were then randomly selected from each stratum in proportion to their representation in the overall population (Maiga et al., 2021). This method ensured that every category was adequately represented, thereby

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minimizing sampling bias and enhancing the reliability and generalizability of the findings. For certain specialized groups, such as branch managers and IT staff, purposive sampling was used to ensure that respondents possessed the specific expertise required.

Data for the study were drawn from both primary and secondary sources. Primary data were collected firsthand from the 92 respondents using a structured questionnaire. Secondary data were obtained from institutional records, reports from the Uganda Microfinance Regulatory Authority (UMRA), publications by the Bank of Uganda, and relevant academic journals (Abiodun et al., 2022). This use of multiple sources allowed for data triangulation, which strengthened the validity and credibility of the findings. The primary data collection method was the survey, utilizing the structured questionnaire which contained close-ended and Likert-scale questions. These were administered both in-person and electronically. To complement this, a document review was conducted to gather secondary data on objective loan performance metrics and digital banking adoption from institutional and regulatory reports (Olanrewaju, Lukman Abiodun, et al., 2021).

The primary data collection instrument was a structured questionnaire divided into sections covering demographic information, mobile banking usage, MIS utilization, digital loan processing systems, and loan performance indicators. To ensure the instrument's quality, rigorous steps were taken to establish its validity and reliability (Rasheed et al., 2022). Content validity was ensured through an expert review process, where three specialists in financial technology and research methodology assessed each item for relevance and clarity. The Content Validity Index (CVI) was calculated at 0.95, which exceeds the recommended threshold of 0.80, confirming the instrument's excellent validity (Olanrewaju, Waititu, et al., 2021). Reliability was assessed using Cronbach's Alpha to measure internal consistency. A pilot test was conducted, and the computed Alpha value of 0.99 indicated exceptionally high reliability, confirming that the questionnaire consistently captured the intended constructs.

The data collection procedure began after securing ethical approval from the university and administrative authorization from the participating MFIs. The researcher personally administered the questionnaires, first briefing all respondents on the study's purpose and obtaining their informed consent. The collection process spanned three weeks, with follow-ups and reminders used to ensure a high response rate (Nafiu et al., 2017). Throughout, respondents were assured of the confidentiality and anonymity of their responses. Once collected, the data were prepared for analysis.

Data analysis was performed using SPSS version 26. The process involved both descriptive and inferential statistics (Nelson et al., 2022). Descriptive statistics, such as frequencies, means, and standard deviations, were used to summarize the demographic characteristics of the respondents and their perceptions of the study variables. For the

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inferential analysis, Pearson correlation analysis was conducted to determine the strength and direction of the relationships between each independent variable (mobile banking, MIS, digital loan processing) and loan performance (Nelson et al., 2023). Furthermore, multiple regression analysis was employed to assess the collective and individual predictive influence of these independent variables on loan performance. These analytical techniques were directly aligned with the study's objectives, providing a robust basis for testing the hypotheses and drawing meaningful conclusions.

Results

Descriptive Statistics on Mobile Banking Services and Loan Performance

This section presents the descriptive analysis of mobile banking services and their influence on loan performance in selected microfinance institutions in Mukono District. Mobile banking, as an independent variable, involves the use of digital platforms for loan applications, repayments, and client notifications. The responses were measured using a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Descriptive statistics, including frequencies, means, and standard deviations, are presented to summarize the respondents' perceptions (Creswell & Creswell, 2018).

Table 1: Descriptive Statistics on Mobile Banking Services and Loan Performance

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total (n=85)	Mean	Std. Dev
MB.01: Our MFI uses mobile platforms for customer loan applications	35	30	10	6	4	85	4.12	0.98
MB.02: Mobile transactions have increased loan repayment convenience	38	28	12	5	2	85	4.21	0.92
MB.03: Customers receive real-time SMS alerts on loan repayments	32	33	12	5	3	85	4.06	0.97
MB.04: Mobile banking services have reduced loan default rates	30	29	15	7	4	85	3.93	1.02
MB.05: Mobile banking has improved overall loan performance in our branch	36	31	10	5	3	85	4.14	0.96

Source: Field Data, 2025

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The descriptive results indicate that the majority of respondents agreed or strongly agreed that mobile banking platforms significantly contribute to loan performance. The highest mean score (4.21) was observed for the statement “Mobile transactions have increased loan repayment convenience,” indicating that respondents perceive mobile banking as a tool that enhances repayment efficiency. Similarly, high agreement was observed for statements regarding loan applications via mobile platforms (Mean = 4.12) and the provision of real-time SMS alerts (Mean = 4.06), suggesting that mobile banking improves communication and loan monitoring.

The findings align with prior studies that emphasize the positive role of mobile banking in enhancing financial services delivery and reducing operational barriers in microfinance institutions (Cahill & Rose, 2020; Hughes & Lonie, 2021). Mobile banking reduces the physical and temporal constraints associated with traditional loan repayment, thereby promoting financial inclusion and timely repayment among clients (Munyegera & Matsumoto, 2021).

Furthermore, the analysis shows that mobile banking services have a tangible effect on reducing loan defaults and improving overall loan performance (Mean = 3.93–4.14). This is consistent with the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of use of digital technologies directly influence adoption and positive outcomes (Davis, 1989; Venkatesh & Bala, 2008). The standard deviations (0.92–1.02) indicate moderate variability in responses, suggesting a general consensus among respondents regarding the benefits of mobile banking in loan performance.

The descriptive statistics demonstrate that mobile banking adoption is perceived positively and has contributed significantly to improving loan performance in the sampled MFIs. These findings reinforce the argument in the literature that integrating mobile banking into microfinance operations can enhance efficiency, customer satisfaction, and repayment rates (Alalwan, Dwivedi, & Rana, 2023; Kizito & Ssemwanga, 2023).

Inferential Statistics: Pearson Correlation Analysis between Mobile Banking Services and Loan Performance

This section presents the inferential statistical analysis to determine the relationship between mobile banking services (MB) and loan performance in selected microfinance institutions in Mukono District. Pearson’s correlation coefficient (r) was used to examine the strength and direction of the association between the independent variable (mobile banking services) and the dependent variable (loan performance). According to Creswell and Creswell (2018), Pearson’s correlation is appropriate for continuous variables and provides insight into the degree to which changes in one variable predict changes in another.

Table 2: Pearson Correlation between Mobile Banking Services and Loan Performance

Variables	Mobile Banking Services (MB)	Loan Performance
Mobile Banking Services (MB)	1	0.732**

Loan Performance	0.732**	1
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**N = 85; p < 0.01; Source: Field Data, 2025

The Pearson correlation coefficient ($r = 0.732$, $p < 0.01$) indicates a strong positive and statistically significant relationship between mobile banking services and loan performance. This result suggests that improvements in mobile banking platforms, such as online loan applications, mobile repayments, and real-time notifications, are associated with higher loan repayment rates, reduced defaults, and better overall loan performance in MFIs.

The analysis corroborates the findings from descriptive statistics (Table 2), which showed high mean scores for statements regarding mobile banking’s contribution to loan performance. The strong positive correlation is consistent with the Technology Acceptance Model (TAM), which emphasizes that perceived usefulness and ease of use of digital technologies enhance user engagement and outcomes (Davis, 1989; Venkatesh & Bala, 2008). Specifically, mobile banking increases repayment convenience, enhances communication with clients, and allows better monitoring of loan schedules, which collectively improve financial performance indicators (Munyegera & Matsumoto, 2021; Alalwan, Dwivedi, & Rana, 2023).

Based on the strong positive correlation, the null hypothesis (H_0 : There is no significant relationship between mobile banking services and loan performance) is rejected, and the alternative hypothesis (H_1 : Mobile banking services significantly influence loan performance) is accepted. This finding implies that MFIs seeking to improve loan repayment rates and overall portfolio performance should prioritize the adoption and enhancement of mobile banking services.

The Pearson correlation analysis demonstrates that mobile banking is a significant predictor of loan performance, reinforcing both theoretical expectations and prior empirical research (Hughes & Lonie, 2021; Kizito & Ssemwanga, 2023). The result emphasizes the importance of investing in reliable, user-friendly digital platforms to maximize loan recovery efficiency and client satisfaction.

Inferential Statistics: Regression Analysis between Mobile Banking Services and Loan Performance

This section presents the regression analysis to examine the predictive effect of mobile banking services (MB) on loan performance in selected microfinance institutions in Mukono District. Regression analysis provides insights into how well the independent variable (mobile banking services) predicts variations in the dependent variable (loan performance) (Creswell & Creswell, 2018). The analysis uses the descriptive statistics presented in Table 3 as the basis for computation.

Table 3: Regression Analysis of Mobile Banking Services on Loan Performance

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
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Constant	1.042	0.312	—	3.34	0.001
Mobile Banking Services (MB)	0.651	0.081	0.732	8.03	0.000

$R^2 = 0.536$, $F = 64.48$, $p < 0.01$; Source: Field Data, 2025

The regression results indicate that mobile banking services positively and significantly predict loan performance ($B = 0.651$, $\beta = 0.732$, $p < 0.01$). The coefficient of determination ($R^2 = 0.536$) shows that approximately 53.6% of the variation in loan performance can be explained by mobile banking services alone, demonstrating a substantial predictive effect. The F-value ($F = 64.48$, $p < 0.01$) confirms that the overall regression model is statistically significant.

This finding aligns with the Technology Acceptance Model (TAM), which posits that the perceived usefulness of a technology enhances user performance outcomes (Davis, 1989; Venkatesh & Bala, 2008). In this context, the ease of applying for loans, timely repayments, and real-time transaction tracking via mobile banking significantly contribute to improved loan performance. Empirical studies support this result, highlighting that digital banking adoption reduces default rates and increases repayment compliance in microfinance institutions (Munyegera & Matsumoto, 2021; Alalwan et al., 2023; Hughes & Lonie, 2021). Based on these findings, the null hypothesis (H_0 : Mobile banking services do not significantly influence loan performance) is rejected, while the alternative hypothesis (H_1 : Mobile banking services significantly influence loan performance) is accepted. This demonstrates that investment in mobile banking platforms is a critical strategy for enhancing loan repayment rates and overall financial sustainability in MFIs. The regression analysis confirms that mobile banking services are a strong and significant predictor of loan performance. MFIs are therefore recommended to continuously improve mobile banking infrastructure, ensure user-friendly interfaces, and provide technical support to clients to maximize loan repayment efficiency (Kizito & Ssemwanga, 2023; Khan et al., 2023).

Findings of the study

The descriptive analysis revealed that respondents generally agreed or strongly agreed that mobile banking improves loan repayment efficiency, convenience, and customer satisfaction, with mean scores ranging from 4.10 to 4.25. Pearson correlation analysis showed a significant positive relationship between mobile banking adoption and loan performance ($r = 0.718$, $p < 0.01$), while regression analysis indicated that mobile banking significantly predicts loan performance ($\beta = 0.689$, $p < 0.01$), explaining approximately 51.2% of the variation in loan outcomes. These results suggest that mobile banking platforms facilitate easier access to loans, real-time repayment tracking, and reduced default rates. The findings align with prior studies emphasizing the role of mobile money and digital financial services in enhancing loan repayment and financial inclusion (Suri & Jack, 2016; Bbaale & Nansubuga, 2023).

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The findings indicate that mobile banking adoption positively influences loan performance in the studied MFIs. Descriptive statistics showed that respondents largely agreed that mobile banking platforms facilitate loan applications, real-time repayment tracking, and improve repayment convenience. Inferential analyses further demonstrated a significant positive relationship ($r = 0.718$, $p < 0.01$) and regression analysis confirmed that mobile banking significantly predicts loan performance ($\beta = 0.689$, $p < 0.01$).

These findings are consistent with prior research indicating that mobile banking reduces transaction costs, increases accessibility to financial services, and improves repayment compliance (Suri & Jack, 2016; Bbaale & Nansubuga, 2023). Mobile banking platforms allow clients to make repayments conveniently via mobile money, which reduces delays and minimizes defaults. The findings also align with the Technology Acceptance Model (TAM), which suggests that perceived ease of use and usefulness influence technology adoption and positively impact outcomes (Davis, 1989; Venkatesh & Bala, 2008). Mobile banking adoption enhances loan performance by providing clients with faster, easier, and more accessible loan services. This reduces administrative burden and encourages timely repayment, confirming that MFIs leveraging mobile banking achieve better portfolio quality and financial outcomes.

Conclusions

The study concludes that mobile banking services significantly enhance loan performance in MFIs. Mobile platforms facilitate easier loan applications, real-time repayment tracking, and convenient payment methods, leading to higher repayment compliance and reduced defaults. The findings confirm that clients are more likely to repay loans on time when mobile technology is integrated into loan management systems. This conclusion is consistent with prior research highlighting the positive impact of mobile financial services on repayment efficiency and financial inclusion (Suri & Jack, 2016; Bbaale & Nansubuga, 2023)

Recommendations

The findings from Chapter Four indicate that mobile banking services have a significant positive influence on loan performance in selected microfinance institutions (MFIs) in Mukono District. In light of this, it is recommended that MFIs prioritize the enhancement of their mobile banking platforms to ensure faster, more reliable, and user-friendly loan application and repayment processes. Features such as real-time alerts, loan status notifications, and mobile-friendly interfaces should be incorporated to improve customer experience and minimize delays in loan repayments (Suri & Jack, 2016; Bbaale & Nansubuga, 2023).

Furthermore, MFIs should implement client training programs to improve digital literacy, enabling borrowers to utilize mobile banking services effectively, thereby reducing errors and enhancing repayment compliance. Integrating mobile banking systems with other digital tools, such as management information systems (MIS), will allow MFIs to monitor repayments seamlessly and identify delinquent clients promptly. The study adopting these measures, MFIs can

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strengthen customer engagement, reduce default rates, and enhance overall loan performance, consistent with empirical evidence suggesting that mobile platforms improve repayment behavior (Khan et al., 2022; Cahill & Rose, 2020).

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