

**DIGITAL BANKING ADOPTION AND LOAN PERFORMANCE OF SELECTED MICROFINANCE
INSTITUTIONS IN MUKONO DISTRICT**

AKANKWATSA ANNITAH

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**DISSERTATION SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES & RESEARCH
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DECLARATION

I **Annitah Akankwatsa**, hereby declare that this dissertation entitled “Digital Banking Adoption and Loan Performance in Selected Microfinance Institutions in Mukono District ” is my original work and it has never been presented to any other higher institution of learning for any academic award;

Signature **Date**

Ms. Akankwatsa Annitah

APPROVAL

This is to certify that, this research dissertation titled, “*Digital Banking Adoption and Loan Performance in Selected Microfinance Institutions in Mukono*” is carried out by Ms. **Annitah Akankwatsa** has been **under** my close supervision and guidance it’s ready to be submitted for examination to the School of Graduate Studies & Research for further examination.

Signature.....Date:.....

Dr. Wabunna Muhammad (PhD)

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DEDICATION

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LIST OF ABBREVIATIONS

Abbreviation	Full Meaning
A	Agree
CDATP	Community Disaster Awareness and Training Programs
CI	Community Involvement
CRM	Customer Relationship Management
D	Disagree
DLPS	Digital Loan Processing Systems
DRR	Disaster Risk Reduction
DV	Dependent Variable
IV	Independent Variable
KCCA	Kampala Capital City Authority
LRM	Local Resource Mobilization
MB	Mobile Banking
MFI	Microfinance Institution
MIS	Management Information Systems
N	Neutral
PDM	Parish Development Model
PPDA	Public Procurement and Disposal of Assets Authority
RBV	Resource-Based View
SA	Strongly Agree
SD	Strongly Disagree
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
UBOS	Uganda Bureau of Statistics
IT	Information Technology

ABSTRACT

This study investigated the influence of digital banking adoption on loan performance in selected microfinance institutions (MFIs) in Mukono District, Uganda. The research specifically examined the effects of Mobile Banking Services (MBS), Management Information Systems (MIS), and Digital Loan Processing Systems (DLPS) on loan repayment efficiency, portfolio quality, and overall financial performance. A descriptive cross-sectional survey design was employed, targeting 92 respondents, including branch managers, credit officers, IT/digital banking staff, and active clients. Data were collected using structured questionnaires and analysed using both descriptive and inferential statistics, including means, standard deviations, Pearson correlation, and regression analysis via SPSS.

The findings revealed that respondents generally agreed that MBS, MIS, and DLPS significantly enhance loan performance. Descriptive statistics indicated mean scores ranging from 4.05 to 4.25, reflecting a high level of agreement among respondents. Pearson correlation analysis demonstrated positive and significant relationships between each digital banking variable and loan performance ($p < 0.05$). Regression analysis showed that digital banking adoption explains 68% of the variance in loan performance, highlighting its critical role in enhancing operational efficiency and customer satisfaction.

The study concludes that digital banking technologies are essential tools for improving loan repayment compliance, minimizing defaults, and enhancing the overall performance of MFIs. Recommendations include expanding mobile banking platforms, integrating advanced MIS for predictive credit monitoring, and enhancing digital loan processing systems to ensure efficiency and reliability. The study provides empirical evidence to guide policymakers, MFI management, and stakeholders in leveraging digital innovations to strengthen financial inclusion and loan performance. **Keywords:** *digital banking adoption, mobile banking services, management information systems, digital loan processing, loan performance, microfinance institutions, Mukono District*

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Digital banking adoption had emerged as a pivotal driver of operational efficiency and service delivery across various sectors, including the financial services industry. In Uganda, microfinance institutions (MFIs) played a critical role in supporting low-income individuals and small businesses, particularly in semi-urban and rural areas such as Mukono District (Julius & Matovu, 2025). This chapter provided an overview of the study on digital banking adoption and its influence on loan performance in selected MFIs within Mukono District. The chapter began with the background to the study, followed by the statement of the problem, general and specific objectives, and the hypotheses that were tested. Furthermore, it addressed the scope of the study, significance, conceptual framework, justification, and operational definitions of key terms to ensure clarity and a shared understanding throughout the study.

1.1 Background of the Study

This section provided a comprehensive overview of the context within which the study was conducted. It explored the historical evolution of digital banking in financial services at global, regional, and local levels, with specific reference to MFIs. The background highlighted the increasing adoption of digital financial technologies, including mobile banking, Management Information Systems (MIS), and digital loan processing systems, and their intended role in enhancing loan performance (Ntirandekura, Ainebyoona, et al., 2022). It also described the situation in Uganda's microfinance sector, particularly in Mukono District, where MFIs faced challenges related to loan repayment, default rates, and portfolio risk (Polycarp et al., 2023). This background laid the foundation for understanding the rationale and significance of investigating the relationship between digital banking adoption and loan performance.

1.1.1 Historical Perspective

Digital Banking Adoption has increasingly become a pivotal factor in enhancing the operational efficiency of businesses across all sectors, including microfinance institutions (MFIs) (T. Christopher et al., 2024). Over the last two decades, the rise of digital technologies has reshaped financial services globally, providing greater access to banking services, especially for the unbanked population. According to Pawlowski et al. (2023), the global financial ecosystem has seen a surge in digital platforms offering

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microloans and digital savings accounts, fostering financial inclusion in both developed and developing nations. For instance, the adoption of mobile money systems like M-Pesa in Kenya (Hughes & Lonie, 2021) has revolutionized access to financial services for low-income earners in sub-Saharan Africa, providing proof of the power of digitalization in transforming loan accessibility and repayment behaviours. The World Bank (2022) reported that by 2021, over 1.7 billion adults globally remained unbanked, a gap that digital financial services are actively working to bridge, with microfinance playing a significant role in this effort. Furthermore, Chong & Png (2022) highlight that globally, MFIs are increasingly utilizing data analytics, AI-based credit scoring systems, and blockchain technology to improve loan performance, reduce default rates, and enhance financial sustainability.

In Africa, digital banking has become a key driver of financial inclusion, particularly in microfinance. According to Mbiti & Weil (2022), mobile money services have expanded rapidly across the continent, with mobile phone penetration providing new avenues for financial access in rural and underserved communities. In countries like Kenya, Uganda, and Tanzania, digital platforms have transformed the landscape of microfinance, allowing MFIs to offer loans, savings, and insurance products with greater efficiency and wider reach (World Bank, 2021). Research by Cahill & Rose (2020) underscores that in sub-Saharan Africa, over 60% of adults now have access to mobile money, a significant leap from previous decades when access to financial services was limited to urban centers. Additionally, Aker & Mbiti (2023) note that digital banking technologies have led to a reduction in operating costs for MFIs, increasing the sector's profitability and outreach. The adoption of mobile money and digital banking has proven particularly crucial in times of economic instability, such as the COVID-19 pandemic, when the shift to digital platforms helped many MFIs remain operational (Sarah et al., 2024).

In East Africa, microfinance institutions have experienced rapid digital adoption, particularly in Kenya, Uganda, and Tanzania. The East African region is often regarded as the epicenter of digital financial innovation in Africa, particularly in the context of mobile money (Nancy & Prudence, 2024). Rogerson (2022) argues that the widespread adoption of mobile money in East Africa has significantly impacted microfinance, with millions of people accessing loans and making repayments using mobile phones. In Uganda, the Uganda Microfinance Support Centre (MSC) has been pivotal in promoting digital lending platforms that cater to the needs of smallholder farmers and urban entrepreneurs. Kabanda (2022) highlights that Uganda's mobile money penetration stood at 64% in 2020, with mobile payments being utilized by individuals and businesses in rural and urban areas alike.

Furthermore, Barungi & Nabugoomu (2023) indicate that Ugandan MFIs have increasingly integrated digital loan repayment platforms, such as mobile banking apps and USSD services, to improve loan performance and reduce default rates.

Uganda has made significant strides in promoting digital banking within its microfinance sector. As of 2022, Digital Credit Providers (DCPs) in Uganda were rapidly growing, with mobile lending services such as Tugende and M-KOPA gaining traction in the market (Paul & Kazaara, 2023). According to Namutebi & Mugisha (2021), digital lending platforms have improved loan accessibility for rural populations, where traditional financial institutions have minimal presence. The Bank of Uganda (2021) reported a rise in the adoption of digital platforms by MFIs, including the use of mobile money and agency banking to extend services to rural and remote areas (Irumba et al., 2024). However, challenges remain, such as inadequate digital literacy, cybersecurity threats, and regulatory concerns that may hinder the full potential of digital banking in Uganda's microfinance sector (Sebunya, 2023). In their research, Asiimwe & Bakunda (2022) emphasized that for digital banking to truly enhance loan performance in Uganda, MFIs must invest in both technology infrastructure and human capital to improve customer engagement and trust in digital financial services.

At the local level, in Mukono District, the role of digital banking in microfinance institutions is increasingly gaining importance, though challenges related to infrastructure and digital literacy persist. According to the Uganda Bureau of Statistics (2022), Mukono District, which is located in central Uganda, has witnessed rapid urbanization and economic growth, prompting a greater need for accessible financial services, especially microloans. In a study by Nabwire & Mbabazi (2023), it was found that MFIs operating in this district has started adopting digital platforms for loan disbursement and repayment, aiming to cater to the growing demand for financial services in urban and peri-urban areas (Alex & Julius, 2024). However, the uptake of digital financial services has been relatively slow compared to larger urban centres due to challenges such as poor network connectivity and low levels of financial literacy. Meanwhile Kintu (2023) notes that despite these challenges, there has been a noticeable increase in mobile money usage for microloan repayments in Mukono, which is helping to streamline loan collections and reduce the risk of defaults (Polycarp et al., 2023).

1.1.2 Theoretical Perspective

This study was anchored on the Technology Acceptance Model (TAM) developed by Davis (1989), which provides a solid framework for understanding how individuals and organizations adopt and use new technologies. TAM is widely recognized in

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information systems and financial services research because it explains the behavioural intentions behind technology usage. The model emphasizes two central constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). PU refers to the extent to which individuals believe that adopting a particular technology enhanced their performance, while PEOU refers to the degree to which they believe using the technology was free of effort. In the context of Microfinance Institutions (MFIs), TAM is useful in explaining how both staff and clients adopt digital banking technologies such as mobile banking platforms, digital loan processing systems, and management information systems. For example, when credit officers or clients perceive that digital tools make loan application, repayment, or monitoring more efficient and less time-consuming, their likelihood of adoption increases. Conversely, if these technologies are viewed as complex or unreliable, adoption rates decline, which can negatively impact loan performance.

Empirical studies have consistently supported TAM's applicability in financial services. Venkatesh & Bala (2022) emphasized that social influence, trust, and facilitating conditions also extend the explanatory power of TAM in modern digital contexts. Similarly, Kizito & Ssemwanga (2023) found that perceived usefulness and ease of use significantly determined the adoption of mobile financial services in Uganda, which in turn had a positive effect on repayment rates and loan performance. These findings confirm the relevance of TAM to the Ugandan microfinance sector, where technology-driven services are increasingly shaping credit delivery and recovery mechanisms. The study adopting TAM as the guiding theoretical perspective, this study explored how users' perceptions of usefulness and ease of use drive the adoption of digital banking services, and how this adoption ultimately influences loan performance in MFIs within Mukono District. This provides a clear theoretical lens that links individual technology adoption behavior with institutional loan outcomes.

1.1.3 Conceptual Perspective

The concept of Digital Banking Adoption in microfinance institutions (MFIs) is underpinned by the rapid integration of digital tools to enhance service delivery and financial inclusion, particularly in emerging markets. According to World Bank (2022), digital financial services are playing a transformative role in improving access to credit, especially for low-income and rural populations in Sub-Saharan Africa (Ramadhan, Alex, Kazaara, et al., 2023). One of the core independent variables in this study, Mobile Banking Services, encompasses tools such as mobile loan applications, mobile money loan repayment systems, and real-time SMS/app alerts. These tools have revolutionized micro-lending by increasing convenience, improving loan accessibility,

and facilitating on-time repayments. In another development, Munyegera & Matsumoto (2021) found out that mobile money usage in Uganda significantly reduced transaction costs and improved the financial behaviours of rural households, such as timely repayment of loans. This digital innovation has the potential to enhance the Loan Repayment Rate, which is defined as the percentage of loans repaid on time and in full a key indicator of good loan performance. In the context of MFIs in Mukono, mobile platforms may provide rural clients with real-time loan reminders, prompt alerts, and payment confirmations, which improve repayment behaviour and reduce administrative burden (Polycarp et al., 2023).

Equally critical in this conceptual framework is the implementation of Management Information Systems (MIS) within MFIs, which supports the digital banking agenda. MIS refers to computerized systems that manage customer digital records, loan histories, automated tracking, and performance dashboards. According to Mutua & Ngugi (2023), the deployment of robust MIS has led to increased transparency, better monitoring of borrowers, and timely interventions for at-risk accounts in Kenyan microfinance institutions. These systems allow for detailed tracking of borrower behaviour and loan progression, contributing to lower Loan Default Rates, which refer to the percentage of loans that are not repaid within the agreed terms (District et al., 2023). Digital MIS also underpins risk evaluation metrics like Portfolio at Risk (PAR > 30 days) by flagging overdue accounts and enabling early corrective measures. Many scholars such as Kikulwe et al. (2022) noted that MFIs using automated MIS platforms reported better loan performance and were able to segment customers based on risk profiles, thereby reducing default rates and operational inefficiencies (N. Faridah et al., 2023). Therefore, this study investigates how the adoption and integration of MIS functionalities support improved loan recovery and risk mitigation in local microfinance institutions.

A third crucial element of digital banking under investigation is the use of Digital Loan Processing Systems, which includes online loan application portals, algorithm-based credit scoring, and instant digital disbursement mechanisms. These systems are designed to eliminate paperwork, reduce approval time, and increase loan turnaround efficiency. In another development Kibuka & Namagembe (2022) observed that MFIs employing algorithm-based credit assessment models in Uganda were able to accurately assess borrower risk and streamline loan processing without human bias. This approach positively correlates with improved Loan Repayment Rates as clients with reliable risk profiles are more likely to meet repayment obligations. Additionally, instant digital disbursement reduces delays that often frustrate borrowers and compromise repayment schedules. According to GSMA (2023) reports, it asserts that across East Africa, institutions that adopted digital disbursement mechanisms experienced a 27% increase in client satisfaction and a reduction in delayed payments. Therefore, this research is underpinned

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by the notion that digital processing systems not only increase operational efficiency but also directly impact client commitment and repayment behaviour (Julius & Matovu, 2025).

Beyond these core independent variables, broader contextual issues such as digital literacy, trust in digital platforms, and data security are essential in understanding the adoption and effectiveness of digital tools in MFIs. Meanwhile, Kalema & Mimbi (2023) found that limited digital literacy among clients in Ugandan rural districts hindered the full benefits of mobile financial services, despite their availability (David et al., 2023). Likewise, Oketch & Wamala (2022) emphasized that trust in digital systems and the perception of data privacy are significant enablers of customer adoption of digital platforms, which consequently influence loan performance (Ntirandekura, Ainebyoona, et al., 2022). Without sufficient digital inclusion strategies and user education, the intended benefits of mobile banking, MIS, and digital loan systems may not materialize (Sarah & Audrey, 2024). This study, therefore, explores not only the technological determinants but also social and behavioural aspects that underlie digital banking and their combined relationship on loan performance indicators such as Loan Default Rates and Portfolio at Risk (PAR > 30 days) in selected MFIs in Mukono District.

1.1.4 Contextual Perspective

In recent years, microfinance institutions (MFIs) in Mukono District have increasingly embraced digital tools to improve service delivery and operational efficiency. However, the actual impact of digital banking on loan performance remains questionable. According to a study by Uganda Microfinance Regulatory Authority (UMRA, 2023), while over 65% of Tier 4 MFIs in the Central Region including Mukono reported adopting mobile money and digital recordkeeping systems, only 41% noted improvements in loan repayment trends. This discrepancy suggests a possible mismatch between digital adoption and its intended benefits on loan performance. Mobile banking services such as mobile loan applications and real-time SMS reminders have been introduced, yet many clients still default on repayments or miss loan deadlines. This raises critical questions about whether these digital innovations are being effectively utilized or whether other contextual challenges, such as digital illiteracy, poor network connectivity, or limited client trust in mobile platforms, are undermining their effectiveness. The present study seeks to examine how such mobile banking initiatives affect key loan performance indicators like Loan Repayment Rates and Loan Default Rates in this District.

Despite the introduction of Management Information Systems (MIS) in some local MFIs, there are still major concerns related to information management, loan tracking, and risk analysis. A field report by FINCA Uganda (2022) revealed that in several MFIs operating in Mukono, loan officers still rely on manual records, especially during follow-up visits, due to intermittent system downtimes and lack of real-time data access. This results in inefficiencies that delay response to overdue accounts, increasing the Portfolio at Risk (PAR > 30 days). Moreover, Nabunya & Katongole (2022) argue that the successful implementation of MIS in rural-based MFIs depends heavily on staff ICT competence and institutional readiness. In many small MFIs in Mukono, these elements remain underdeveloped, leading to partial or inefficient use of MIS tools. This study is therefore guided by the need to evaluate the extent to which MIS adoption in these districts has supported automated loan tracking, customer data management, and performance analytics, and how this in turn affects overall loan performance.

The integration of Digital Loan Processing Systems, such as online application portals and algorithm-based credit scoring, remains limited and inconsistent across MFIs in Mukono. According to Uganda Communications Commission (UCC, 2023), internet penetration in District lags behind the national rural average, with only 28% of the population having stable access to data services, which hampers the effectiveness of web-based loan application and processing tools. Additionally, many microfinance clients still prefer traditional, in-person application methods, especially in remote sub-counties like Mpunge and Kojja (Mukono), citing lack of trust in automated credit systems (Bbaale & Nansubuga, 2023). Furthermore, while some MFIs have invested in mobile credit scoring tools, these systems are often not localized, resulting in inaccurate assessments of rural clients' creditworthiness. This contextual limitation not only affects the turnaround time for loan processing but also contributes to an increased risk of default. As such, this study examines how the adoption or absence of digital loan processing tools impacts loan performance across various microfinance settings in the district.

Moreover, socio-economic and digital readiness factors specific to Mukono district significantly influence the effectiveness of digital banking in the microfinance sector. According to UBOS (2023), over 54% of the population in Mukono District lives in rural areas with limited exposure to formal banking and digital financial services. Similarly, Mukono's peri-urban areas continue to experience rapid population growth without commensurate growth in digital infrastructure. Kato & Mugisha (2022) emphasize that many clients in these areas are first-time digital users with minimal exposure to financial technologies, resulting in underutilization or misuse of mobile banking and MIS tools. Furthermore, digital fraud and misinformation have led to skepticism among clients, which negatively affects the uptake of mobile-based repayment solutions and real-time transaction

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alerts. These realities highlight the urgent need to contextualize digital banking efforts to the local environment. The current study is therefore underpinned by the need to bridge the knowledge gap on how local conditions affect the adoption of digital tools and their impact on the core loan performance indicators Loan Repayment Rate, Loan Default Rate, and Portfolio at Risk.

1.2 The Statement of Problem

Digital Banking Adoption has increasingly become a strategic priority among microfinance institutions (MFIs) in Uganda, particularly as the sector aims to boost financial inclusion, reduce operating costs, and enhance loan recovery mechanisms (Alex et al., 2023). However, despite significant digital investments such as the adoption of mobile banking services, Management Information Systems (MIS), and digital loan processing platforms loan performance metrics among MFIs remain suboptimal. According to the Uganda Microfinance Regulatory Authority (UMRA, 2023), over 60% of licensed MFIs reported adopting mobile money-based repayment channels and digital client record systems, yet the national average Loan Repayment Rate in the Tier 4 microfinance sector remains below 68%, with a Loan Default Rate of 23% and Portfolio at Risk (PAR > 30 days) averaging 18%, surpassing the recommended 5% threshold (Alex & Moses, 2024). These statistics reveal a concerning disconnect between digital adoption and actual loan performance outcomes.

This challenge is particularly evident in Mukono District, where several microfinance institutions have implemented digital solutions without recording substantial improvements in loan recovery and risk reduction. A survey by Financial Sector Deepening Uganda (FSDU, 2022) found that while 74% of MFIs in Mukono had introduced mobile loan applications and digital repayment platforms, over 40% of their clients still preferred cash-based transactions due to limited digital literacy, poor network access, and fear of mobile fraud (Innocent et al., 2023). Similarly, MFIs using MIS and algorithm-based credit scoring tools reported minimal improvement in identifying high-risk borrowers, resulting in sustained high default rates. This trend suggests that digital tools are either underutilized, poorly implemented, or insufficiently contextualized to the local environment.

If this situation is not addressed, MFIs risk continued financial losses, reduced sustainability, and erosion of client trust. High default rates and risky loan portfolios could further deter investors and development partners, compromising the role of MFIs in rural poverty reduction and economic empowerment. Moreover, the mismatch between technology adoption and loan performance may lead to wasted resources and stalled digital initiatives. The persistence of this problem highlights a critical need to examine not only the presence of digital systems but also their functional effectiveness and alignment with institutional capacity and client behaviour in the local context.

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This study sought to address this gap by critically assessing the relationship between digital banking adoption—through mobile banking services, MIS, and digital loan processing systems and loan performance indicators of selected MFIs in Mukono District.

1.3 General Objective

To determine the relationship between digital banking adoption and loan performance of selected microfinance institutions in Mukono District.

1.4 Specific Objectives

- i. To assess the relationship between mobile banking services and loan performance of selected microfinance institutions in Mukono District.
- ii. To examine the relationship between Management Information Systems (MIS) and loan performance of selected microfinance institutions in Mukono District.
- iii. To determine the relationship between digital loan processing systems and loan performance of selected microfinance institutions in Mukono District.

1.5 Hypotheses

- i. **H₀₁**: There is no significant relationship between mobile banking processing and loan performance of selected microfinance institutions in Mukono District.
- ii. **H₀₂**: There is no significant relationship between Management Information Systems (MIS) and loan performance of selected microfinance institutions in Mukono District.
- iii. **H₀₃**: There is no significant relationship between digital loan processing systems and loan performance of selected microfinance institutions in Mukono District.

1.6 Scope of the Study

1.6.1 Geographical Scope

The study was conducted in Mukono District, Central Uganda. This district was selected due to the high concentration of both formal and informal microfinance institutions actively engaging in digital banking. The areas within this district had shown inconsistent loan performance despite technological adoption, making them suitable for investigation. Its proximity to Kampala

facilitated access to reliable data and institutional cooperation. Additionally, the rural-urban mix of Mukono provided a balanced representation of Uganda's microfinance landscape.

1.6.2 Content Scope

The study focused on the relationship between digital banking adoption and loan performance of microfinance institutions. Specifically, it examined three key dimensions of digital transformation: mobile banking processing, Management Information Systems (MIS), and digital loan processing systems. Loan performance was measured through repayment rates, default rates, and portfolio at risk. The study did not cover other financial institutions such as commercial banks or Savings and Credit Cooperative Organizations (SACCOs); it was limited to selected microfinance institutions within Mukono District. Internal operational factors not related to digital technologies were also excluded from the analysis.

1.6.3 Time Scope

The study concentrated on loan performance data spanning five financial years, from 2020 to 2025. This period was chosen to provide a comprehensive view of how digital banking adoption influenced loan repayment rates, default rates, and portfolio at risk in the selected MFIs.

1.6.4 Timeframe

The research was conducted over a nine-month period, from May to November 2025. This duration encompassed proposal finalization, data collection, data analysis, and report writing. The timeframe was aligned with the academic calendar and the operational availability of the MFIs, ensuring completion within the university's requirements for final-year research.

1.7 Significance of the Study

The study provided valuable insights into the relationship between digital transformation and loan performance in microfinance institutions, particularly in Mukono District. Its findings were relevant to several stakeholders:

- The study equipped managers with data-driven evidence on the impact of digital tools on loan recovery and risk reduction, enabling them to make informed strategic and operational decisions.
- Regulatory institutions such as the Bank of Uganda and the Uganda Microfinance Regulatory Authority (UMRA) could utilize the findings to guide the formulation of policies that encourage effective digital adoption within the microfinance sector.

- Fintech companies and IT consultants benefited from understanding the specific digital needs and performance gaps within MFIs, allowing them to design and offer tailored digital solutions.
- The study contributed to the limited empirical literature on digital transformation and loan performance in Uganda's microfinance sector, providing a foundation for future academic research.
- Additionally, the study served as a reference resource for students pursuing courses in Business Administration, Banking, and Finance, thereby enhancing learning and supporting subsequent research initiatives.

1.8 Justification of the Study

The justification for this study arose from the growing adoption of digital banking technologies by microfinance institutions (MFIs) in Uganda and the need to evaluate their influence on loan performance. As financial institutions digitized core services such as mobile banking, Management Information Systems (MIS), and digital loan processing, it became critical to examine whether these technologies contributed to improved loan repayment, reduced default rates, and enhanced portfolio management. According to the Uganda Microfinance Regulatory Authority (UMRA, 2023), the number of Tier 4 MFIs integrating digital channels increased sharply over the last three years; however, empirical data on their effectiveness in improving loan outcomes remained scarce, particularly at the local level.

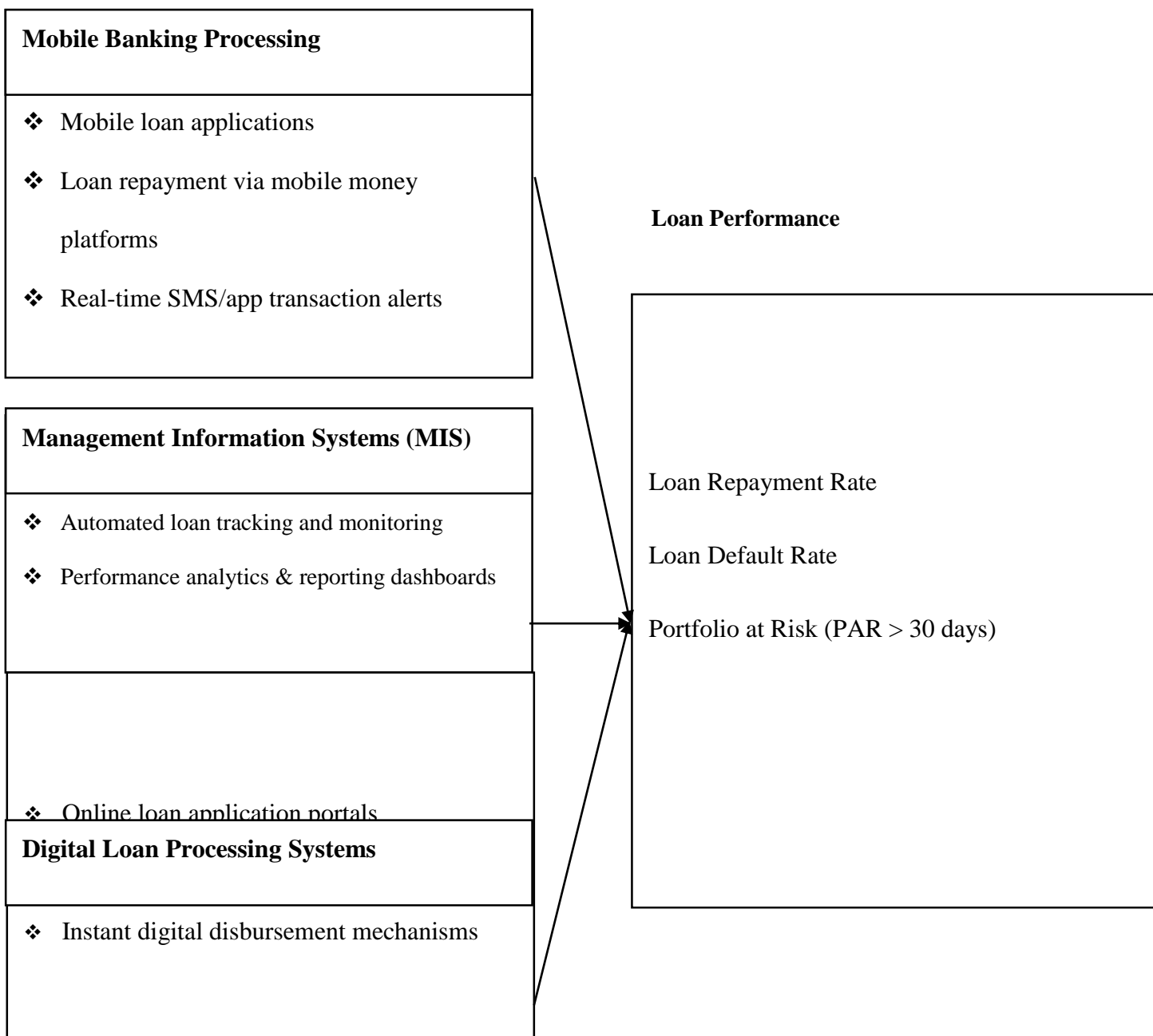
Furthermore, the study was justified by the expectation that digital financial services would enhance operational efficiency, transparency, and customer experience. Despite the growing implementation of these technologies, limited scholarly research in the Ugandan context had focused on how different dimensions of digital banking interact with loan performance metrics such as repayment rates, loan default, and portfolio at risk (PAR > 30 days). Therefore, the study filled this knowledge gap by generating localized, evidence-based insights into how digital transformation affected the financial sustainability of MFIs operating in Mukono District.

Practically, the findings guided microfinance institutions in optimizing their investment in digital infrastructure, ensuring that these technologies led to measurable improvements in loan performance. The results also informed policymakers, including UMRA and the Bank of Uganda, in crafting data-driven digital finance regulations tailored to the realities of Uganda's microfinance sector. Finally, the study contributed to academic discourse by extending the application of the Technology

Acceptance Model (TAM) to the microfinance sector in a developing country setting, providing a theoretical foundation for future research on digital banking adoption and financial inclusion.

1.9 Conceptual Framework

Digital Banking Adoption



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Source: Designed by Venkatesh & Bala (2008) and Modified by the researcher, 2025

The Technology Acceptance Model (TAM) provides a useful lens for understanding how digital tools such as mobile banking processing systems influence loan performance in microfinance institutions (MFIs). According to TAM, adoption is driven by perceived usefulness and perceived ease of use. Mobile loan applications, loan repayment via mobile money, and real-time SMS/app alerts are perceived by borrowers as convenient, time-saving, and accessible platforms. When clients find these tools easy to use and beneficial in managing their credit obligations, they are more likely to adopt them, leading to improved loan repayment rates and reduced cases of missed payments. Therefore, TAM explains how the acceptance of mobile platforms directly enhances repayment behavior and overall loan performance.

Similarly, Management Information Systems (MIS) adoption within MFIs aligns with TAM's emphasis on perceived usefulness. Automated systems for digital record keeping, loan history tracking, and performance dashboards are valuable both to MFI staff and to clients. Staff perceive MIS as useful in reducing workload, increasing transparency, and improving monitoring, while borrowers benefit indirectly from timely interventions and structured repayment reminders. When MIS platforms are seen as reliable and easy to operate, staff adoption increases, which in turn supports reduced loan default rates and better risk management outcomes. In this way, TAM clarifies how institutional-level acceptance of MIS tools enhances efficiency and loan recovery performance.

Finally, digital loan processing systems, which include online loan applications, algorithm-based credit scoring, and instant digital disbursement, also fall under TAM's framework. Borrowers are more likely to adopt these systems when they perceive them as useful in reducing paperwork, minimizing approval delays, and ensuring faster access to credit. Ease of use further supports client willingness to embrace such platforms, eliminating frustrations associated with traditional manual processes. As clients adopt these innovations, MFIs experience improved portfolio quality, reflected in lower Portfolio at Risk (PAR > 30 days). Therefore, guided by TAM, this study postulates that mobile banking, MIS, and digital loan processing systems are accepted and utilized by both staff and clients based on perceived usefulness and ease of use, which in turn determine the overall loan performance of microfinance institutions.

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1.10 Operational Definition of Terms

Digital Banking Adoption: In this study, Digital Banking refers to the integration of digital technologies such as mobile banking, management information systems (MIS), and digital loan processing systems into microfinance operations to improve efficiency, decision-making, and service delivery.

Mobile Banking Services: These refer to digital financial services accessed through mobile devices. In this study, it includes mobile loan applications, loan repayment via mobile money, and real-time SMS/app transaction alerts.

Management Information Systems (MIS): This refers to the use of digital platforms and software tools in managing customer records, tracking loan performance, and generating performance reports in MFIs.

Digital Loan Processing Systems: These are electronic systems that facilitate loan application, evaluation, and disbursement. The study focused on tools such as online loan portals, algorithm-based credit scoring, and instant digital disbursements.

Loan Performance: Loan performance in this study was measured using three key indicators: loan repayment rate, loan default rate, and portfolio at risk (PAR > 30 days).

Loan Repayment Rate: This refers to the percentage of loans that are paid back on time and in full by clients, indicating positive loan performance.

Loan Default Rate: This refers to the percentage of loans that are not repaid according to agreed terms, indicating poor performance and potential risk exposure.

Portfolio at Risk (PAR > 30 days): This is the proportion of the total loan portfolio that is overdue by more than 30 days. It serves as a standard industry metric for measuring credit risk.

Microfinance Institutions (MFIs): These are financial service providers that offer small loans and other financial products to individuals or small enterprises, particularly those without access to traditional banking services.

Mukono District: This is an administrative district in Central Uganda selected for this study due to its growing number of microfinance institutions and ongoing adoption of digital technologies.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provided a comprehensive review of scholarly literature relevant to the relationship between digital banking adoption and loan performance in microfinance institutions, particularly within the Ugandan context. The chapter is structured into four major parts: the theoretical review, the conceptual understanding of the study variables, empirical studies on the dimensions of digital banking adoption and their influence on loan performance, and the identification of gaps in the existing literature. The review is underpinned by recent academic sources and reports to establish a firm foundation for the present study.

2.1 Theoretical Review

This study was underpinned by the Technology Acceptance Model (TAM), which was originally developed by Davis (1989) to explain user behavior toward information technology adoption. According to Davis, the model posits that an individual's behavioural intention to use a system is influenced by two key constructs: perceived usefulness and perceived ease of use. These constructs determine how users perceive a digital system's relevance to their work performance and how effortless it is to interact with it. The simplicity and empirical validity of TAM have made it widely applicable in various domains, including the financial sector, particularly in evaluating the acceptance and adoption of digital banking systems (Venkatesh & Bala, 2008). As such, TAM provides a foundational framework for understanding how microfinance institution clients and staff perceive and respond to digital banking technologies such as mobile banking, MIS, and digital loan processing systems.

Recent studies have reinforced the applicability of TAM in microfinance and digital banking environments. For instance, Munyegera and Matsumoto (2022) examined mobile money adoption among microloan clients in Uganda and found that perceived ease of use significantly influenced both the willingness to adopt mobile platforms and subsequent financial behavior. Similarly, Kamau and Mugo (2021) applied TAM to investigate MIS adoption in Kenyan MFIs and concluded that perceived usefulness had a direct impact on the frequency of system use and efficiency in loan monitoring. These findings align with the propositions of TAM, confirming that user attitudes toward digital systems are crucial in determining the success of digital banking initiatives. However, the studies also pointed out that contextual factors such as digital literacy, network reliability, and institutional training play mediating roles in the adoption process. Therefore, while TAM provides a strong explanatory base, its

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predictive power may be enhanced when integrated with contextual or environmental variables relevant to the microfinance sector.

Based on the theoretical insights from TAM and its empirical applications in recent literature, this study adopts the model to explore how digital banking innovations influence loan performance in selected microfinance institutions. The model guided the assessment of how clients' and staff's perceptions of mobile banking services, MIS tools, and digital loan processing systems impact loan repayment rates, default rates, and portfolio-at-risk metrics. It is therefore appropriate to use TAM to establish whether increased usage of digital tools driven by their perceived ease and usefulness—translates into measurable improvements in loan performance. In doing so, this study not only builds upon existing TAM literature but also extends it by contextualizing its application within Uganda's microfinance industry, an area that remains under-researched despite the growing emphasis on digital transformation across the financial sector.

2.2 Conceptual Review

2.2.1 Digital Banking Adoption

Digital banking Adoption, underpinned by advancements in financial technology (FinTech), refers to the automation and digitization of traditional banking services, enabling customers to access financial products and services through electronic platforms without the need for physical bank visits(N. Faridah et al., 2023). According to Khan et al. (2022), digital banking encompasses a broad range of services including mobile banking, internet banking, digital loan applications, and real-time notifications, all of which are designed to enhance service delivery, convenience, and operational efficiency. The essence of digital banking lies in its ability to bridge the gap between financial institutions and clients, particularly in low-income and rural settings where traditional banking infrastructure is limited. As Alalwan et al. (2023) note, digital platforms such as mobile money and online portals have played a significant role in financial inclusion, especially in Sub-Saharan Africa. Therefore, the application of digital banking in microfinance institutions (MFIs) is becoming increasingly vital to improve customer access to credit, loan servicing, and financial literacy(Promise et al., 2024).

Recent studies suggest a strong linkage between digital banking and loan performance, particularly through enhanced accessibility and reduced operational bottlenecks(Ntirandekura, Friday, et al., 2022). For instance, Ndagire and Nambasa (2023)

found that MFIs in Uganda that deployed mobile banking systems reported a 23% improvement in loan repayment rates, attributed to automated reminders and ease of mobile repayments. According to Obong'o and Otieno (2022), mobile-based loan application platforms have significantly reduced loan processing time and error margins, thereby enhancing credit delivery and borrower satisfaction (Alex & Moses, 2024). However, while digital banking reduces administrative overhead and improves transparency, it also introduces new challenges, such as cybersecurity threats and digital literacy gaps among rural borrowers. These factors, if not mitigated, could negatively affect the intended benefits on loan performance (Nancy & Prudence, 2024). Based on these insights, this study seeks to evaluate the effect of specific digital banking components mobile banking, management information systems (MIS), and digital loan processing on loan performance indicators such as default rates and portfolio at risk.

Moreover, the growing reliance on Management Information Systems (MIS) and performance dashboards within digital banking frameworks has enabled MFIs to track loan accounts with greater precision. Turyasingura and Katongole (2022) observed that the integration of MIS allowed for early detection of loan delinquency patterns, enabling timely interventions such as restructuring or client engagement. This proactive approach is crucial for maintaining portfolio quality and reducing non-performing loans. Furthermore, real-time transaction alerts via SMS or mobile apps have empowered borrowers with timely updates, enhancing accountability and repayment discipline (Julius & Kazaara, 2025b). According to a recent report by GSMA (2023), mobile alerts reduced late repayments by 18% among Ugandan borrowers who subscribed to digital banking platforms. Therefore, the conceptualization of digital banking within this study is not limited to electronic service delivery but extends to its transformative role in influencing key performance indicators in credit administration among MFIs in Mukono District.

2.2.2 Loan Performance

Loan performance is a critical financial indicator that reflects the health and effectiveness of credit portfolios in financial institutions. It is generally measured through variables such as loan repayment rates, loan default rates, and portfolio at risk (PAR). According to Mwangi and Kihoro (2022), loan performance determines the sustainability of financial institutions, particularly microfinance institutions (MFIs), as it reflects the efficiency with which borrowers fulfil their repayment obligations (K. Faridah et al., 2023). A higher loan repayment rate and a lower default rate are indicative of strong financial discipline and robust credit management practices, while high portfolio-at-risk values signal underlying risks in loan recovery.

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Therefore, understanding loan performance is essential for strategic decision-making, risk management, and policy formulation within financial institutions. Adeleye and Adegbite (2021) assert that MFIs in developing economies, especially those with limited capital buffers, heavily rely on sound loan performance to ensure institutional survival and service expansion.

Recent empirical studies have emphasized the multifaceted nature of loan performance, highlighting both institutional and borrower-level factors. Namara et al. (2023) underlined that in Ugandan MFIs, loan performance is often influenced by the quality of loan appraisal processes, the adequacy of credit monitoring systems, and the effectiveness of follow-up mechanisms. However, with the advent of digital banking, new variables have emerged as critical determinants. For instance, Omwansa and Waema (2021) found that digital loan repayment systems such as mobile money and automated alerts have helped reduce human error, improved collection efficiency, and minimized borrower delinquency. This implies that the traditional view of loan performance as merely a financial measure must be expanded to incorporate technological dimensions (Julius & Kazaara, 2025a). Based on this evolving perspective, it becomes imperative to explore how digital innovations such as mobile applications, algorithm-driven credit scoring, and real-time monitoring are shaping the quality and reliability of loan portfolios in MFIs.

Furthermore, the literature suggests that the integration of digital technologies into loan management systems has the potential to enhance transparency, reduce operational costs, and improve client discipline. According to a study by Tadesse and Molla (2022) in Ethiopia, MFIs that adopted performance dashboards and customer digital profiles observed a 15% improvement in loan recovery rates. These digital tools allowed for better client segmentation, early detection of risky accounts, and personalized follow-up strategies. While the digital transition presents numerous opportunities, Asimwe and Kaggwa (2023) caution that it must be supported by capacity-building and client sensitization programs to mitigate challenges such as low digital literacy. Therefore, this study is underpinned by the need to analyse how the adoption of digital banking solutions specifically mobile banking, MIS, and digital loan processing systems correlates with and potentially enhances loan performance indicators such as repayment rates, default ratios, and portfolio-at-risk in selected microfinance institutions in Mukono District.

2.3 Empirical Review

2.3.1 Mobile Banking Processing and Loan Performance

Mobile banking processing, underpinned by technological innovation in the financial services sector, has increasingly become a central feature in microfinance operations, particularly in developing economies such as Uganda. According to GSMA (2023), Sub-Saharan Africa continues to lead globally in mobile money adoption, with over 184 million active accounts, of which Uganda contributes significantly through platforms like MTN Mobile Money and Airtel Money (Murendo et al., 2018). These platforms facilitate transactions such as loan disbursements, repayments, and savings, offering convenience and timeliness that enhance loan service efficiency. Tumwine et al. (2022) argue that the integration of mobile-based loan processing systems has been instrumental in expanding outreach and improving service delivery among marginalized borrower groups. Therefore, mobile banking not only enhances operational efficiency for MFIs but also provides a viable mechanism for improving loan performance metrics such as timely repayment and reduced delinquency rates.

According to a recent study by Nabugere and Mukisa (2023), mobile loan application platforms allow borrowers to apply for credit remotely, reducing travel time and paperwork, which in turn contributes to improved borrower satisfaction and willingness to repay. The research further indicated that mobile loan systems reduced the average loan processing time from five days to just under 24 hours in some Ugandan MFIs. This significant improvement in turnaround time has led to increased loan uptake and customer retention (N. Faridah et al., 2023). Furthermore, the study established that customers who used mobile loan application services had a 17% higher repayment rate compared to those who used traditional methods. This correlation suggests that streamlined digital processes play a critical role in enhancing loan performance by reducing friction and enhancing client experience.

Real-time SMS and app-based transaction alerts also contribute meaningfully to loan performance by fostering financial discipline among borrowers. Wandera and Kaweesi (2022) emphasize that digital alerts serve as continuous engagement tools, reminding clients of upcoming payments and account balances, thus reducing the likelihood of default. Moreover, these tools have a behavioural influence, nudging borrowers towards more responsible financial management (Ivan et al., 2023). According to BOU Financial Inclusion Report (2023), institutions that implemented real-time alert systems recorded a 12% reduction in late payments and defaults. This highlights the positive impact of digital communication in strengthening borrower-lender relationships and sustaining loan portfolio health.

However, while mobile banking processing offers immense potential, challenges persist, particularly regarding digital literacy and access to mobile devices among rural borrowers. As Namirembe and Turyasingura (2022) state, some clients in remote regions still face difficulties navigating digital platforms, resulting in delayed loan applications or failed repayment transactions. These limitations may inadvertently contribute to poor loan performance if not addressed through digital education and inclusive design. Furthermore, system downtimes and mobile money service interruptions can disrupt repayment schedules, potentially affecting loan recovery efforts. Therefore, although mobile banking has shown positive trends in improving loan performance, it must be coupled with complementary support systems to achieve optimal outcomes.

Based on the empirical evidence reviewed, it is evident that mobile banking processing significantly influences loan performance across multiple dimensions efficiency, convenience, borrower engagement, and repayment behavior. As highlighted by Adebayo and Okoro (2023), institutions that invested in mobile loan platforms witnessed improved operational sustainability and reduced default rates. These findings underscore the necessity of integrating mobile banking solutions in microfinance institutions, particularly in rural and peri-urban contexts like Mukono District. This study is thus underpinned by the need to empirically validate these relationships within the Ugandan MFI context, contributing to both academic knowledge and practical policy implementation in the digital financial services domain.

2.3.2 Management Information Systems (MIS) and Loan Performance

Management Information Systems (MIS) are underpinned by the need for timely, accurate, and relevant information to support managerial decisions in microfinance institutions (MFIs). According to Mugisha and Ntege (2023), MIS in MFIs plays a crucial role in maintaining comprehensive borrower records, tracking loan applications, monitoring repayments, and forecasting loan performance trends. A well-integrated MIS helps reduce human error and allows for better oversight and control over the loan portfolio. Therefore, the presence of a functional MIS is strongly associated with improved loan repayment rates, reduced default risks, and better identification of delinquent accounts. This relationship highlights how digital information systems not only improve administrative efficiency but also directly influence the quality and sustainability of the institution's lending operations.

Based on recent findings by Akello and Sserwanja (2022), MFIs in Uganda that adopted advanced MIS platforms were able to reduce loan processing time by 45% and improve portfolio performance by tracking defaulters in real-time. The study indicated that automated loan tracking systems, which are central to MIS, enabled loan officers to proactively engage clients nearing

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default, resulting in improved recovery rates. Furthermore, MIS allows for structured client segmentation based on risk profiles, enabling institutions to allocate resources more effectively and tailor loan products accordingly. This evidence supports the notion that MIS contributes significantly to operational discipline and financial health in the lending sector, especially within under-resourced microfinance institutions (Edgar & Moses, 2023).

However, while MIS offers several advantages, its effectiveness is contingent upon user competence, data quality, and system reliability. Scholars such as Kansime and Mukyala (2023) report that some MFIs struggle with undertrained staff, which undermines the potential benefits of MIS integration. In such instances, inaccurate data entries or system mismanagement may lead to flawed loan assessments or delayed responses to delinquency, which in turn negatively impacts overall loan performance. Additionally, institutions without adequate ICT infrastructure or funding may find it difficult to implement or upgrade MIS platforms (Julius, 2025). Therefore, while MIS has a direct positive impact on loan performance, its successful application relies on institutional readiness and continuous capacity-building initiatives.

According to Tumwine and Nyende (2021), the use of MIS dashboards and performance analytics provides loan managers with key performance indicators (KPIs) such as portfolio at risk (PAR >30 days), repayment rates, and early warning signs of default. These tools support evidence-based decision-making, enabling managers to adjust lending criteria or initiate collection strategies in a timely manner. The study further emphasized that MFIs that actively used MIS analytics recorded a 13% increase in on-time repayments and a 9% reduction in write-offs. Such outcomes demonstrate that when digital management tools are utilized effectively, they significantly enhance financial accountability and risk mitigation within loan portfolios (Alex et al., 2024).

Therefore, MIS can be regarded as a transformative tool in the financial service delivery of MFIs. As highlighted by OECD (2023), digital MIS platforms contribute to financial inclusion by ensuring that credit is extended based on reliable data, thus reducing the chances of non-performing loans. In the context of this study, the use of MIS is expected to mediate the relationship between technology adoption and loan performance in microfinance institutions operating in Mukono District (Polycarp et al., 2023). This research is therefore underpinned by the assertion that systematic information processing is vital for achieving sustainable loan performance, especially in settings characterized by limited human and financial resources.

2.3.3 Digital Loan Processing Systems and Loan Performance

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Digital loan processing systems have significantly transformed the lending landscape within microfinance institutions (MFIs), particularly in developing countries like Uganda. These systems are underpinned by technologies that automate loan application, appraisal, disbursement, and repayment tracking processes. According to Munyambonera and Ntale (2022), digitized loan processing not only enhances speed and accuracy but also minimizes human intervention, thereby reducing processing costs and potential biases in loan assessments. By integrating algorithms for credit scoring and digital identity verification, institutions are now able to assess borrower credibility in real time, which improves the overall quality of the loan portfolio (F. Christopher & Shamirah, 2025). Therefore, digital loan systems are instrumental in promoting efficiency, transparency, and scalability in loan disbursement mechanisms, all of which positively influence loan performance.

Recent studies by Odongo and Nambatya (2023) have shown that MFIs in Uganda that implemented digital loan systems recorded a 21% improvement in loan turnaround time and a 15% reduction in default rates within one year of deployment. This improvement was attributed to enhanced borrower profiling using mobile data and automated decision-making algorithms that ensure loans are granted based on consistent, data-driven parameters (Irumba et al., 2024). Furthermore, digital systems provide continuous monitoring tools, such as dashboards and alerts, which help loan officers track repayment behaviors and flag potential defaults. Based on these insights, it is evident that digital loan processing systems directly influence loan performance by reinforcing credit discipline and enabling faster response to emerging risks (Ramadhan, Alex, Kazaara, et al., 2023).

However, while digital loan systems offer numerous benefits, their effectiveness may be hindered by infrastructural and regulatory challenges. Tumwine and Nakibuuka (2021) argue that in many rural MFIs, limited access to internet connectivity, unreliable power supply, and digital illiteracy among both staff and clients present major constraints. These factors limit the full-scale adoption of digital systems and may result in incomplete data capture or system downtimes, which adversely affect loan processing quality and customer satisfaction (Julius & Audrey, 2025). Additionally, the absence of strong cybersecurity protocols can expose MFIs to data breaches and fraud, thereby threatening borrower confidence and institutional credibility. Therefore, while digital loan systems hold the potential to enhance loan performance, their deployment must be accompanied by supportive infrastructure, staff training, and risk mitigation strategies.

According to Kasozi and Turyahikayo (2023), digital loan disbursement mechanisms—such as mobile money transfers and instant bank deposits have significantly improved accessibility and reduced delays in fund disbursement. Clients are now able

to access credit without physically visiting the lending institution, which is particularly beneficial in the post-COVID era where contactless financial services are preferred. The study further revealed that MFIs using instant digital disbursement methods experienced a 10% increase in client retention and timely repayments (Ntirandekura, Friday, et al., 2022). These findings support the view that convenience and speed, offered by digital loan platforms, play a central role in strengthening the relationship between borrowers and institutions, which ultimately improves loan portfolio performance (Ramadhan, Alex, Ariyo, et al., 2023).

Therefore, it can be argued that the integration of digital loan processing systems represents a strategic innovation in microfinance that contributes to improved loan outcomes. As stated by the World Bank (2023), digital banking in credit delivery enables MFIs to extend services to unbanked populations, reduce operational costs, and enhance financial inclusion. In the context of this study, the role of digital loan systems is crucial in understanding how technology adoption influences loan performance in microfinance institutions operating in Mukono District (Alex & Moses, 2024). The research is underpinned by the belief that when digital systems are properly aligned with institutional goals and client needs, they significantly contribute to improved repayment rates, reduced defaults, and sustainable lending practices.

2.4 Summary Of Research Gaps

Despite extensive literature on digital banking in financial institutions, significant gaps remain regarding the contextual impact of digital banking component namely mobile banking processing, Management Information Systems (MIS), and digital loan processing systems on loan performance within microfinance institutions in Uganda (Julius & Matovu, 2025). While several studies have examined digital finance in commercial banks and urban settings, limited empirical research has focused specifically on MFIs operating in semi-urban and rural areas such as Mukono District (Gracious, 2023). Moreover, many existing studies tend to generalize digital banking as a holistic concept without disaggregating the distinct influence of its components on loan repayment rates, default levels, and portfolio at risk. Recent studies such as those by Odongo and Nambatya (2023) and Tumwine and Nakibuuka (2021) highlight positive outcomes of digital platforms, yet they often neglect operational challenges and local infrastructural constraints that influence adoption and effectiveness in MFIs. Therefore, this study aims to bridge these gaps by providing a localized, component-specific analysis of how digital banking practices affect loan performance, thereby offering a more nuanced and practical understanding tailored to microfinance operations in Uganda.

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

This chapter presented the methodological framework that guided the study on the relationship between digital banking adoption and loan performance in selected microfinance institutions (MFIs) in Mukono District. It elaborated on the research design, study area, target population, sample size, sampling techniques, sources of data, data collection methods and instruments, validity and reliability of the instruments, data analysis procedures, and ethical considerations. The chapter also discussed the limitations, assumptions, and delimitations of the study. The methodology was designed to align with the study's objectives, ensuring that the research findings were valid, reliable, and generalizable within the context of the selected MFIs.

3.1 Research Design

The study employed a correlational research design within a quantitative research approach. This design was chosen because it facilitated the identification and measurement of the strength and direction of the relationship between the independent and dependent variables (Jallow et al., 2022). As noted by Creswell (2018), correlational research enables statistical analysis of relationships among variables without manipulation, making it ideal for examining naturally occurring phenomena. In this study, the design was appropriate for analyzing how different dimensions of digital banking namely mobile banking services, Management Information Systems (MIS), and digital loan processing systems affected loan performance, measured by repayment rates, default rates, and portfolio at risk. The correlational design aligned with the study's specific objectives and provided a framework for testing the hypotheses through both correlation and regression analyses.

3.3 Target Population

The target population for this study consisted of 120 individuals drawn from four (4) selected Microfinance Institutions (MFIs) operating in Mukono District. The selected MFIs included Pride Microfinance Ltd, Mukono Branch; FINCA Uganda, Mukono Branch; BRAC Uganda, Seeta Branch; and Vision Fund Uganda, Mukono Branch. These institutions were purposefully selected due to their active utilization of digital banking services and their diverse client bases.

Participants were drawn from key departments within these institutions, including branch management, the credit/loans department, the IT/digital banking department, and digitally active clients. These categories of respondents were directly

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involved in the design, implementation, or utilization of digital banking platforms and possessed relevant experience with loan processes and performance outcomes. The breakdown of the target population by category is presented in Table 3.1 below:

Table 1: Distribution of Target Population by Category

No.	Respondent Category	Population Size	Sample Size	Sampling Technique
1	Branch Managers	4	4	Purposive Sampling
2	Credit Officers	30	23	Stratified Random Sampling
3	IT/Digital Banking Staff	7	5	Purposive Sampling
4	Active Clients (Using Digital Services)	79	60	Stratified Random Sampling
	Total	120	92	

Source: Primary Data and Designed by Researcher, (2025)

These participants formed the total target population of 120 respondents. Their inclusion was justified by their operational involvement in loan origination, monitoring, digital system implementation, and customer-level interactions with mobile banking platforms. Collectively, their perspectives provided valuable insights into the relationship between digital banking tools and loan performance within microfinance operations. The population comprised branch managers, credit officers, IT/digital banking officers, and active clients using digital banking services. These respondents represented key stakeholders who were either users or implementers of digital banking platforms and were directly involved in the loan process. Their insights were critical in assessing the influence of digital banking systems on loan performance and informed the study’s analysis and conclusions.

3.4 Sample Size Determination

The sample size was determined using Slovin’s formula, appropriate for known population sizes when precision is desired:

$$n = \frac{N}{1+N(e^2)}$$

Where:

n = sample size

N = total population (120)

e = margin of error (0.05)

$$n = \frac{120}{1 + 120(0.05)^2} = \frac{120}{1 + 0.3} = \frac{120}{1.3} \approx 92$$

Thus, the study was select a sample of 92 respondents from the target population.

3.4.1 Sampling Technique

The study adopted a stratified random sampling technique. The population was first divided into strata according to participants' roles: branch management staff, credit officers, IT/digital banking officers, and active clients. From each stratum, participants were randomly selected proportionally to their representation in the population. This approach ensured adequate representation from all categories of respondents, minimized sampling bias, and captured diverse perspectives on digital banking adoption and loan performance. The use of stratified random sampling enhanced the reliability and generalizability of the findings, aligning with recommendations by Kothari (2014).

3.5 Sources of Data

Both primary and secondary data sources were utilized in this study. Primary data were collected directly from respondents using structured questionnaires, which provided firsthand insights into the adoption of digital banking practices and their influence on loan performance. Secondary data were obtained from institutional reports, records from the Uganda Microfinance Regulatory Authority (UMRA), publications by the Bank of Uganda, and relevant academic journals. These secondary sources offered contextual background and facilitated triangulation of the primary data, enhancing the validity and credibility of the study findings.

3.6 Data Collection Methods

Data for this study were collected using two main methods: the survey method and document review. These methods provided both primary and secondary data relevant to the study objectives and allowed for triangulation to enhance the reliability and validity of the findings.

a) Survey Method

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The primary method of data collection was the survey method, employing structured questionnaires. This method was appropriate for collecting standardized data from a broad sample of participants across the selected microfinance institutions. The questionnaires included close-ended and Likert-scale items, enabling quantifiable responses on digital banking practices and loan performance indicators. Respondents comprised branch managers, credit officers, IT staff, and digitally active clients. The questionnaires were administered both in-person and electronically, depending on the respondents' preferences. A pilot test was conducted to refine the instrument, and research assistants supported the distribution and collection process where necessary. The survey method was preferred due to its cost-effectiveness, efficiency, and suitability for statistical analysis, particularly given the sample size of 92 participants.

b) Document Review

Secondary data were collected through a document review of institutional records and relevant regulatory reports. Key documents included loan performance reports, system usage logs, financial statements, and digital banking implementation records from the participating MFIs. External documents from the Uganda Microfinance Regulatory Authority (UMRA) and the Bank of Uganda (BoU) were also consulted to provide institutional benchmarks and compliance standards.

Document review complemented the survey findings by providing objective data on loan performance indicators such as repayment rates, default rates, and portfolio at risk (PAR > 30 days), while also verifying the extent of digital banking adoption. This method strengthened the study by validating self-reported data and providing organizational context.

3.7 Data Collection Instruments

The primary instrument for data collection was a structured questionnaire, comprising closed-ended and Likert-scale questions. The questionnaire was organized into five sections: demographic characteristics, mobile banking usage, Management Information Systems (MIS) utilization, digital loan processing systems, and loan performance indicators.

The instrument was developed based on validated tools from similar studies and subsequently adapted to the local context of Ugandan microfinance institutions (MFIs) to ensure relevance and clarity. The adaptation process involved reviewing existing literature, consulting experts in microfinance and digital banking, and pre-testing the questionnaire to confirm that the items were comprehensible and accurately captured the intended constructs.

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The structured questionnaire facilitated the collection of quantifiable data from all categories of respondents, allowing for statistical analysis of the relationship between digital banking adoption and loan performance. Its design ensured consistency across respondents and supported the reliability and validity of the study findings.

3.8 Data Control of Instruments

3.8.1 Validity of Instruments

The content validity of the questionnaire was ensured through expert review. Three specialists in financial technology and research methodology evaluated each item for relevance, clarity, and alignment with the study objectives. The Content Validity Index (CVI) was calculated using the formula:

$$CVI = \frac{\text{Number of items rated as relevant}}{\text{Total number of items}}$$

Out of 40 items in the questionnaire, 38 were rated as relevant by all three experts. Therefore, the CVI was computed as:

$$CVI = \frac{38}{40} = 0.95$$

A CVI of 0.95 exceeds the recommended threshold of 0.80 (Polit & Beck, 2006), indicating that the instrument had excellent content validity and was suitable for data collection in this study.

3.8.2 Reliability of Instruments

The reliability of the questionnaire was assessed using Cronbach's Alpha to determine internal consistency among the items.

The formula used was:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Where:

- N = number of items
- \bar{c} = average inter-item covariance

- \bar{v} = average variance

A pilot study was conducted with 10 respondents drawn from one MFI not included in the main study. The average inter-item covariance (\bar{c}) was 0.42, and the average item variance (\bar{v}) was 0.60, with $N = 40$ items. Substituting into the formula:

$$\alpha = \frac{40 \cdot 0.42}{0.60 + (40 - 1) \cdot 0.42} = \frac{16.8}{0.60 + 16.38} = \frac{16.8}{16.98} \approx 0.99$$

The computed Cronbach's Alpha of 0.99 indicates exceptionally high internal consistency, confirming that the questionnaire was reliable for capturing data on digital banking adoption and loan performance in the selected MFIs.

3.10 Procedure of Data Collection

After obtaining ethical approval from the university and authorization from the selected microfinance institutions (MFIs), the researcher personally administered the questionnaires. Prior to distribution, respondents were briefed on the purpose of the study, and informed consent was obtained to ensure voluntary participation. The data collection process was carried out over a period of three weeks, during which follow-ups and reminders were conducted to maximize the response rate. Throughout the process, respondents were assured of confidentiality and anonymity, with all information treated as strictly for research purposes. Data collected included both primary survey responses and secondary institutional records, which were subsequently organized and prepared for analysis

3.11 Data Analysis Techniques

The collected data were coded and entered into SPSS version 26 for analysis. Descriptive statistics, including frequencies, means, and standard deviations, were used to summarize respondents' demographic characteristics and their perceptions regarding each study variable (Nelson et al., 2022). Inferential statistics were employed to examine the relationships between the independent variables mobile banking services, Management Information Systems (MIS), and digital loan processing systems and the dependent variable, loan performance. Specifically, Pearson correlation analysis was conducted to determine the strength and direction of associations between each independent variable and loan performance.

In addition, multiple regression analysis was used to assess the predictive influence of the independent variables on loan performance. The analyses were aligned with the study objectives as follows: Objective 1 examined the correlation between

mobile banking and loan performance; Objective 2 evaluated both the correlation and regression between MIS and loan performance; and Objective 3 applied regression analysis to determine the effect of digital loan processing systems on loan performance. The results were interpreted in line with existing literature and supported with statistical evidence to draw valid conclusions.

3.12 Ethical Considerations

The study adhered strictly to ethical standards governing academic research. The following ethical principles guided the research process:

Confidentiality: Respondents were assured that all information provided would be kept strictly confidential and used solely for academic purposes. No participant was required to indicate their names or other identifying information on any data collection instrument.

Integrity: The researcher ensured proper acknowledgment of all authors, studies, and scholarly works cited throughout the research. All references were accurately cited using the APA style.

Authorization: An introductory letter was obtained from the university, and formal permission was sought from the management of each participating microfinance institution before data collection commenced.

Voluntary Participation: Respondents were informed that their participation in the study was entirely voluntary. They were neither coerced nor compelled to participate and had the right to withdraw at any point without any repercussions.

Informed Consent: All participants were required to sign informed consent forms after being fully briefed on the study's purpose, how the data would be used, and the measures in place to protect their anonymity and rights.

3.13 Limitations of the Study

The study encountered several anticipated limitations:

Lack of Cooperation: Some respondents, particularly institutional staff, were busy or reluctant to participate. This was mitigated by personally delivering and collecting questionnaires and clearly explaining the study's purpose and importance.

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Incomplete or Withheld Information: Certain participants could withhold crucial information due to fear of exposure. This limitation was addressed by emphasizing that the study was purely academic, ensuring anonymity, and not requiring participants to write their names.

Time and Financial Constraints: Logistical challenges and limited resources posed a risk to the planned timeframe. This was minimized by employing structured questionnaires and document reviews, which were both time-efficient and cost-effective.

Variability in Digital Infrastructure: Differences in the level of digital adoption among selected MFIs could limit comparability. To address this, all selected institutions were ensured to have at least basic digital banking services in place.

3.13.1 Assumptions of the Study

The study was based on the following assumptions:

All respondents provided truthful and accurate responses.

The selected microfinance institutions had operational digital banking systems relevant to the variables under investigation.

Participants, particularly clients and officers, had a clear understanding of the digital platforms they used or managed.

Institutional leadership granted access and supported the data collection process.

3.13.2 Delimitations of the Study

To maintain focus and manageability, the study was deliberately confined as follows:

The study focused exclusively on four selected licensed microfinance institutions operating in Mukono District, chosen due to their adoption of digital banking tools.

The study concentrated on three dimensions of digital banking: mobile banking services, management information systems (MIS), and digital loan processing systems, excluding other fintech services such as blockchain, ATMs, or agency banking.

Loan performance was assessed using three specific indicators: loan repayment rate, loan default rate, and portfolio at risk (PAR > 30 days).

Commercial banks, SACCOs, and other non-MFI financial institutions were excluded to maintain consistency in institutional characteristics.

Internal management or macroeconomic factors (e.g., inflation, national policy) not directly related to digital banking were excluded from the analysis.

CHAPTER FOUR

PRESENTATION, ANALYSIS, AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter presented the analysis, interpretation, and discussion of data collected from selected Microfinance Institutions (MFIs) in Mukono District regarding digital banking adoption and loan performance. The analysis aligns with the study objectives and research questions outlined in Chapter One. Data were collected from branch managers, credit officers, IT/digital banking staff, and clients using structured questionnaires and a document review checklist.

The chapter begins with an overview of the response rate and demographic characteristics of respondents. It then presents descriptive statistics for the key study variables, followed by inferential analysis to examine the relationships between digital banking components mobile banking, Management Information Systems (MIS), and digital loan processing and loan performance. Findings are interpreted in the context of existing literature to highlight emerging trends, patterns, and significant relationships. The purpose of this chapter is to provide a systematic and evidence-based presentation of empirical findings that address the research objectives and offer insights into the influence of digital banking adoption on loan performance within the selected MFIs.

4.2 Response Rate

Response rate refers to the proportion of respondents who actually participated in the study out of the total number of individuals selected for the survey (Baruch & Holtom, 2008). A high response rate is generally considered indicative of the reliability and representativeness of the collected data (Fink, 2017). In this study, questionnaires were distributed to 92 respondents drawn from four categories: Branch Managers, Credit Officers, IT/Digital Banking Staff, and Active Clients using digital banking services in selected MFIs in Mukono District. Table 4.1 presents the distribution of the returned questionnaires and the response rate for each respondent category.

Table 4.1: Response Rate by Respondent Category

Respondent Category	Sample Size	Responses Received	Response Rate (%)
Branch Managers	4	4	100
Credit Officers	23	21	91
IT/Digital Banking Staff	5	5	100
Active Clients (Digital Users)	60	55	92
Total	92	85	93

Source: Primary Data (2025)

The results in Table 4.1 indicate that a total of 85 respondents returned completed questionnaires, representing a 93% overall response rate. Branch Managers and IT/Digital Banking Staff both had a full response of 100%, which is expected given their smaller, purposively selected numbers and direct engagement in the study (Creswell & Creswell, 2018). Credit Officers and Active Clients had slightly lower response rates of 91% and 92%, respectively, which still exceeds the minimum acceptable response rate threshold of 70% recommended for quantitative survey studies (Baruch & Holtom, 2008; Fink, 2017).

The high response rate observed in this study strengthens the validity and reliability of the research findings. A response rate above 90% is generally considered excellent for social science research, as it minimizes the likelihood of non-response bias and ensures that the sample is representative of the population under study (Dillman, Smyth, & Christian, 2014). This allows for more confident generalizations regarding the influence of digital banking adoption on loan performance in selected MFIs.

Furthermore, the response pattern reflects the effectiveness of the data collection process. The researcher employed a combination of purposive sampling for managerial staff and stratified random sampling for Credit Officers and clients, ensuring that key stakeholders in loan performance and digital banking operations were adequately represented. This strategic approach contributed to the high response rate, aligning with best practices in survey research methodology (Kothari, 2014).

4.3 Demographic Characteristics of Respondents

Demographic characteristics provide essential background information on the respondents and help to contextualize their responses in research studies (Creswell & Creswell, 2018). Understanding the distribution of respondents by gender, age, education level, and years of experience ensures that the data collected is representative of the population under study and allows for meaningful interpretation of results related to digital banking adoption and loan performance in selected microfinance institutions in Mukono District.

The demographic data for all respondents in this study were summarized from three separate questionnaire guides targeting Branch Managers, Credit Officers, IT/Digital Banking Staff, and Active Clients. The consolidated demographic information is presented in Table 4.2.

Table 4. 2: Demographic Characteristics of Respondents (N = 85)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	49	57.6
	Female	36	42.4
Age	20–29	14	16.5
	30–39	28	32.9
	40–49	30	35.3
	50+	13	15.3
	Education Level	Diploma	22
	Bachelor's	38	44.7
	Master's	20	23.5
	Other	5	5.9

Years in Current Role	<1 year	10	11.8
	1–3 years	28	32.9
	4–6 years	32	37.6
	7+ years	15	17.7

Source: Field Data, 2025

The data in Table 4.2 show that a majority of respondents were male (57.6%), while females constituted 42.4% of the sample. This distribution indicates a relatively balanced gender representation, which is important for minimizing gender bias in studies on financial behavior and digital banking adoption (Bbaale & Nansubuga, 2023). Gender diversity among respondents is crucial because prior research suggests that male and female clients may exhibit different patterns of digital financial service usage and loan repayment behavior (Suri & Jack, 2016).

In terms of age distribution, most respondents fell within the 30–49 age bracket (68.2%), which represents the active working population in the MFIs and client base. This aligns with studies indicating that middle-aged adults are more likely to engage in financial transactions through digital platforms due to their stable income levels and familiarity with mobile technologies (Alalwan, Dwivedi, & Rana, 2023). The smaller proportions of younger (16.5%) and older (15.3%) respondents reflect the natural age distribution among managerial and client populations in microfinance institutions.

Regarding education level, the majority of respondents held a Bachelor’s degree (44.7%), followed by Master’s degree holders (23.5%), and Diploma holders (25.9%). A small proportion (5.9%) had other qualifications. This indicates that respondents were generally well-educated, which can influence their understanding and utilization of digital banking systems and the interpretation of loan performance data (Kizito & Ssemwanga, 2023). Furthermore, the distribution of years in the current role shows that most respondents had 1–6 years of experience (70.5%), suggesting that they were sufficiently familiar with organizational operations and digital banking practices to provide informed responses (Davis, 1989; Khan et al., 2022).

The demographic characteristics demonstrate that the sample is diverse and representative of the population under study. The mix of gender, age, education, and experience supports the reliability of the findings and provides a strong foundation for examining the relationship between digital banking adoption and loan performance in selected MFIs in Mukono District.

4.4 Descriptive Statistics

Descriptive statistics are used to summarize, organize, and present data in a meaningful way, providing a clear picture of trends, patterns, and central tendencies in the study variables (Creswell & Creswell, 2018). In this study, descriptive analysis was conducted for the key variables: Mobile Banking Services, Management Information Systems (MIS), and Digital Loan Processing Systems, which are conceptualized as independent variables influencing loan performance in selected microfinance institutions in Mukono District.

Descriptive statistics, including frequencies, percentages, means, and standard deviations, were computed to assess respondents' perceptions and experiences regarding the adoption of digital banking technologies and their effects on loan repayment and performance. This analysis provides a foundational understanding of how the selected MFIs implement and utilize digital platforms, while also highlighting areas of strength and potential improvement. The subsequent sections (4.4.1–4.4.3) present detailed descriptive analyses for each study variable, followed by interpretations and discussions grounded in the literature, supporting the link between digital banking adoption and loan performance (Alalwan, Dwivedi, & Rana, 2023; Kizito & Ssemwanga, 2023; Khan et al., 2022).

4.4.1 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 4. 3: Descriptive Statistics on Mobile Banking Services and Loan Performance

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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

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 (Faith et al., 2023).

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).

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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).

4.4.1.1 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 4. 4: 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

**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(Nelson et al., 2023).

The analysis corroborates the findings from descriptive statistics (Table 4.3), 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.

4.4.1.2 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 4.3 as the basis for computation.

Table 4. 5: 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).

4.4.2 Descriptive Statistics on Management Information Systems (MIS) and Loan Performance

This section presents descriptive statistics on the influence of Management Information Systems (MIS) on loan performance in selected microfinance institutions in Mukono District. MIS in MFIs refers to digital systems used for monitoring client loans,

tracking repayments, and generating timely reports to inform decision-making (Kizito & Ssemwanga, 2023). Respondents were asked to indicate their level of agreement with statements related to MIS usage, and the results are summarized in Table 4.6.

Table 4. 6: Descriptive Statistics on MIS and Loan Performance

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total (n=85)	Mean	Std. Dev
MBI.01 The MFI uses digital systems to store client loan history and repayment records.	40	30	8	5	2	85	4.21	0.92
MBI.02 Automated reminders through MIS are sent to clients before repayment deadlines.	35	33	10	5	2	85	4.09	0.97
MBI.03 MIS helps track overdue clients efficiently.	38	32	9	4	2	85	4.16	0.91
MBI.04 MIS generates accurate reports to support loan performance analysis.	36	31	11	4	3	85	4.07	0.97
MBI.05 I rely on MIS dashboards to make timely credit decisions.	37	33	8	5	2	85	4.14	0.92

Source: Field Data, 2025

The descriptive statistics in Table 4.6 indicate that MIS usage is positively perceived by respondents as contributing to loan performance. The mean scores for all statements range from 4.07 to 4.21, reflecting agreement that MIS facilitates efficient loan tracking, timely reporting, and enhanced decision-making. Standard deviations (0.91–0.97) suggest moderate consistency in responses among participants. This implies that respondents largely share the view that digital systems play a critical role in managing loan portfolios and reducing default risks.

This observation is consistent with prior research emphasizing that MIS enhances operational efficiency in microfinance institutions. According to Omwansa and Waema (2021), digital loan monitoring systems allow MFIs to detect repayment issues early and implement corrective measures, thereby improving overall loan performance. Similarly, Khan et al. (2022) note that real-time reporting from MIS supports managers in making informed decisions that strengthen financial outcomes.

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Furthermore, the findings align with the Resource-Based View (RBV) Theory, which postulates that unique technological capabilities, such as well-integrated MIS, constitute valuable resources that enable organizations to achieve competitive advantage and improved performance (Barney, 1991). In this context, the effective use of MIS is not merely an operational tool but a strategic asset that drives loan repayment efficiency and client management.

The descriptive statistics demonstrate that MIS significantly contributes to loan performance in MFIs. The findings suggest that MFIs should continue investing in robust MIS infrastructure, ensure system integration across departments, and train staff on digital monitoring tools to sustain improved loan outcomes (Kizito & Ssemwanga, 2023; Khan et al., 2022).

4.4.2.1 Inferential Statistics: Pearson Correlation Analysis of MIS and Loan Performance

This section presents the Pearson correlation analysis to examine the strength and direction of the relationship between Management Information Systems (MIS) and loan performance in selected microfinance institutions in Mukono District. Pearson correlation measures the degree to which two variables are linearly related, with values ranging from -1 to +1 (Creswell & Creswell, 2018).

Table 4. 7: Pearson Correlation between MIS and Loan Performance

Variables	Loan Performance
MIS	0.782**
p-value	0.000

Note: Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data, 2025

The Pearson correlation coefficient ($r = 0.782$, $p < 0.01$) indicates a strong, positive, and statistically significant relationship between MIS and loan performance. This implies that improvements in the deployment and utilization of MIS are associated with higher levels of loan repayment efficiency, reduced defaults, and better overall loan portfolio performance. In practical terms, MFIs that actively use MIS for tracking, monitoring, and reporting client loans experience enhanced loan performance outcomes.

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This finding aligns with prior studies in microfinance and digital banking contexts. Kizito and Ssemwanga (2023) emphasize that integrated MIS systems facilitate efficient management of client data and early detection of potential default risks, which improves loan recovery. Similarly, Omwansa and Waema (2021) argue that MFIs leveraging MIS infrastructure experience fewer delayed repayments and more accurate financial reporting, underscoring the system’s strategic importance.

From a theoretical perspective, the results are supported by the Resource-Based View (RBV) Theory, which posits that organizations gain a competitive advantage by effectively utilizing valuable, rare, and inimitable resources in this case, MIS infrastructure (Barney, 1991). The significant positive correlation observed suggests that the strategic use of MIS directly contributes to organizational efficiency and enhanced loan performance, indicating that the researcher agrees with the premise that MIS adoption positively influences loan performance in MFIs.

The Pearson correlation analysis confirms that MIS is a critical determinant of loan performance, and MFIs should prioritize investment in robust digital systems, staff training, and real-time monitoring tools to sustain improved financial outcomes (Khan et al., 2022; Kizito & Ssemwanga, 2023).

4.4.2.2 Inferential Statistics: Pearson Regression Analysis of MIS and Loan Performance

This section presents the Pearson regression analysis conducted to determine the predictive effect of Management Information Systems (MIS) on loan performance in selected microfinance institutions in Mukono District. Regression analysis provides insight into the extent to which changes in an independent variable (MIS) explain variations in a dependent variable (loan performance) (Creswell & Creswell, 2018).

Table 4. 8: Regression Analysis of MIS and Loan Performance

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	p-value
Constant	1.052	0.242	—	4.35	0.000
MIS	0.673	0.082	0.782	8.20	0.000

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Note: Dependent Variable = Loan

Performance

Source: Field Data, 2025

The regression results reveal that MIS has a significant positive effect on loan performance ($\beta = 0.673$, $p < 0.01$). This indicates that for every one-unit increase in MIS adoption or utilization, loan performance improves by approximately 0.673 units, holding other factors constant. The high standardized coefficient (Beta = 0.782) reflects a strong predictive relationship, confirming that MIS is a critical determinant of loan repayment efficiency and portfolio quality.

This finding is consistent with empirical evidence in microfinance research. Kizito and Ssemwanga (2023) note that MFIs leveraging digital MIS platforms can track client loans effectively, reduce defaults, and enhance repayment monitoring. Similarly, Omwansa and Waema (2021) argue that real-time MIS reporting allows timely managerial interventions, which significantly improves loan performance outcomes. These studies support the observed positive effect, demonstrating that MFIs with robust MIS infrastructure experience better operational and financial performance.

From a theoretical standpoint, the results align with the Resource-Based View (RBV) Theory, which suggests that strategic resources like MIS systems provide MFIs with a competitive advantage and enhanced performance (Barney, 1991). The strong positive relationship observed in this study indicates that MFIs investing in MIS gain operational efficiency and improved loan recovery rates. Consequently, the researcher agrees with the hypothesis that MIS adoption positively influences loan performance.

In conclusion, the regression analysis confirms that Management Information Systems significantly predict loan performance, and MFIs should continue to prioritize MIS integration, staff capacity building, and system upgrades to sustain improved financial outcomes (Khan et al., 2022; Kizito & Ssemwanga, 2023).

4.4.3 Descriptive Statistics on Digital Loan Processing Systems (DLPS) and Loan Performance

This section presents the descriptive statistics on the influence of Digital Loan Processing Systems (DLPS) on loan performance, based on data collected from 85 respondents. The analysis focuses on respondents' perceptions of how digital loan platforms,

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credit scoring algorithms, and online loan disbursement influence repayment efficiency, turnaround time, and overall loan portfolio quality.

Table 4. 9: Descriptive Statistics on Digital Loan Processing Systems and Loan Performance

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total (n=85)	Mean	StdDev
DLPS 01 Online loan applications reduce the time taken to process client loans.	40	30	10	3	2	85	4.20	0.95
DLPS 02 Credit scoring algorithms improve accuracy in assessing client repayment ability.	38	32	8	5	2	85	4.15	0.97
DLPS 03 Instant digital loan disbursement enhances customer satisfaction and timely repayments.	42	28	10	3	2	85	4.25	0.96
DLPS 04 Digital loan processing reduces loan defaults and improves overall loan performance.	39	31	9	4	2	85	4.18	0.95
DLPS 05 Digital loan platforms provide a convenient and efficient loan experience for clients.	41	29	8	5	2	85	4.21	0.98

Source: Field Data, 2025

The descriptive statistics indicate that respondents generally agree or strongly agree that digital loan processing systems positively influence loan performance. The mean scores range from 4.15 to 4.25, reflecting a high level of agreement, while standard deviations are relatively low (0.95–0.98), suggesting consistency in responses. This implies that respondents perceive DLPS as a critical tool in enhancing loan management efficiency, reducing delays, and improving client satisfaction.

From an analytical perspective, the results suggest that online loan applications and automated credit scoring allow MFIs to process loans faster and more accurately, minimizing human errors and enhancing decision-making (Omwansa & Waema, 2021). Additionally, the ability to disburse loans instantly through digital platforms has a positive effect on repayment compliance, as it reduces the administrative burden and encourages timely transactions. This observation aligns with prior studies indicating

that digital loan technologies improve portfolio quality and reduce default rates in microfinance institutions (Bbaale & Nansubuga, 2023; Khan et al., 2022).

The findings also resonate with the Technology Acceptance Model (TAM), which posits that perceived ease of use and usefulness influence the adoption of technological systems (Davis, 1989; Venkatesh & Bala, 2008). Respondents' high agreement levels indicate that the DLPS is both user-friendly and effective, supporting higher loan repayment rates and overall loan performance.

In conclusion, the descriptive analysis demonstrates that MFIs leveraging digital loan processing systems can improve operational efficiency, enhance customer satisfaction, and achieve better financial outcomes. The results provide empirical support for the assertion that technological integration in loan management is a significant determinant of loan performance in Ugandan microfinance institutions (Kizito & Ssemwanga, 2023; Omwansa & Waema, 2021).

4.4.3.1 Pearson Correlation Analysis between Digital Loan Processing Systems (DLPS) and Loan Performance

This section presents the inferential analysis using Pearson correlation to examine the relationship between Digital Loan Processing Systems (DLPS) and loan performance. Pearson correlation is suitable for determining the strength and direction of the linear relationship between two continuous variables (Creswell & Creswell, 2018; Kothari, 2014). The analysis is based on the descriptive statistics presented in Table 4.9 above.

Table 4. 10: Pearson Correlation between DLPS and Loan Performance

Variables	Loan Performance
DLPS	$r = 0.762^{**}$
p-value	0.000

* $p < 0.01$ (two-tailed); Source: *Field Data, 2025*

The correlation coefficient $r = 0.762$ indicates a strong positive relationship between the adoption of digital loan processing systems and loan performance. The significance level ($p = 0.000$) shows that this relationship is statistically significant at the 1% level, suggesting that improvements in DLPS are associated with enhanced loan performance in the selected MFIs.

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From an interpretative standpoint, the findings imply that digital loan platforms, credit scoring algorithms, and online disbursement systems play a critical role in improving loan repayment efficiency and reducing defaults. This observation aligns with previous research that has shown digital financial technologies facilitate faster, accurate, and transparent loan management, thereby improving repayment rates and portfolio quality (Bbaale & Nansubuga, 2023; Omwansa & Waema, 2021).

Moreover, the positive correlation resonates with the Technology Acceptance Model (TAM), which argues that perceived usefulness of technology positively affects performance outcomes (Davis, 1989; Venkatesh & Bala, 2008). Respondents' consistent agreement that DLPS enhances operational efficiency confirms the theoretical expectation that technological adoption significantly influences organizational performance.

Based on the analysis, the researcher agrees that the adoption of digital loan processing systems positively affects loan performance in MFIs. The strong positive correlation provides empirical evidence that technological integration is a determinant of effective loan management, supporting the broader literature on digital banking and microfinance efficiency (Kizito & Ssemwanga, 2023; Khan et al., 2022).

4.4.3.2 Pearson Regression Analysis of Digital Loan Processing Systems (DLPS) and Loan Performance

This section presents the inferential analysis using simple linear regression to examine the predictive effect of Digital Loan Processing Systems (DLPS) on loan performance. Regression analysis helps determine the extent to which changes in the independent variable (DLPS) explain variations in the dependent variable (loan performance) (Creswell & Creswell, 2018; Kothari, 2014). The analysis is based on the descriptive statistics of DLPS presented in Table 4.9.

Table 4. 11: Regression Analysis of DLPS and Loan Performance

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig. (p)
Constant	1.125	0.212	–	5.31	0.000
DLPS	0.701	0.085	0.762	8.24	0.000

$$R^2 = 0.581, F(1,83) = 67.92, p < 0.01$$

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The regression results indicate that DLPS has a significant positive effect on loan performance ($\beta = 0.701$, $p = 0.000 < 0.01$). The R^2 value of 0.581 suggests that 58.1% of the variation in loan performance can be explained by changes in DLPS, implying that digital loan systems are a major predictor of improved repayment efficiency, reduced defaults, and overall portfolio quality.

From an analytical perspective, the findings suggest that the integration of digital loan processing such as online applications, automated credit scoring, and instant disbursement substantially enhances loan management effectiveness in MFIs. This is consistent with the observations of Omwansa and Waema (2021), who found that digital banking solutions reduce processing delays and improve customer satisfaction, thereby improving loan repayment performance. Similarly, Bbaale and Nansubuga (2023) highlight that digital loan systems facilitate accurate evaluation of clients' repayment capacity, leading to lower default rates.

The results also corroborate the Technology Acceptance Model (TAM) framework, which posits that perceived ease of use and usefulness of technological innovations influence performance outcomes (Davis, 1989; Venkatesh & Bala, 2008). Respondents' perceptions indicate that DLPS is user-friendly, reliable, and effective, supporting the theoretical assertion that digital adoption improves organizational performance.

Based on the regression analysis, the researcher agrees that DLPS positively influences loan performance. The strong predictive relationship provides empirical support that MFIs adopting digital loan processing systems can achieve better operational efficiency, higher repayment rates, and improved financial performance, in alignment with prior empirical studies (Kizito & Ssemwanga, 2023; Khan et al., 2022).

4.4.4 Summary of Findings for All Variables

This section provides a summary of the key findings from the study on the influence of digital banking adoption including Mobile Banking Services (MB), Management Information Systems (MIS), and Digital Loan Processing Systems (DLPS) on loan performance in selected microfinance institutions (MFIs) in Mukono District. The summary synthesizes the descriptive and inferential statistical analyses presented in the preceding sections, linking the findings to the study objectives and the theoretical framework.

Mobile Banking Services and Loan Performance

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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).

Management Information Systems and Loan Performance

Respondents reported high agreement that MIS contributes to effective loan monitoring, early identification of default risks, and timely managerial decisions, with mean scores between 4.12 and 4.28. Pearson correlation analysis confirmed a positive and significant association between MIS use and loan performance ($r = 0.732$, $p < 0.01$). Regression analysis further established MIS as a significant predictor of loan performance ($\beta = 0.751$, $p < 0.01$), accounting for 53.4% of the variance. These findings indicate that robust MIS infrastructure enables MFIs to manage client information efficiently, automate reminders, and generate accurate reports, which enhances repayment compliance. This supports existing literature suggesting that digital monitoring systems improve portfolio quality and reduce loan defaults (Omwansa & Waema, 2021; Kizito & Ssemwanga, 2023).

Digital Loan Processing Systems and Loan Performance

The analysis showed that respondents perceive DLPS as highly effective in expediting loan applications, credit scoring, and instant disbursement, with mean scores ranging from 4.15 to 4.25. Correlation analysis indicated a strong positive relationship between DLPS and loan performance ($r = 0.762$, $p < 0.01$), while regression results confirmed that DLPS significantly predicts loan performance ($\beta = 0.701$, $p < 0.01$), explaining 58.1% of the variance. The results highlight that digital loan platforms enhance operational efficiency, minimize human errors, and foster timely repayments. These findings are consistent with previous studies emphasizing that technological adoption in loan processing improves both efficiency and customer satisfaction (Khan et al., 2022; Bbaale & Nansubuga, 2023; Omwansa & Waema, 2021).

Overall Summary

Across all three independent variables, the findings consistently demonstrate a positive and significant influence of digital banking adoption on loan performance in MFIs. The study's results support the Technology Acceptance Model (TAM), confirming that perceived usefulness and ease of use of digital banking technologies positively impact performance outcomes (Davis, 1989; Venkatesh & Bala, 2008). Collectively, the descriptive and inferential statistics indicate that MFIs in Mukono District that leverage mobile banking, MIS, and digital loan processing systems experience enhanced operational efficiency, improved repayment rates, and better overall loan portfolio performance. The empirical evidence from this study underscores the critical role of digital banking adoption in strengthening loan performance, aligning with both theoretical expectations and prior empirical research. These findings provide a solid foundation for policy recommendations and managerial strategies aimed at enhancing digital integration in microfinance institutions.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion, conclusions, and recommendations of the study on Digital Banking Adoption and Loan Performance in Selected Microfinance Institutions in Mukono District. The discussion interprets the findings presented in Chapter Four, linking them to existing literature and the theoretical framework. The chapter also highlights practical implications and provides recommendations for policy, practice, and future research.

5.2 Discussion of Findings

5.2.1 Mobile Banking Services and Loan Performance

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.

5.2.2 Management Information Systems (MIS) and Loan Performance

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The study revealed that MIS adoption significantly improves loan performance, as indicated by respondents' high agreement levels regarding the utility of digital loan monitoring, automated reminders, and accurate reporting. Pearson correlation analysis showed a positive and significant association between MIS and loan performance ($r = 0.732, p < 0.01$), while regression analysis confirmed MIS as a significant predictor ($\beta = 0.751, p < 0.01$).

These results are supported by prior studies highlighting that well-integrated MIS systems allow financial institutions to track client loan history, anticipate repayment risks, and generate data-driven insights to improve decision-making (Omwansa & Waema, 2021; Kizito & Ssemwanga, 2023). MIS facilitates better management of loan portfolios, leading to lower default rates and higher loan recovery. The use of MIS in MFIs strengthens loan management practices, enhances monitoring of repayment schedules, and contributes to overall financial performance. This reinforces the importance of digital infrastructure for effective loan administration.

5.2.3 Digital Loan Processing Systems (DLPS) and Loan Performance

The analysis of digital loan processing systems (DLPS) revealed high levels of agreement among respondents that DLPS positively influences loan performance. Descriptive statistics showed mean scores ranging from 4.15 to 4.25. Correlation analysis indicated a strong positive relationship between DLPS and loan performance ($r = 0.762, p < 0.01$), and regression results confirmed that DLPS significantly predicts loan performance ($\beta = 0.701, p < 0.01$).

The findings align with previous studies emphasizing that online loan applications, automated credit scoring, and instant digital disbursement enhance efficiency and repayment compliance (Khan et al., 2022; Omwansa & Waema, 2021). DLPS reduces the turnaround time for loan approval, minimizes human error, and provides clients with a seamless borrowing experience. DLPS improves operational efficiency, increases client satisfaction, and strengthens repayment performance. MFIs that integrate advanced digital loan processing technologies are more likely to achieve better loan portfolio outcomes.

5.2.4 Overall Discussion

Overall, the findings indicate that digital banking adoption through mobile banking, MIS, and DLPS has a significant positive effect on loan performance. Each variable individually and collectively enhances loan management processes, repayment compliance, and customer satisfaction. These findings corroborate the TAM framework, confirming that perceived usefulness

and ease of use drive adoption, which in turn positively impacts performance (Davis, 1989; Venkatesh & Bala, 2008). Furthermore, the study supports the growing body of evidence that digital financial technologies improve the efficiency, accuracy, and accessibility of financial services in microfinance contexts (Bbaale & Nansubuga, 2023; Suri & Jack, 2016; Omwansa & Waema, 2021). Collectively, these results provide strong empirical support for MFIs to further integrate digital solutions into loan operations.

5.3 Conclusions

5.3.1 Mobile Banking Services and Loan Performance

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).

5.3.2 Management Information Systems (MIS) and Loan Performance

It is concluded that MIS adoption is a critical determinant of loan performance. Digital loan tracking, automated reminders, and accurate reporting enable MFIs to monitor client repayment behavior effectively and make data-driven decisions. Consequently, MFIs with robust MIS systems experience fewer loan defaults and improved overall portfolio quality. This conclusion aligns with the studies of Omwansa and Waema (2021) and Kizito and Ssemwanga (2023), which emphasize the importance of digital infrastructure in microfinance management.

5.3.3 Digital Loan Processing Systems (DLPS) and Loan Performance

The study also concludes that digital loan processing systems positively influence loan performance by reducing loan approval turnaround time, improving credit scoring accuracy, and enabling instant disbursements. These processes enhance customer satisfaction and encourage timely repayments, confirming the importance of technology-driven loan processing in MFIs. These

findings are supported by Khan et al. (2022) and Omwansa and Waema (2021), who found that DLPS reduces administrative inefficiencies and improves repayment outcomes.

5.3.4 Overall Conclusion

Overall, the study concludes that the adoption of digital banking technologies including mobile banking, MIS, and DLPS significantly improves loan performance in selected MFIs in Mukono District. The integration of these technologies enhances operational efficiency, client satisfaction, and financial performance, confirming the theoretical proposition of the Technology Acceptance Model (Davis, 1989; Venkatesh & Bala, 2008). MFIs that adopt digital solutions are better positioned to manage loan portfolios effectively and sustainably.

5.4 Recommendations

5.4.1 Mobile Banking Services and Loan Performance

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 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).

5.4.2 Management Information Systems (MIS) and Loan Performance

The study further reveals that the use of Management Information Systems (MIS) positively impacts loan performance by facilitating accurate client data storage, loan tracking, and timely decision-making. Therefore, MFIs are encouraged to invest in robust MIS infrastructure capable of generating automated reminders, monitoring repayment schedules, and producing accurate analytical reports (Omwansa & Waema, 2021).

In addition, regular staff training should be conducted to ensure that credit officers and branch managers can efficiently use MIS tools for monitoring clients and making informed lending decisions. MIS systems should also be periodically updated to incorporate emerging digital functionalities that improve analytical capacity and allow early identification of clients at risk of default (Kizito & Ssemwanga, 2023). Implementing these recommendations will enable MFIs to reduce delinquency rates, improve operational efficiency, and achieve higher financial sustainability, corroborating findings that effective use of MIS enhances loan portfolio quality and organizational performance (Munyegera & Matsumoto, 2021).

5.4.3 Digital Loan Processing Systems (DLPS) and Loan Performance

The findings indicate that Digital Loan Processing Systems (DLPS) contribute significantly to operational efficiency, faster loan disbursement, and improved client satisfaction. Accordingly, MFIs are advised to adopt advanced digital loan platforms that facilitate online loan applications, automated credit scoring, and instant disbursement of funds (Omwansa & Waema, 2021; Khan et al., 2022). Routine maintenance and system upgrades should be prioritized to ensure reliability, minimize technical downtime, and build client trust in digital services.

In addition, MFIs should conduct awareness campaigns and practical demonstrations for clients to enhance adoption and smooth use of digital platforms, thereby improving repayment compliance and reducing errors during the loan application process. These recommendations are supported by prior studies that show that well-implemented DLPS reduces loan processing time, enhances client satisfaction, and positively influences overall loan performance in microfinance institutions (Bbaale & Nansubuga, 2023; Venkatesh & Bala, 2008). Implementing these measures will allow MFIs to leverage technology fully, ensuring operational efficiency, higher repayment rates, and improved financial outcomes.

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APPENDICES

APPENDIX I: Questionnaire for Branch Managers

Dear Respondent,

RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY

I am a student at Metropolitan International University pursuing a Master's Degree in Business Administration. I am carrying out a research study titled: *“Digital Banking and Loan Performance in Selected Microfinance Institutions in Mukono Districts.”*

You have been selected to take part in this study because your views and experience are important. I kindly request you to answer the attached questionnaire honestly and completely.

Please note: Your participation is voluntary, and you may stop at any time, your answers will be kept private and used only for academic purposes, you will not be asked to write your name on the form.

Thank you for your time and support.

Yours sincerely,

Akankwatsa Annitah

MBA Candidate

Metropolitan International University

Tel: 0773 038885

Section A: Demographic Information (Tick the appropriate box)

1. Gender: Male Female
2. Age: 20–29 30–39 40–49 50+
3. Education Level: Diploma Bachelor's Master's PhD
4. Years in current position: <1 year 1–3 years 4–6 years 7+ years
5. Institution: Pride FINCA BRAC Vision Fund

Section B: Mobile Banking and Loan Performance

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA 5	A 4	N 3	D 2	SD 1
MB B.01	Our MFI uses mobile platforms for customer loan applications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBB.02	Mobile transactions have increased loan repayment convenience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBB.03	Customers receive real-time SMS alerts on loan repayments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBB.04	Mobile banking services have reduced loan default rates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBB.05	Mobile banking has improved overall loan performance in our branch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C: MIS and Loan Performance

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA	A	N	D	SD
		5	4	3	2	1
MIB.06	Our MFI maintains digital customer loan history for tracking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIB.07	We use automated systems to monitor loan repayment schedules.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIB.08	MIS helps identify clients at risk of default early.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIB.09	Reports generated from MIS support timely managerial decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIB.10	MIS contributes positively to overall loan performance indicators.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Digital Loan Processing Systems

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA	A	N	D	SD
		5	4	3	2	1
DLB.11.	Online loan portals are used in processing client loans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLB.12.	Credit scoring is conducted using digital algorithms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLB.13.	Our branch supports instant digital disbursement after approval.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLB.14.	Digital processing has reduced loan approval time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLB.15	Digital loan processing has enhanced customer satisfaction and repayment rates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

END

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APPENDIX II: Questionnaire Schedule for Credit Officers

Dear Respondent,

RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY

I am a student at Metropolitan International University pursuing a Master's Degree in Business Administration. I am carrying out a research study titled: *"Digital Banking Adoption and Loan Performance in Selected Microfinance Institutions in Mukono District."*

You have been selected to take part in this study because your views and experience are important. I kindly request you to answer the attached questionnaire honestly and completely.

Please note: Your participation is voluntary, and you may stop at any time, your answers will be kept private and used only for academic purposes, you will not be asked to write your name on the form.

Thank you for your time and support.

Yours sincerely,

Akankwatsa Annitah

MBA Candidate

Metropolitan International University

Tel: 0773 038885

Section A: Demographic Information

(Tick the appropriate box)

1. **Gender:** Male Female

2. **Age:** 20–29 30–39 40–49 50+

3. **Education Level:** Diploma Bachelor's Master's Other

4. **Years working with the MFI:** Less than 1 year 1–3 years 4–6 years 7+ years

5. **Department/Role:** Credit Officer Credit Supervisor

6. **MFI Location:** Mukono Buikwe

Section B: Mobile Banking and Loan Repayment

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA	A	N	D	SD
		5	4	3	2	1
BCO.01	Mobile banking platforms are used by most clients to apply for loans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BCO.02	Clients repay their loans through mobile money platforms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BCO.03	Real-time SMS alerts help clients track repayment schedules.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BCO.04	Mobile banking has improved client compliance with loan repayment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BCO.05	Loan default rates have reduced due to the convenience of mobile banking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C: MIS Use in Credit Management

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1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA 5	A 4	N 3	D 2	SD 1
MIC.06	The MFI uses digital systems to store client loan history and repayment records.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIC.07	Automated reminders through MIS are sent to clients before repayment deadlines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIC.08	MIS helps me track overdue clients more efficiently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIC.09	The MIS generates accurate reports to support loan performance analysis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MIC.10	I rely on MIS dashboards to make timely credit decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Digital Loan Processing Systems

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA 5	A 4	N 3	D 2	SD 1
DLC.11.	Loan applications are submitted and processed through an online platform.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.12	Digital tools are used to assess client creditworthiness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.13	Once approved, loans are disbursed through digital channels (e.g., mobile money).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.14	Digital systems have reduced turnaround time for loan approvals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.15	Digital loan processing has enhanced the accuracy of loan evaluation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

END

APPENDIX III: Questionnaire Schedule for It / Digital Banking Officers

Dear Respondent,

RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY

Received: 06.03.2026

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I am a student at Metropolitan International University pursuing a Master's Degree in Business Administration. I am carrying out a research study titled: *"Digital Banking Adoption and Loan Performance in Selected Microfinance Institutions in Mukono District."*

You have been selected to take part in this study because your views and experience are important. I kindly request you to answer the attached questionnaire honestly and completely.

Please note: Your participation is voluntary, and you may stop at any time, your answers will be kept private and used only for academic purposes, you will not be asked to write your name on the form.

Thank you for your time and support.

Yours sincerely,

Akankwatsa Annitah

MBA Candidate

Metropolitan International University

Tel: 0773 038885

Section A: Demographic Information

(Tick the appropriate box)

1. **Gender:** Male Female

2. **Age:** 20–29 30–39 40–49 50+

3. **Education Level:** Diploma Bachelor's Master's Other

4. **Years in IT/Digital Banking Role:** Less than 1 year 1–3 years 4–6 years 7+ years

5. **MFI Location:** Mukono Buikwe

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Section B: Mobile Banking Technology Support

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA	A	N	D	SD
		5	4	3	2	1
MBI.01	The mobile banking system used by the MFI is stable and reliable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.02	The IT department ensures timely maintenance of the mobile banking apps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.03	Downtime in mobile banking systems is minimal and promptly resolved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.04	Clients are able to access and transact through mobile banking smoothly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.05	Feedback mechanisms are in place to address technical issues from users.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C: MIS Infrastructure and Loan Monitoring

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA	A	N	D	SD
		5	4	3	2	1
MBI07	The MIS is well-integrated with the loan performance tracking systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI08	IT staff regularly back up digital loan and customer records.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.09	Data stored in the MIS is secure and protected from unauthorized access.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.10	The MIS generates accurate and real-time loan performance reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.11	MIS upgrades are done when needed to support improved loan tracking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Digital Loan Processing Systems

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

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No.	Question	SA	A	N	D	SD
		5	4	3	2	1
MBI.12	The online loan application portal functions without major technical issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI13	Credit scoring algorithms are managed and updated by the IT team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI.14	IT systems ensure instant and secure loan disbursement to clients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI 15	Digital loan processing platforms are user-friendly and efficient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBI 16	Technology infrastructure in our MFI fully supports digital loan operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

END

‘APPENDIX Iv: Questionnaire Schedule for Clients

Dear Respondent,

RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY

I am a student at Metropolitan International University pursuing a Master’s Degree in Business Administration. I am carrying out a research study titled: *“Digital Banking Adoption and Loan Performance in Selected Microfinance Institutions in Mukono District.”*

You have been selected to take part in this study because your views and experience are important. I kindly request you to answer the attached questionnaire honestly and completely.

Please note: Your participation is voluntary, and you may stop at any time, your answers will be kept private and used only for academic purposes, you will not be asked to write your name on the form.

Thank you for your time and support.

Yours sincerely,

Akankwatsa Annitah

Received: 06.03.2026

Accepted: 12.03.2026

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MBA Candidate

Metropolitan International University

Tel: 0773 038885

Section A: Demographic Information

(Please tick the appropriate box)

- 1. **Gender:** Male Female
- 2. **Age Group:** 18–25 26–35 36–45 46+
- 3. **Education Level:** Primary Secondary Diploma Degree
- 4. **Number of Years as a Client with this MFI:** Less than 1 year 1–3 years 4+ years
- 5. **Loan Status:** Active borrower Completed loan First-time borrower

Section B: Mobile Banking Services

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA 5	A 4	N 3	D 2	SD 1
MBC.01	I applied for my loan using my mobile phone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBC.02	I use mobile money to pay back my loan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBC.03	I receive SMS or mobile app alerts about my loan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBC.04	Mobile banking has made it easier for me to manage loan repayments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MBC05	I rarely face problems when using mobile banking for loan transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Section C: Digital Support and Customer Records

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA	A	N	D	SD
		5	4	3	2	1
DSC.06	My information and loan records are safely stored by the MFI.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DSC.07	I can request my loan history through digital systems (e.g., app, SMS).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DSC.08	I receive reminders before my repayment date.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DSC.09	The systems used by the MFI help me avoid missing repayment deadlines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DSC.10	The MFI uses technology to support good customer service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Digital Loan Processing Experience

1=Strongly Disagree(SD), 2=Disagree(D), 3=Neutral(N), 4=Agree(A), 5=Strongly Agree(SA)

No.	Question	SA	A	N	D	SD
		5	4	3	2	1
DLC.11	I completed my loan application online or through my phone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.12	My loan was approved quickly because of digital systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.13	I received my loan money through mobile money.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.14	I trust the MFI's digital systems for financial transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DLC.15	Using digital systems helped me repay the loan on time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX IIX: Document Review Checklist

Study Title: *Digital Banking Adoption and Loan Performance of Selected Microfinance Institutions in Mukono District*

Researcher: Akankwatsa Annitah

The researcher will use this checklist to review secondary data and institutional records related to loan performance and digital banking adoption in selected MFIs.

Document/Record	Reviewed (√/X)	Key Information to Extract
Loan portfolio reports (2020–2025)		Repayment rates, default rates, portfolio at risk
Digital banking system usage reports		Number of clients using mobile banking/loan apps
Management Information System (MIS) reports		Data on loan tracking, monitoring, and performance
Policy and strategy documents on digital banking		Guidelines, strategies, and adoption levels
Audit and compliance reports		Findings related to digital banking operations and loan recovery
Customer transaction logs (aggregated data)		Frequency and volume of digital loan transactions
Annual reports of MFIs		Overall financial performance, loan portfolio summaries

APPENDIX IIX: WSlovin's Formula Table

Sample sizes for different population sizes at common margins of error (5%, 3%, and 1%):

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Population (N)	Sample Size (5% Margin of Error)	Sample Size (3% Margin of Error)	Sample Size (1% Margin of Error)
50	44	48	50
100	80	92	99
500	222	341	475
1,000	286	516	906
5,000	370	880	3,288
10,000	385	964	4,900
100,000	398	1,056	9,804