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## ENTREPRENEURIAL INNOVATION AND ORGANIZATIONAL PERFORMANCE OF CREDIT-ONLY MICROFINANCE INSTITUTIONS IN NAIROBI CITY COUNTY, KENYA

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## ABSTRACT

Credit-only microfinance institutions (MFIs) play an important role in extending financial services to micro and small enterprises that are excluded from conventional banking. However, their organizational performance in Nairobi City County has remained inconsistent despite increasing investment in innovation. This study examines the influence of process innovation and ICT innovation on the organizational performance of credit-only MFIs in Nairobi City County, Kenya. Specifically, it focuses on how streamlined loan processing, workflow automation and staff training on revised procedures, alongside the adoption of mobile platforms, core banking systems and digital credit scoring, contribute to organizational performance measured through customer satisfaction, service delivery efficiency and staff productivity. The study is theoretically anchored on the Resource-Based View and the Technology-Organization-Environment Framework. A descriptive cross-sectional survey design was employed, targeting 525 management employees from 21 credit-only MFIs registered with the Association of Microfinance Institutions of Kenya. Using Yamane's formula and stratified random sampling, a sample of 227 respondents was selected. Data were collected using structured questionnaires, with 173 completed questionnaires returned, representing a response rate of 76.2%. The research instrument demonstrated high reliability, with Cronbach's alpha coefficients of 0.944 for process innovation and 0.934 for ICT innovation. Descriptive statistics, Pearson correlation and multiple regression were used for data analysis. The original multiple regression results established that process innovation had the strongest standardized influence on organizational performance ($\beta = 0.421$, $t = 10.289$, $p < 0.001$), followed by ICT innovation ($\beta = 0.407$, $t = 9.991$, $p < 0.001$). Both variables also demonstrated positive and statistically significant correlations with organizational performance. The findings underscore the importance of improving operational processes and strengthening technological capabilities in enhancing the performance of credit-only MFIs. The study highlights the need for microfinance institutions to prioritize streamlined and paperless loan processing, workflow automation, integrated core banking systems and digital credit scoring to improve operational efficiency, customer satisfaction and staff productivity.

**Keywords:** Process innovation, ICT innovation, organizational performance, credit-only microfinance institutions, Kenya.

## Background of the Study

The organizational performance of credit-only microfinance institutions (MFIs) has become increasingly significant in developing economies where access to formal financial services remains limited. These institutions extend credit to micro and small enterprises that are excluded from conventional banking for lack of collateral and formal credit histories (World Bank, 2025). As financial systems become more technology-driven, MFIs are expected to maintain high standards of operational efficiency, customer responsiveness and sustainability (OECD, 2024), while competition from fintech firms and digital lenders compels them to improve performance through innovative service delivery (IMF, 2025).

Process innovation improves efficiency by redesigning loan processing and customer onboarding procedures, thereby reducing delays and transaction costs (Zhang & Goffin, 2021). Similarly, ICT innovation, through mobile banking applications, cloud-based loan management systems and digital credit scoring models, enhances operational accuracy and lowers transaction costs (Abdelkafi & Täuscher, 2022). Globally, MFIs have adopted these innovations to improve service delivery and organizational performance. In India, mobile-based disbursements have shortened loan processing and reduced operating costs (Jain & Ghosh, 2021), while BRAC in Bangladesh combined digital loan tracking with tailored microloan packages to improve customer satisfaction and repayment (Ahmed et al., 2023). However, experiences in Eastern Europe and Central Asia indicate that digital lending platforms introduced without adequate user training, cybersecurity measures and supporting data infrastructure can result in customer resistance and operational disruptions (Frolova et al., 2022; Bican & Brem, 2020). These experiences demonstrate that innovation improves performance when supported by appropriate infrastructure, staff competence and client readiness (Heikkilä & Solaimani, 2022).

In Africa, entrepreneurial innovation has produced promising outcomes for MFIs. In Ghana, institutions that adopted mobile credit scoring and cloud-based loan tracking achieved faster loan approvals and better portfolio management (Osei-Tutu et al., 2022). In Rwanda, the deployment of biometric client identification and e-wallet platforms enhanced customer experience and operational accuracy (Murenzi et al., 2023). Nevertheless, the implementation of ICT innovations remains constrained by low digital literacy, poor connectivity, inadequate IT infrastructure and limited staff training in countries such as Nigeria and Tanzania (Abubakar et al., 2022; Waryoba et al., 2024). These challenges indicate that the performance benefits of innovation depend on effective implementation and investment in systems and staff capacity (Obeng & Boateng, 2023).

In Kenya, credit-only MFIs have increasingly adopted mobile-based lending platforms, digital customer onboarding and redesigned loan processing procedures to enhance service efficiency (Wambua et al., 2023). Some have also partnered with fintech firms to introduce alternative credit scoring models (Njoroge & Otieno, 2022). However, adoption remains uneven due to limited technical expertise, inadequate investment in IT infrastructure and client resistance to digital platforms (Ndungu & Kariuki, 2021). Credit-only MFIs occupy a unique position in Kenya's financial ecosystem because they provide credit without mobilizing deposits, exposing them to operational and strategic pressures (Wambua et al., 2023; Kinyua & Muthoni, 2023). By the end of 2024, they served over 1.05 million active clients through approximately 708 branches, with a combined loan portfolio of KSh 37.4 billion (AMFI-K, 2025). Nairobi City County provides an appropriate context for examining these innovations because it is Kenya's leading commercial and financial hub, with a high concentration of MFIs, fintech firms, commercial banks, SACCOs and digital lenders (AMFI-K, 2025). The competitive environment and demand for quick and flexible credit place pressure on credit-only MFIs to

improve process efficiency and leverage ICT innovations to enhance organizational performance.

## Statement of the Problem

Credit-only MFIs are expected to deliver fast, reliable and customer-responsive credit services, and innovation is widely regarded as a means of achieving this. In Kenya, these institutions have increasingly adopted redesigned loan processing procedures, mobile lending platforms, core banking systems and alternative credit scoring models (Wambua et al., 2023). By the end of 2024, they served over 1.05 million active clients with a combined loan portfolio of KSh 37.4 billion (AMFI-K, 2025).

Despite this investment, organizational performance remains below expectations, particularly in customer satisfaction, service delivery and staff productivity. Complaints lodged with the Competition Authority of Kenya against digital lenders, with which credit-only MFIs compete for the same borrowers, rose more than five-fold, from 67 cases to 355 cases in the year to June 2025, mainly over hidden charges, changes in borrowing terms and premature seizure of assets (Business Daily, 2026). The 2024 FinAccess Household Survey further shows that the proportion of borrowers who completely defaulted on their loans rose from 10.7 percent in 2021 to 16.6 percent in 2024 (CBK, KNBS & FSD Kenya, 2024), while credit-only MFIs recorded a portfolio at risk above 30 days of 12.58 percent (AMFI-K, 2025). Staff productivity presents a similar concern. At the end of 2024, credit-only MFIs reporting to AMFI-K employed 5,747 staff, of whom 3,429 (59.67 percent) were loan officers (AMFI-K, 2025). Set against their 1,051,474 active clients, this represents approximately 183 clients for every member of staff and 307 clients for every loan officer. Within the institutions, delayed loan processing, inconsistent service quality and customer attrition persist despite the adoption of modern financial technologies (Kinyua & Muthoni, 2023). These indicators suggest that the adoption of process and ICT innovations has not consistently translated into improved organizational performance.

Existing studies do not adequately explain this situation. Studies in Kenya have concentrated on financial inclusion, access to credit and mobile lending adoption (Mutuku et al., 2023; Njoroge & Otieno, 2022). Although some studies have examined process innovation (Otieno & Cheruiyot, 2026) and ICT innovation (Kariuki & Maina, 2026), there remains a need to establish how these two dimensions relate to organizational performance within credit-only MFIs. Regional studies have largely focused on regulated or deposit-taking MFIs in Rwanda, Ghana and Uganda (Murenzi & Habimana, 2025; Agyeman & Boateng, 2025; Mugisha & Nuwagaba, 2025), whose operating conditions differ from those of Kenya's credit-only MFIs. In addition, studies that measure organizational performance have often emphasized financial indicators, giving limited attention to customer satisfaction, service delivery efficiency and staff productivity.

The present study focused specifically on process innovation and ICT innovation among credit-only MFIs in Nairobi City County, Kenya. It examined process innovation through improvements in loan processing and operational procedures, and ICT innovation through the application of digital technologies in lending and service delivery. Organizational performance was assessed through customer satisfaction, service delivery efficiency and staff productivity. Establishing the influence of these two innovation dimensions is important because credit-only MFIs risk continuing to invest in processes and technologies that do not adequately improve customer outcomes or operational performance. The study therefore sought to determine the influence of process innovation and ICT innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya.

### Research Objectives

The general objective of the study was to determine the influence of process innovation and ICT innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya.

The specific objectives were:

1. To determine the influence of process innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya.
2. To determine the influence of ICT innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya.

### Research Questions

1. What is the influence of process innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya?
2. What is the influence of ICT innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya?

## LITERATURE REVIEW

### Theoretical Review

This study was anchored on the Resource-Based View (RBV) Theory and the Technology–Organization–Environment (TOE) Framework, which underpin the relationship between process innovation, ICT innovation and organizational performance. The two theories were selected because they explain innovation at the organizational level and provide complementary perspectives on how internal capabilities and technological adoption contribute to superior organizational outcomes in credit-only microfinance institutions.

The Resource-Based View (RBV) Theory was developed by Barney (1991), although its roots can be traced to earlier works by Penrose (1959). The theory posits that an organization's sustainable competitive advantage arises from its internal resources and capabilities that are valuable, rare, inimitable and non-substitutable (VRIN) (Barney, 1991). According to RBV, firms should focus on leveraging internal strengths such as knowledge, technology, innovation capacity and managerial skills to outperform competitors (Wernerfelt, 2021). In the context of performance, RBV emphasizes that only strategically aligned and well-deployed resources can create long-term value (Teece, 2020). Although the theory has been critiqued for its static orientation and lack of clarity in defining and measuring key concepts such as valuable or inimitable resources (Cillo et al., 2023), it provides a relevant foundation for understanding process innovation. Process innovations, such as automation of loan appraisal, digitization of client onboarding and real-time credit assessment systems, constitute internal operational capabilities that can enhance efficiency and reduce transaction costs. These innovations qualify as strategic resources when they improve workflow speed, consistency and scalability, giving MFIs a performance edge in a competitive market (Heikkilä & Solaimani, 2022). The theory therefore anchors the first objective by explaining how redesigned workflows, streamlined loan procedures and staff training on revised procedures can strengthen internal capabilities and improve organizational performance.

The Technology–Organization–Environment (TOE) Framework was developed by Tornatzky and Fleischer (1990). It proposes that the adoption of ICT innovations in an organization is influenced by three key contexts: the technological context, which encompasses existing and emerging technologies relevant to the firm; the organizational context, which includes internal factors such as size, structure and resources; and the environmental context, which comprises industry characteristics, competition and regulatory pressures (Tornatzky & Fleischer, 1990).

The framework suggests that an innovation is more likely to be adopted when it is compatible with existing systems, aligned with organizational capacity and supported by the external environment. Despite its utility, TOE has been criticized for being overly descriptive and lacking predictive precision in identifying the most influential factors within each context (Gangwar et al., 2020). Nevertheless, it provides a useful lens for examining ICT innovation in credit-only MFIs. ICT innovations such as mobile banking platforms, core banking systems and digital credit scoring tools are not adopted in isolation; their effectiveness depends on technological readiness, organizational capacity and environmental pressures, including customer expectations and regulatory requirements (Abdelkafi & Täuscher, 2022). In Nairobi City County, where competition, regulation and client digital preferences continue to shape the financial services environment, the TOE Framework explains how institutional readiness and external conditions influence the adoption and performance outcomes of ICT innovations. It therefore anchors the second objective by linking the use of digital technologies to organizational performance.

**Conceptual Framework**

The conceptual framework is a diagrammatic representation of the hypothesized relationship between process innovation, ICT innovation and the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya. It is derived from the Resource-Based View Theory (Barney, 1991) and the Technology–Organization–Environment Framework (Tornatzky & Fleischer, 1990). Process innovation and ICT innovation constitute the independent variables, while organizational performance is the dependent variable. Process innovation is measured through workflow redesign, streamlined loan processing and staff process training, while ICT innovation is measured through mobile banking platforms, core banking systems and digital credit scoring. The dependent variable is measured through customer satisfaction, service delivery efficiency and staff productivity. Care is taken to ensure that the indicators do not overlap. In particular, process innovation is limited to how work is organized and carried out, whereas ICT innovation is limited to the digital tools and systems that the institution has deployed. The framework is presented in Figure 2.1.

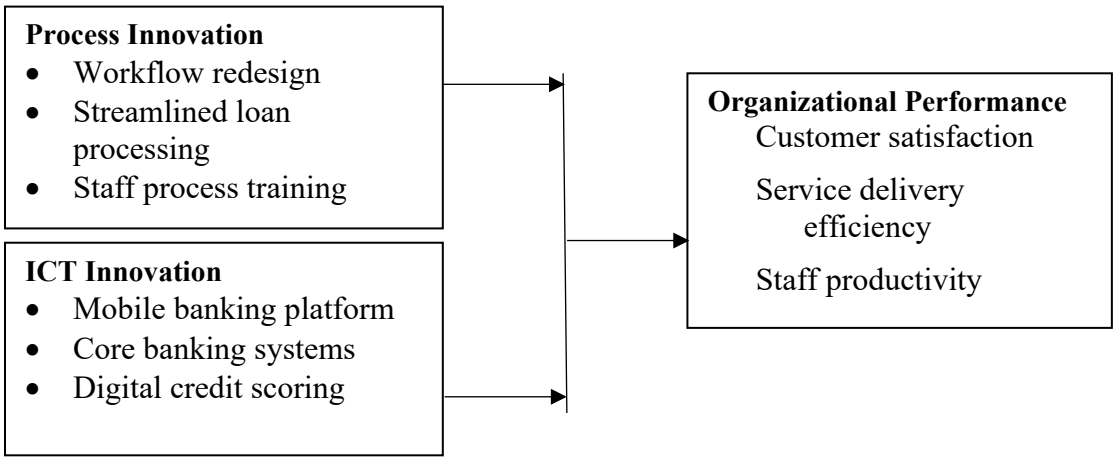



**Figure 2.1: Conceptual Framework**

**Process innovation** refers to the implementation of new or significantly improved methods in service delivery, internal operations or workflow systems with the goal of enhancing efficiency, accuracy and responsiveness. In the context of microfinance institutions, process innovation is critical in reducing operational bottlenecks, lowering costs and delivering faster, more reliable services to clients (Cillo et al., 2023). In this study, process innovation is confined to the redesign, simplification and standardization of operating procedures. Its first indicator, workflow redesign, involves re-engineering the sequence of tasks in service delivery to reduce

or eliminate repetitive manual interventions such as duplicate data entry, physical movement of files and multiple internal approvals (Nguyen et al., 2023). The second indicator, streamlined loan processing, refers to simplifying the steps involved in evaluating, approving and disbursing loans by eliminating unnecessary procedures, shortening appraisal steps and clarifying approval responsibilities (Kinyua & Muthoni, 2023). The third indicator, staff process training, refers to the regular training of employees on new and updated operating procedures to ensure that redesigned processes are applied consistently across branches. Process changes deliver results only when the staff who operate them understand and follow them (Wanjiru & Kemei, 2022; Waryoba et al., 2024).

**ICT innovation** refers to the application of new or significantly improved digital tools, systems or infrastructure that enhance the delivery, management and monitoring of financial services. In microfinance, ICT innovation enables institutions to extend their reach, improve service accuracy and reduce transaction costs (Nguyen et al., 2023). In this study, ICT innovation is confined to the digital tools and systems that an institution has deployed, as distinct from process innovation, which concerns how operating procedures are designed and followed. Its first indicator, mobile banking platforms, allows clients to access credit, make repayments and interact with their MFI through mobile phones, improving accessibility and reducing the need for physical branch visits (Wambua et al., 2023). The second indicator, core banking systems, refers to centralized institution-wide software platforms that manage client accounts, loan portfolios, transaction processing and reporting. These systems facilitate real-time data access, enhance internal control and improve operational transparency (Heikkilä & Solaimani, 2022; Cillo et al., 2023). The third indicator, digital credit scoring, involves using alternative data sources such as mobile phone usage, utility payment history and digital transaction behaviour to assess borrowers' creditworthiness. This approach supports data-driven lending decisions, reduces subjectivity and speeds up loan approval processes (Kinyua & Muthoni, 2023).

**Organizational performance** refers to the extent to which an organization achieves its strategic, operational and service delivery objectives. In the microfinance context, performance reflects operational efficiency, customer outcomes and service reliability (Nguyen et al., 2023). In this study, organizational performance is measured through customer satisfaction, service delivery efficiency and staff productivity. Customer satisfaction reflects the degree to which clients perceive MFI services as timely, reliable and responsive to their needs. It is associated with customer loyalty, repayment and positive word of mouth (Abdelkafi & Täuscher, 2022). Service delivery efficiency refers to how quickly and reliably an MFI processes loan applications, approves and disburses loans and responds to customers. It is particularly important in urban settings such as Nairobi, where clients demand timely access to working capital (Mutuku et al., 2023). Staff productivity refers to the output employees achieve relative to their effort and time. In credit-only MFIs, which often operate with lean staff structures, organizational performance depends partly on how effectively employees accomplish their assigned responsibilities (Abdelkafi & Täuscher, 2022).

The three organizational performance indicators were measured through ratings provided by management employees rather than directly from clients or institutional records. Client satisfaction survey results, loan turnaround records and staff productivity ratios were not available in a comparable form across the 21 institutions. Management employees receive information on these outcomes through client feedback and complaints, loan processing reports and staff performance reviews. The questionnaire statements were therefore framed around these performance outcomes. Ratings of performance by informed managers have been found to agree closely with objective measures of the same performance (Wall et al., 2004), supporting their use where objective records are unavailable. However, because respondents who are answerable for performance may still rate it favourably, appropriate safeguards were applied and the issue acknowledged as a study limitation (Podsakoff et al., 2003).

## Empirical Review of Literature

### Process Innovation and Organizational Performance

Otieno and Cheruiyot (2026) conducted a study on the effect of process innovation on the organizational performance of credit-only microfinance institutions in Kenya. The study adopted a descriptive cross-sectional research design targeting managerial employees from 20 credit-only MFIs operating in major urban centers. Data was collected using structured questionnaires and analyzed using regression analysis. The findings revealed that automated loan processing systems, digital customer onboarding procedures and paperless workflow systems significantly improved operational efficiency, reduced loan turnaround time and enhanced customer satisfaction. The study concluded that process innovation positively influences organizational performance by improving operational responsiveness and reducing administrative inefficiencies. However, the study focused primarily on operational efficiency without examining broader organizational performance dimensions such as customer retention and staff productivity.

Agyeman and Boateng (2025) examined the relationship between process innovation and organizational performance among microfinance institutions in Ghana. The study employed a correlational research design involving 31 MFIs operating within Accra and Kumasi. Primary data was collected through questionnaires administered to branch managers and operations officers. The findings established that process innovations such as workflow automation, digital record management and integrated loan approval systems significantly enhanced service delivery speed, customer responsiveness and internal operational coordination. The study further found that institutions with streamlined operational processes recorded lower operational costs and improved client satisfaction levels. Nonetheless, the study concentrated on regulated deposit-taking MFIs, which differ from Kenya's credit-only microfinance institutions in terms of operational structures and regulatory frameworks.

Chen and Huang (2024) conducted a study on process innovation and organizational performance among financial service firms in China. The study adopted a mixed-method research design targeting 40 financial institutions operating within urban financial markets. Data was collected through interviews and survey questionnaires administered to senior operational managers. The findings indicated that process automation, digital workflow integration and customer-centered operational systems significantly improved organizational efficiency, service quality and institutional adaptability. The study concluded that process innovation enhances organizational performance by increasing operational flexibility and improving customer experience. However, the study focused on large financial service firms in Asia and did not specifically address the unique operational challenges facing credit-only MFIs within developing African economies.

In conclusion, the reviewed studies show that redesigned and streamlined operating processes reduce loan turnaround time, lower operating costs and improve customer satisfaction. Their limitations are that performance was measured mainly as operational efficiency (Otieno & Cheruiyot, 2026), that the Ghanaian evidence relates to deposit-taking MFIs (Agyeman & Boateng, 2025), and that the Chinese evidence relates to large financial service firms (Chen & Huang, 2024). In addition, the studies did not consistently distinguish changes in operating procedures from the digital technologies used to implement them. The knowledge gap is therefore how process innovation, considered distinctly from ICT innovation, influences the broader organizational performance of credit-only MFIs in Nairobi City County. These studies informed the selection of process innovation indicators and support the examination of its relationship with organizational performance.

## ICT Innovation and Organizational Performance

Kariuki and Maina (2026) conducted a study on the effect of ICT innovation on the organizational performance of credit-only microfinance institutions in Kenya. The study adopted a descriptive research design targeting 22 credit-only MFIs operating within Nairobi City County and surrounding urban centers. Primary data was collected using structured questionnaires administered to ICT managers and operations managers. The findings established that mobile lending platforms, cloud-based loan management systems and digital customer onboarding technologies significantly improved operational efficiency, loan processing speed and customer satisfaction. The study further revealed that institutions that heavily invested in ICT infrastructure experienced enhanced service delivery and stronger client retention. However, the study mainly concentrated on technological infrastructure and did not adequately examine the role of organizational readiness in influencing innovation outcomes.

Mugisha and Nuwagaba (2025) examined the relationship between ICT innovation and organizational performance among microfinance institutions in Uganda. The study employed a correlational research design involving 29 MFIs operating in Kampala and other urban municipalities. Data was collected through questionnaires and analyzed using inferential statistical techniques. The findings indicated that adoption of digital payment systems, mobile banking applications and integrated management information systems significantly improved customer accessibility, operational responsiveness and institutional competitiveness. The study also established that ICT innovation reduced operational costs and enhanced communication efficiency within institutions. Nevertheless, the study focused on Uganda's broader microfinance sector and did not specifically address the unique operational dynamics of credit-only MFIs.

Fernandez and Silva (2024) conducted a study on ICT innovation and organizational performance among non-bank financial institutions in Brazil. The study utilized a mixed-method research design involving 38 financial institutions operating in major Brazilian cities. Data was collected using interviews and structured survey instruments administered to senior managers. The findings showed that institutions that adopted digital financial platforms, automated customer service systems and electronic credit scoring technologies recorded significant improvements in service quality, operational flexibility and customer engagement. The study concluded that ICT innovation positively influences organizational performance by enhancing efficiency and institutional adaptability within dynamic financial environments. However, the study focused on Latin American financial institutions operating in more technologically advanced environments, limiting direct applicability to African credit-only MFIs.

In conclusion, the reviewed studies establish that mobile platforms, integrated management information systems and electronic credit scoring improve loan processing speed, customer accessibility and service quality. Their limitations are that the Kenyan study concentrated on technological infrastructure without adequately considering organizational readiness (Kariuki & Maina, 2026), while the Ugandan and Brazilian studies covered broader microfinance and non-bank financial sectors in different technological environments (Mugisha & Nuwagaba, 2025; Fernandez & Silva, 2024). The knowledge gap is how ICT innovation influences the broader organizational performance of credit-only MFIs in Nairobi City County, particularly when examined alongside process innovation. These studies informed the selection of ICT innovation indicators and provide a basis for examining its relationship with organizational performance.

## RESEARCH METHODOLOGY

The study adopted a descriptive cross-sectional survey design to examine the influence of process innovation and ICT innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County, Kenya. The design was appropriate because it enabled the collection of data on existing innovation practices and organizational performance at a single point in time without manipulating the study variables (Kothari & Garg, 2022). It also permitted the examination of relationships between the variables using correlation and regression analysis.

The target population comprised 525 management employees drawn from 21 credit-only microfinance institutions operating within Nairobi City County, Kenya. The institutions were identified from the Association of Microfinance Institutions of Kenya (AMFI-K, 2025) membership directory. The unit of analysis was the credit-only microfinance institution, while the unit of observation was the individual management employee. Management employees were selected because of their involvement in innovation formulation, implementation, operational coordination and organizational performance monitoring. They were drawn from top, middle and lower management levels to capture different perspectives on institutional innovation practices and performance.

The study employed stratified random sampling to ensure representation across the three management categories. The population was stratified into top management, middle-level management and lower-level management, after which proportionate sampling was applied within each category. Yamane's (1967) formula for finite populations, at a 5 percent margin of error, was used to determine a sample size of 227 respondents from the target population of 525. The sample comprised 9 top-level managers, 82 middle-level managers and 136 lower-level managers. Simple random sampling was subsequently used to select respondents within each stratum.

Primary data was collected using structured questionnaires administered to the selected management employees. The questionnaire contained demographic questions and statements measuring process innovation, ICT innovation and organizational performance. The independent variables were measured through workflow redesign, streamlined loan processing and staff process training for process innovation, and mobile banking platforms, core banking systems and digital credit scoring for ICT innovation. Organizational performance was measured through customer satisfaction, service delivery efficiency and staff productivity. Respondents rated the statements on a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire items were adapted from previous empirical studies and modified to suit the context of credit-only microfinance institutions.

Before the main data collection, a pilot test involving 23 respondents was conducted in two credit-only MFIs to assess the clarity, relevance, reliability and validity of the research instrument. The pilot respondents were subsequently incorporated into the final dataset following the recommendation made during the proposal defence. Since no questionnaire items were deleted or modified after the pilot, the same instrument was used during the main study, and the remaining 204 respondents were selected without including the pilot participants again. Reliability was assessed using Cronbach's alpha, with a coefficient of 0.70 or higher considered acceptable (Mugenda & Mugenda, 2020). Face, content and construct validity were also assessed through respondent feedback, expert review and factor analysis, respectively. The Kaiser-Meyer-Olkin measure and Bartlett's Test of Sphericity were used to assess sampling adequacy and the suitability of the data for factor analysis.

Data collection was conducted using self-administered questionnaires, which were physically delivered or shared electronically depending on institutional preferences and respondent availability. The researcher obtained an introduction letter from the university and a research

licence from the National Commission for Science, Technology and Innovation (NACOSTI), after which permission was sought from the participating institutions. Respondents were assured of confidentiality, anonymity and voluntary participation. Out of the 227 questionnaires administered, 173 were returned, representing a response rate of 76.2 percent.

Data was coded, cleaned and analysed using the Statistical Package for the Social Sciences (SPSS) version 27. Descriptive statistics, including frequencies, percentages, means and standard deviations, were used to summarize respondent characteristics and responses to the study variables. Pearson product-moment correlation analysis was conducted to establish the strength and direction of the relationships between process innovation, ICT innovation and organizational performance. Multiple linear regression analysis was subsequently used to establish the individual and combined influence of the two independent variables on organizational performance. The coefficient of determination ($R^2$) was used to assess the explanatory power of the model, while the F-test and t-tests were used to establish the overall model significance and the statistical significance of individual regression coefficients, respectively. Statistical significance was assessed at the 5 percent level.

## RESEARCH FINDINGS AND DISCUSSION

Out of the 227 questionnaires administered, 173 were completed and returned, giving a response rate of 76.2 percent,

### Descriptive Statistics

This section presents the descriptive statistics for process innovation, ICT innovation and organizational performance. Respondents rated each statement on a five-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. For each statement, the results are presented using the percentage of respondents selecting each point of the scale, together with the mean and standard deviation. Following Pimentel (2010), mean scores between 1.00 and 1.80 were interpreted as strong disagreement, 1.81 to 2.60 as disagreement, 2.61 to 3.40 as a neutral or moderate rating, 3.41 to 4.20 as agreement and 4.21 to 5.00 as strong agreement.

### Process Innovation

The first objective of the study was to determine the influence of process innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County. Respondents were asked to indicate the extent to which they agreed with statements relating to process innovation in their institutions. The results are presented in Table 4.9.

**Table 1: Descriptive Statistics for Process Innovation**

| Statement | 1 | 2 | 3 | 4 | 5 | Mean | Std. Dev. |
|---|---|---|---|---|---|---|---|
| Our institution has automated key workflows to reduce manual interventions in service delivery. | 5.8 | 16.8 | 38.7 | 29.5 | 9.2 | 3.20 | 1.02 |
| Loan processing steps have been streamlined to minimize delays and improve efficiency. | 3.5 | 16.8 | 39.8 | 31.2 | 8.7 | 3.25 | 0.95 |
| Staff are regularly trained on updated processes and procedures. | 5.2 | 19.7 | 35.8 | 31.8 | 7.5 | 3.17 | 1.00 |

*Note.* 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree. Figures under 1–5 are percentages of respondents (n = 173).

The results in Table 1 show that process innovation practices were implemented to a moderate extent among the credit-only MFIs. Loan processing steps being streamlined to minimize delays and improve efficiency recorded the highest mean (Mean = 3.25, SD = 0.95), with 39.9 percent of respondents agreeing or strongly agreeing. This was followed by the automation of

key workflows to reduce manual interventions in service delivery (Mean = 3.20, SD = 1.02), with 38.7 percent agreement, and regular staff training on updated processes and procedures (Mean = 3.17, SD = 1.00), with 39.3 percent agreement. These findings suggest that the institutions have made progress in simplifying loan procedures, automating workflows and preparing employees to implement revised operating procedures.

The results further reveal differences in the extent to which these practices have been implemented. Streamlined loan processing received the highest mean, suggesting that institutions have placed greater emphasis on reducing delays in loan evaluation, approval and disbursement. However, the relatively high standard deviation for workflow automation (SD = 1.02) indicates differences in the extent to which institutions have automated their internal operations. The findings suggest that process innovation is not uniformly implemented across the institutions, particularly in relation to reducing manual interventions and ensuring consistent application of revised procedures.

Overall, the findings indicate that streamlining loan processing and training employees on updated procedures are important aspects of process innovation among the institutions. This is consistent with the Resource-Based View Theory, which considers internal capabilities and operational processes as strategic resources that can enhance organizational performance when effectively developed and deployed (Barney, 1991). The findings also correspond with Waryoba et al. (2024), who established that the benefits of digital transformation in microfinance institutions depend partly on the development of appropriate processes and staff capacity. Similarly, Otieno and Cheruiyot (2026) reported that improved loan processing procedures and workflow systems enhanced operational efficiency and reduced loan turnaround time among credit-only MFIs in Kenya.

### ICT Innovation

The second objective of the study was to determine the influence of ICT innovation on the organizational performance of credit-only microfinance institutions in Nairobi City County. Respondents were asked to indicate the extent to which they agreed with statements relating to ICT innovation in their institutions. The results are presented in Table 2.

**Table 2: Descriptive Statistics for ICT Innovation**

| Statement | 1 | 2 | 3 | 4 | 5 | Mean | Std. Dev. |
|---|---|---|---|---|---|---|---|
| Our institution uses mobile platforms for loan applications, disbursements and repayments. | 4.0 | 13.3 | 48.0 | 32.4 | 2.3 | 3.16 | 0.83 |
| A centralized core banking system supports our day-to-day operations and reporting. | 4.0 | 19.7 | 43.9 | 23.7 | 8.7 | 3.13 | 0.96 |
| We utilize digital credit scoring tools to evaluate customer creditworthiness. | 4.6 | 17.3 | 48.0 | 24.3 | 5.8 | 3.09 | 0.91 |

*Note.* 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree. Figures under 1–5 are percentages of respondents (n = 173).

The results in Table 2 indicate that ICT innovation was implemented to a moderate extent among the credit-only MFIs. Among the three indicators, the use of mobile platforms for loan applications, disbursements and repayments recorded the highest mean (Mean = 3.16, SD = 0.83), followed by the adoption of centralized core banking systems (Mean = 3.13, SD = 0.96). The use of digital credit scoring tools recorded the lowest mean (Mean = 3.09, SD = 0.91). These results suggest that mobile platforms and core banking systems are relatively more established than digital credit scoring tools within the institutions.

The distribution of responses further indicates that 34.7 percent of respondents agreed or strongly agreed that their institutions used mobile platforms, while 17.3 percent disagreed or strongly disagreed and 48.0 percent were neutral. Similarly, 32.4 percent agreed or strongly

agreed that their institutions had centralized core banking systems, while 30.1 percent expressed agreement regarding the use of digital credit scoring tools. The relatively high neutral responses across the three indicators suggest that the deployment and integration of these technologies may not be equally advanced across the institutions. In particular, the lower rating for digital credit scoring indicates that the use of alternative data and automated credit assessment tools remains an area requiring further investment.

Overall, the findings indicate that credit-only MFIs have adopted digital technologies, although the extent of implementation varies across the different ICT tools. This is consistent with the Technology–Organization–Environment Framework, which explains that technology adoption depends on technological readiness, organizational resources and environmental conditions (Tornatzky & Fleischer, 1990). The findings also correspond with Kariuki and Maina (2026), who established that mobile lending platforms and digital customer onboarding technologies improved operational efficiency, loan processing speed and customer satisfaction among credit-only MFIs in Kenya. Similarly, Mugisha and Nuwagaba (2025) found that digital payment systems, mobile banking applications and integrated management information systems enhanced customer accessibility and operational responsiveness among microfinance institutions in Uganda.

## Organizational Performance

Organizational performance was the dependent variable of the study and was measured through customer satisfaction, service delivery efficiency and staff productivity. Respondents were asked to indicate the extent to which they agreed with statements relating to the performance of their institutions. The results are presented in Table 3.

**Table 3: Descriptive Statistics for Organizational Performance**

| Statement | 1 | 2 | 3 | 4 | 5 | Mean | Std. Dev. |
|---|---|---|---|---|---|---|---|
| Our institution consistently receives positive feedback on service quality from clients. | 5.2 | 20.8 | 44.5 | 23.7 | 5.8 | 3.04 | 0.94 |
| Customers experience minimal delays when applying for and receiving loans. | 1.2 | 17.3 | 42.8 | 32.9 | 5.8 | 3.25 | 0.85 |
| The institution has met or exceeded performance targets related to loan processing efficiency. | 4.6 | 26.0 | 39.9 | 20.8 | 8.7 | 3.03 | 1.00 |
| Our customer base has grown steadily over the past 12 months. | 4.6 | 20.2 | 42.9 | 27.7 | 4.6 | 3.08 | 0.92 |
| Staff productivity and operational turnaround have improved in recent years. | 4.0 | 22.5 | 37.7 | 27.7 | 8.1 | 3.13 | 0.99 |

*Note.* 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree. Figures under 1–5 are percentages of respondents (n = 173).

The results in Table 3 show that organizational performance was rated at a moderate level across the credit-only MFIs. The highest-rated statement was that customers experience minimal delays when applying for and receiving loans (Mean = 3.25, SD = 0.85), with 38.7 percent of respondents agreeing or strongly agreeing. This was followed by improvements in staff productivity and operational turnaround (Mean = 3.13, SD = 0.99), with 35.8 percent agreement, and steady growth in the customer base over the previous 12 months (Mean = 3.08, SD = 0.92), with 32.3 percent agreement. These findings suggest that some improvements have been achieved in service delivery and staff output, although the ratings indicate that performance has not improved consistently across the institutions.

The results further show that positive feedback on service quality from clients recorded a mean of 3.04 (SD = 0.94), with 29.5 percent of respondents agreeing or strongly agreeing. Meeting or exceeding performance targets related to loan processing efficiency recorded the lowest

mean (Mean = 3.03, SD = 1.00), with 29.5 percent agreement compared with 30.6 percent disagreement. This suggests that despite some improvements in loan turnaround, several institutions continue to experience challenges in meeting their operational performance targets. The relatively high standard deviations also indicate variations in perceived performance across the institutions.

Overall, the findings indicate that organizational performance among credit-only MFIs remains moderate, particularly in relation to customer feedback and the achievement of loan processing efficiency targets. This pattern is consistent with the concerns raised by Kinyua and Muthoni (2023), who observed that delayed loan processing, inconsistent service quality and customer attrition remain challenges within the microfinance sector. It also supports the argument by Nguyen et al. (2023) that organizational performance in financial institutions extends beyond financial outcomes to include operational efficiency, service reliability and customer outcomes. The findings therefore reinforce the need to examine whether process innovation and ICT innovation contribute to improvements in customer satisfaction, service delivery efficiency and staff productivity.

**Inferential Statistics**

This section presents the results of the correlation and multiple regression analyses that were used to determine the relationship between process innovation, ICT innovation and the organizational performance of credit-only microfinance institutions in Nairobi City County.

**Correlation Analysis**

Pearson product-moment correlation analysis was used to establish the strength and direction of the association between process innovation and ICT innovation and organizational performance, as well as the relationship between the two independent variables. Following Cohen (1988), coefficients of 0.10 to 0.29 were interpreted as weak, 0.30 to 0.49 as moderate and 0.50 and above as strong. The results are presented in Table 4.

**Table 4: Correlation Results**

| Variable | Statistic | OP | PR | ICT |
|---|---|---|---|---|
| Organizational performance | Pearson correlation | 1 | | |
| | Sig. (2-tailed) | | | |
| Process innovation | Pearson correlation | .534** | 1 | |
| | Sig. (2-tailed) | .000 | | |
| ICT innovation | Pearson correlation | .494** | .086 | 1 |
| | Sig. (2-tailed) | .000 | .261 | |

*Note.* n = 173. OP = organizational performance; PR = process innovation; ICT = ICT innovation. ** Correlation is significant at the 0.01 level (2-tailed).

The results in Table 4 show that both process innovation and ICT innovation had positive and statistically significant correlations with organizational performance. Process innovation had a strong positive correlation with organizational performance ($r = 0.534$, $p < 0.001$), while ICT innovation had a moderate positive correlation ($r = 0.494$, $p < 0.001$). These results indicate that credit-only MFIs that practise higher levels of process innovation and ICT innovation tend to record higher customer satisfaction, service delivery efficiency and staff productivity.

The correlation between process innovation and ICT innovation was weak and not statistically significant ($r = 0.086$, $p = 0.261$). This suggests that the two dimensions captured distinct aspects of innovation within the institutions. Although process innovation and ICT innovation may both contribute to organizational performance, the results indicate that their implementation does not necessarily occur together. The weak correlation also suggests limited overlap between the two independent variables at the bivariate level.

### Regression Analysis

Multiple linear regression analysis was used to determine the joint and individual influence of process innovation and ICT innovation on organizational performance.

**Table 5: Regression Coefficients**

| Model | B | Std. Error | Beta (β) | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | -1.921 | 0.241 | | -7.958 | .000 |
| Process innovation | 0.402 | 0.039 | 0.421 | 10.289 | .000 |
| ICT innovation | 0.421 | 0.042 | 0.407 | 9.991 | .000 |

*Note.* B = unstandardized coefficient; Beta = standardized coefficient. Dependent variable: organizational performance.

The first objective was to determine the influence of process innovation on the organizational performance of credit-only MFIs in Nairobi City County. The results show that process innovation had a positive and significant influence on organizational performance ($B = 0.402$, $\beta = 0.421$, $t = 10.289$, $p < 0.001$). A unit increase in process innovation was associated with an increase of 0.402 units in organizational performance, holding the other dimensions constant. Process innovation had the largest standardized coefficient and the largest t-value in the model, which makes it the strongest predictor of organizational performance among the four dimensions.

The second objective was to determine the influence of ICT innovation on the organizational performance of credit-only MFIs in Nairobi City County. The results show that ICT innovation had a positive and significant influence on organizational performance ($B = 0.421$, $\beta = 0.407$, $t = 9.991$, $p < 0.001$). A unit increase in ICT innovation was associated with an increase of 0.421 units in organizational performance, holding the other dimensions constant. ICT innovation had the largest unstandardized coefficient and the second largest standardized coefficient, which confirms that it remained a significant predictor after product, process and organizational innovation were taken into account.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions of the Study

The conclusions of the study were drawn from the findings for each specific objective. Based on the first objective, the study concludes that process innovation has a positive association with the organizational performance of credit-only MFIs in Nairobi City County. Streamlining loan procedures, automating workflows and training staff on updated procedures are important practices for improving service delivery efficiency and staff productivity. However, the moderate ratings recorded across these practices suggest that process innovation has not been fully implemented across the institutions, particularly in relation to workflow automation and consistent application of redesigned procedures.

Based on the second objective, the study concludes that ICT innovation has a positive association with organizational performance. Mobile platforms, core banking systems and digital credit scoring provide opportunities to improve loan processing, operational efficiency and customer convenience. However, the moderate ratings across the three ICT indicators suggest that the adoption and integration of these technologies remain uneven among the institutions. In particular, the relatively lower rating for digital credit scoring indicates an opportunity for further investment in technology-supported credit assessment.

## Recommendations of the Study

Based on the findings and conclusions, the study makes recommendations for the management of credit-only MFIs and for policymakers and regulators, as presented in the subsections that follow.

## Recommendations for Management of Credit-Only MFIs

On process innovation, the study recommends that the institutions prioritize the conversion of manual and paper-based procedures into automated workflows to improve operational efficiency and reduce delays. Management should map loan processes from application to disbursement to identify and eliminate duplicate steps and unnecessary approvals. The institutions should also establish and monitor loan processing turnaround time targets and continue training staff regularly on updated procedures to ensure that redesigned processes are applied consistently across branches. These measures would strengthen internal operational capabilities and improve service delivery.

On ICT innovation, the study recommends that the institutions invest in integrated core banking systems and expand the use of digital credit scoring tools that draw on appropriate mobile money and transaction data. Mobile platforms should be extended to cover the full loan cycle, from application and appraisal to disbursement, repayment and customer support. Management should also ensure that ICT investments are accompanied by adequate staff training, data protection measures and system integration to support effective utilization. Where in-house capacity is limited, the institutions should consider partnerships with fintech firms and shared technology platforms to lower the cost of adoption.

## Recommendations for Policy and Regulation

The study recommends that the Central Bank of Kenya, in consultation with the Association of Microfinance Institutions of Kenya, develop appropriate guidelines that encourage the responsible adoption of digital technologies by credit-only MFIs, including standards for digital credit scoring, data protection and transparent loan pricing. This would allow institutions to benefit from ICT innovation while strengthening consumer protection and confidence in digital financial services.

AMFI-K should also facilitate shared services and capacity-building programmes that support smaller credit-only MFIs in adopting integrated technology platforms, strengthening digital credit assessment and improving internal operational processes. In addition, the association should promote knowledge-sharing initiatives and training on process redesign, workflow automation and ICT integration to strengthen the operational capabilities of member institutions.

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