



INFLUENCE OF INFORMATION TECHNOLOGY APPLICATIONS CAPABILITY ON FIRM PERFORMANCE IN MICROFINANCE BANKS IN KENYA

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ABSTRACT

This study examined the influence of information technology applications capability on firm performance in microfinance banks in Kenya. The study was guided by dynamic capability theory. The study employed a descriptive research design and inferential statistics. The research targeted 111 branch managers in all the 13 microfinance banks in Kenya as registered by Central Bank of Kenya (2022). Primary data was collected by use of questionnaires while secondary data was collected from journals, books, and relevant online sources. The questionnaires were dropped and picked to give the respondents enough time to respond, and clarity provided in areas where the respondents found it difficult to comprehend the questions. The questionnaire content was checked to ensure completeness and accuracy. The researcher used the statistical package for social sciences (SPSS) version 25.0 to analyse the data. The study used frequency tables to present the data in numerical values with the mean, standard deviation, percentages, and normal flow frequencies. The findings revealed that information technology applications capability translate to improved firm performance in microfinance banks. Therefore, emphasizing that information technology applications capability has the potential of increasing firm performance in microfinance banks in Kenya. The study, therefore, recommended that the customer relations application needs to be well emphasized so as to improve the effect on firm performance.

Key Words: *Information Technology, Enterprise Resource Planning, Finance Applications, Customer Relations Applications, Collaboration Applications*

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INTRODUCTION

IT capability is described here by Taylor and Murphy (2020) as a company's capacity to strategically utilize ICT functions or applications for its business goals. It has been demonstrated that having strong ICT capabilities can improve business operations and lower manufacturing costs for small businesses. By utilizing ICT, businesses can enhance their document handling processes and leverage financial and accounting tools that further aid in internal efficiency (Taylor & Murphy, 2020). Johannessen (1999) has identified 13 elements of a firm's IT capability. They include a firm's ability in: maintaining collaboration with existing business partners, maintaining collaboration with existing business partners, establishing business collaboration with new partners, handling communication within the firms, handling external communication with the firm's stakeholders, accessing information, enabling strategic planning, enabling cost savings, enabling global business with partners far away, enabling competence development for employees, enabling work flexibility, enabling the product development process, and enabling better customer service.

Relying on Parida, Westerberg and Ylinenpää (2019) arguments that automation of business processes among firms, electronic commerce adoption by firms, strengthening ICT infrastructure, centering on innovation capability by firms among others influence the performance of firms, the current study shall adopt information technology applications capability. This study borrowed heavily from Coombs and Bierly (2020) by using dynamic capabilities theory. The study used the ICT applications capabilities variable to examine MFBS' performance. MFBS performance in the study shall include both internal and external performance.

Mathias (2019) stressed that due to development of Information and Communication Technology (ICT), microfinance industry in Tanzania has experienced rapid growth over the years to meet the large demand of clients lacking access to financial services. Despite of the challenges, there has been a

tremendous growth of ICT utilization in MFIs, different applications and technologies have been adopted by some MFIs to enhance business processes, control costs, create efficiency and effectiveness in their operations, improve productivity, and increase outreach to the poor. The specific focus of the study was on assessing the ICT utilization on microfinance institutions performance in Tanzania. With the specific objectives of examining the performance of current ICTs usage level on microfinance institutions, determining the ICT contributions to microfinance institution performance, examine the challenges facing ICT on microfinance institution performance. The study was conducted at Opportunity Microfinance Tanzania Limited in Mbagala, Chanika, Manzese and Kiluvya wards in Dar Es Salaam City-Tanzania. The population of 73 respondents which included IT officers, Operations Managers, Head of Department, Sales Officers, Clients, and Tellers were selected from four branches of Opportunity Microfinance Tanzania Ltd and 73 questionnaires distributed and thus were collected respectively.

According to a World Bank (2021) research, MSMEs in Kenya consume very little technology, similar to other developing nations. The paper claims that MSMEs in Kenya must embrace innovation and technology if they are to make sure that their products and services satisfy unmet consumer needs. Funding will be needed for technology adoption and innovation, particularly in order to promote process and marketing improvements, which studies suggest are uncommon traits among MSMEs. In this context, computer generated solutions may play a key role in promoting adoption of the most recent technology, and MSMEs should be encouraged to do so.

Most Microfinance banks (MFBS) change from unregulated microfinance institutions to deposit taking microfinance institutions (DTMIs), which are regulated, in order to better serve their consumers. This was intended to be a simpler way to raise money, with more exposure, and a more effective method of providing services. A long-term decrease

in the cost of borrowing money through deposits, improved governance, and an increase in competitiveness are some advantages of this change. It is possible that this will help the DTMIs achieve better financial results and eventually become self-sustaining.

According to a survey on financial inclusion conducted by the Kenyan central bank in 2014, more than 50% of the lowest quintile are not financially included, whereas nearly 70% of the richest quintile have access to formal prudent financial services. In Kenya's MFI market, banks are in a dominant position. For instance, the industry's total assets increased from USD 1.71 billion in 2009 (more than twice Ethiopia's total assets) to USD 2.59 billion by the end of 2011, (more than four times Ethiopia's total assets), yet 80% of the entire assets belonged to the Equity Bank. If commercial banks are taken out of the calculation, asset growth is drastically reduced. According to AMFI (2022), the MFI sector's size without banks is one-fifth its overall size with banks. In Kenya the Microfinance banks can be classified as large, medium, and small depending on their market share (Central Bank of Kenya, 2022).

Statement of the Problem

The idea of performance is important for businesses because it measures how well they use their resources to generate income over a certain period of time. Microfinance banks that are supervised by the Central Bank of Kenya have been functioning poorly, as seen by the substantial losses that MFBs have reported in their full-year financial statements.

According to the Central Bank of Kenya report, Microfinance total assets decreased to KSh 72.8 billion in June 2022 from KSh 76.0 billion in June 2021. The decrease is mainly due to a decrease in loans and advances from KSh 49.4 billion in June 2021 to KSh 45.2 billion in June 2022. Asset quality deteriorated with gross non-performing loans increasing to KSh 14.7 billion in June 2022 from KSh 12.3 billion in June 2021. Consequently, the gross non-performing loans to gross loans ratio increased

to 32.5 percent in June 2022 from 25.0 percent in June 2021 (CBK, 2022).

Customer deposits decreased by 5.5 percent to KSh 48.0 billion in June 2022 from KSh 50.8 billion in June 2021. Capital adequacy, the core capital to risk weighted assets ratio increased to 14.3 percent in June 2022 from 10.5 percent in June 2021. Similarly, total capital to total risk weighted assets increased to 17.5 percent in June 2022 from 14.3 percent in June 2021. The ratios were above the minimum requirements of 10 percent and 12 percent respectively (CBK, 2022).

These performances have seen a downward trend over the years and MFBs continue to perform poorly, and the output levels anticipated from large information technology investments made by the banks are not necessarily correlated with better products and services, a larger market, or lower costs. This is ascribed to a lack of knowledge regarding the efficient management and use of IT systems, an inflexible market that favors conventional business practices, and the presence of middlemen within the supply chain that obstruct e-business and make effective IT utilization more difficult. The Kenyan government is quite concerned about the impact of information and communication technologies on productivity growth. If well-informed IT strategy is adopted, MFBs can optimize economic opportunities and benefits, according to the Kenyan government's report on the assistance to micro and small and medium enterprises program (GoK, 2020). As a result, the primary goal of this study was to evaluate the extent to which the use of IT capability has affected the productivity of MFBs in Kenya.

Businesses are currently utilizing their abilities to adapt and creatively use IT to promote the performance of their businesses. The Kenya National Bureau of Statistics (2021) report attributes the limited access to critical business information by owners for critical decision-making and business development to the limited access to ICT devices and technologies by most MFBs.

Despite the challenges facing MFBs in ensuring IT capability, very little research has been conducted in Kenya linking the IT capability concept to MFBs performance. The available study is that conducted by Omari (2020) which sought to examine the impact of information communication technology on performance of small and medium enterprises in Nairobi County, Kenya.

Research Objectives

The objective of this study was to determine the influence of information technology applications capability on firm performance in microfinance banks in Kenya.

The study tested the following null hypothesis:

- H₀: Information technology applications capability has no significance influence on firm performance in microfinance banks in Kenya.

LITERATURE REVIEW

Theoretical Framework

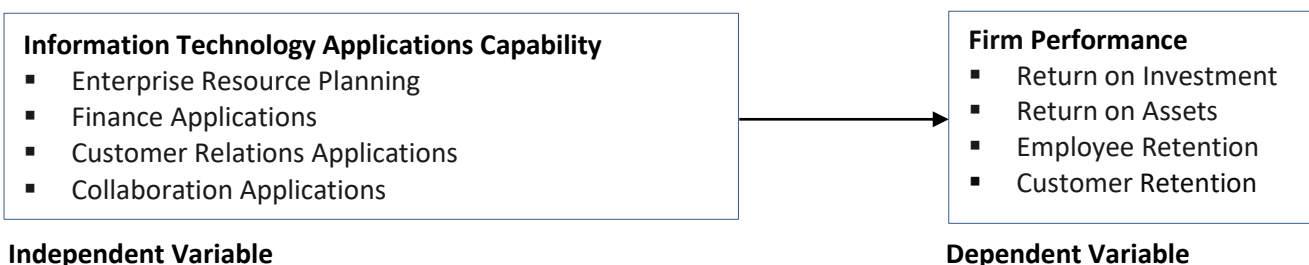
Dynamic Capability Theory

Dynamic Capability Theory (DCT) was introduced by Teece and Pisano (1994) and stemmed from the realization that the current business environment entails a very competitive and ever-changing

environment, and this requires business organizations to be expectant of the changes. Consequently, the DCT stresses that organizations be ready to make changes in their strategy when there is a need to gain and maintain an upper hand in the business line that they operate in. According to Dubey, Gunasekaran and Childe (2018), organizations capability includes its ability to sense and shape opportunities available in the market and at the same time maintain competitiveness through identifying and reconfiguring these resources.

Zahra, Sapienza, and Davidson (2012) explain that an organization may use internal resources to achieve a competitive edge in a rapidly changing environment, allowing it to explore new possibilities in novel and possibly productive ways. Due to disparity in the needed abilities, managers must identify and use available organizational skills in the most effective manner feasible to meet changing market conditions (Marinova & Singh, 2014). It's also worth noting that capabilities aren't standalone procedures; rather, they should be integrated into corporate processes. This is because, organizational capabilities should be used to renew existing processes and at the same time promote internal innovation in a fast-changing business environment (Teece & Pisano, 1994).

Conceptual Framework



Independent Variable

Dependent Variable

Figure 1: Conceptual Framework

Review of Literature on Study Variables

Information Technology Applications Capability

Xiong and Qureshi (2019) did a study on information technology for development in small and medium-sized enterprises. While information systems (IS) research acknowledges the value of

information technology (IT) in enhancing organizational performance, a lot of attention is placed on comprehending huge organizations, claims the study. Further, it was noted that although organizational changes and new technological infrastructures are necessary for

social-economic development and transformation, there is still a tenuous connection between organization studies and information technology (IT) applications capability in terms of how organizations grow. It seems that further research is required to comprehend how IT is used in small and medium-sized businesses (SMEs). Understanding the function of IT artifacts in SMEs and if using IT could promote their expansion and development is crucial.

Across Africa, experts suggest the positive impact of strategic IT application on corporate performance (Gerow, 2019). In a study looking at DT Dobie, 78 respondents were sampled from January 2020 to June the same year and a descriptive research methodology adopted, there was noted a positive and significant influence of ICT application Capability and the performance of DT Dobie as indicated by financial and non-financial performance indicators (Tallon & Pinsonneault, 2020).

Edmund, Christopher and Zeman (2020) in their study examined the effect of a capital budget's proportion for acquiring new technology and sale performance between 2017–2019 using a sample of 101 Kenyan SMEs. The ordinary least square moderated mediation results indicate that: (1) the proportion of the capital budget allocated for the acquisition and application of technology positively and significantly influences sales; (2) the index of moderated mediation suggests that the perception of firm owner-managers towards the availability of formal credit moderates the mediated relationship between the capital budget's portion spent on technology and sales as mediated by innovation activities. Elsewhere, Omari (2020) in a study conducted in Nairobi, it was noted that SMEs aren't very much aware of the importance of ICT applicability in ensuring customers' loyalty and identity. According to the study that sampled 210 SMEs in the manufacturing sector, several small businesses are unaware of digital transformation on enterprise facilitation and growth and client engagement and loyalty. As a result, the decision to

embark on a Digital Transformation journey is often postponed or avoided entirely.

In Nairobi County, Kenya, Omari (2021) investigated how information and communication technologies affected the performance of small and medium-sized businesses. According to the report, the ability of information and communication technology applications has led to corporate expansion through access to new markets, volume of goods and services sold, and creation of a platform that enables companies to handle more work. The study went on to prove that ICT application competence increases business product and service quality, which in turn boosts customer happiness and makes opportunity for innovation through the introduction of new goods and services. Through the study, it was determined that the use of ICT capabilities had increased efficiency in SMEs, including access to new potential markets, sales growth, a better supply chain, improved connections with new partners, enormous organizational growth, improved communication, an increase in the volume and quality of goods and services, higher levels of customer satisfaction, and lower transportation costs.

Firm Performance

From the global perspective, the impact of information technology on product innovation in SMEs revealed that ICT relational capability is among the key components of product innovation in SMEs (Haug, Aadsbøll, Stentoft & Philipsen, 2020). Three hypotheses were tested through a study of 246 small- and medium-sized Danish manufacturers. In contrast to previous studies of large firms, the study did not find a significant relationship between IT use in innovation processes and innovation performance. On the other hand, the results showed that this relationship was conditioned by technological orientation and relational capability.

Elsewhere, Chantanaphant (2020) did examine the effect of technological capability on the performance of SMEs in Thailand. A total of 105

SMEs in plastic industry in Thailand, who export, were interviewed for this research. Most of the samples were located in Bangkok and its surrounding areas. The majority of the respondents were CEOs or owners, and the remaining respondents were managers in relevant roles who were chosen by the CEOs. To define the sample group and to gain a deeper knowledge of the variables, descriptive analysis techniques including mean, mode, standard deviation, and cross tabulation are used. To investigate the connection between EO, AC, and TC, multiple regression analysis was utilized. In order to increase accuracy for datasets that did not adhere to the basic assumptions of multiple regression, the bootstrapping technique was used (Hesterberg, 2003). Later, using PAST version 2.17, multivariate multiple regression analysis was utilized to examine the link between various amounts of TC and export performance (Hammer, 2001). The results indicated that all the variables of technological capability including relational capability did influence the performance of these firms as measured by their export base and market share.

In Kenya, although studies have confirmed that majority of the SMEs haven't fully invested in technology; it is evident that various technology capability elements do influence their performance just like well-established firms. For example, Chege and Wang (2019) did a study on the influence of technology innovation on SME performance through environmental sustainability practices in Kenya. Samples of 204 small businesses and hierarchical regression models were used in the analysis. The results of the survey showed that technological capability aspects like relational capability affects environmental friendliness of SMEs which in turn leads to a positive impact on the performance of their companies.

In Nairobi County, Kiggima (2018) did study and found out that firms that have a high technology relational capability and orientation gain better business performance when technology changes rapidly because they are able to introduce new

processes, products and services to satisfy customer needs. According to the study that looked at various manufacturing firms in Nairobi County, it was noted that technologically oriented firms that combine customer-value innovation, relational capability, with technological innovation have an increased chance of enjoying sustainable profit and performance. However, given the technological advances in the dynamic Kenya market, the study recommends that SMEs need to experiment with new technologies in order to survive in the market.

Empirical Review

Information Technology Applications Capability and Firm Performance

Information technology for development in small and medium-sized firms was the subject of a by Xiong and Qureshi (2019). According to the study, although information systems research recognizes the importance of information technology in raising organizational performance, a lot of focus is given to understanding very large organizations. Additionally, it was noted that despite the need for organizational adjustments and new technological infrastructures for social-economic development and transformation, there is still a shaky relationship between organization studies and information technology (IT) applications capability in terms of how organizations grow. To fully understand how IT is employed in small and medium-sized organizations (SMEs), it appears that more research is necessary. It is essential to comprehend how IT artifacts work in SMEs and whether employing IT could support their growth and development.

Experts in Africa claim that strategic IT application has a favorable effect on organizational performance (Gerow, 2019). A positive and significant relationship between ICT application Capability and the performance of DT Dobie as indicated by financial and non-financial performance indicators was observed in a study looking at DT Dobie in which 78 respondents were sampled from January 2020 to June of the same

year and a descriptive research methodology was used (Tallon & Pinsonneault, 2020). Growth is essential.

In their study, Edmund, Christopher, and Zeman (2020) used a sample of 101 Kenyan SMEs to explore the relationship between a capital budget's proportion for investing in new technology and sales success between 2017 and 2019. The index of moderated mediation suggests that the perception of firm owner-managers towards the availability of formal credit moderates the mediated relationship between the capital budget's portion spent on technology and sales as mediated by innovation activity. The ordinary least square moderated mediation results indicate that the proportion of the capital budget allocated for the acquisition and application of technology positively and significantly influences sales.

In another study, Omari (2020) found that SMEs aren't particularly aware of the value of ICT application in ensuring consumers' loyalty and identity. Numerous small firms are ignorant of the impact that digital transformation has on business facilitation and growth as well as client engagement and loyalty, according to a survey that sampled 210 SMEs in the manufacturing industry. The decision to begin a Digital Transformation journey is consequently frequently put off or avoided entirely.

Omari (2021) looked on how information and communication technologies affected the performance of small and medium-sized firms in Nairobi County, Kenya. The ability of information and communication technology applications, according to the research, has facilitated corporate growth through access to new markets, the volume of goods and services sold, and the development of a platform that enables businesses to take on more work. The study also shown how ICT application expertise raises business product and service quality, which in turn boosts customer satisfaction and creates chance for innovation through the introduction of new items and services. It was discovered through the study that the usage of ICT

capabilities has increased efficiency in SMEs, including access to new prospective markets, sales growth, and an improved supply chain.

METHODOLOGY

The research applied a descriptive research design. The research targeted microfinance banks as registered by Central Bank of Kenya (2022). The target population for the study was 111 branch managers from the 13 microfinance banks in Kenya. The sampling frame consisted of list of the 13 microfinance banks in Kenya, as per the Central Bank of Kenya (2022)'s data base. The sample size of 87 branch managers was determined using the Yamane's formula. The proportionate stratified random sampling technique was used to select a sample size of 87 branch managers from a target population of 111 branch managers of microfinance banks in Kenya. The proportionate stratified random sampling technique was used because the target population was heterogenous.

Primary data was collected by use of questionnaires. Questionnaires were used since the study was concerned with variables that cannot be directly observed such as views, opinions, perceptions, and feelings of the respondents. Such information is best collected through questionnaires (Touliatos & Compton, 2008). Secondary data was obtained from published documents and materials such as books, journals, and magazines to supplement the primary data received from questionnaires. Other procedures included data acquisition from the internet and reading about theories and models from online libraries and relevant journals.

The questionnaire content was checked to ensure completeness and accuracy. The researcher used the statistical package for social sciences (SPSS) version 25.0 to analyze the data. The study also used frequency tables to present the data in numerical values with the mean, standard deviation, percentages, and normal flow frequencies. Both inferential and descriptive statistics were used to examine the data in order to

develop a general model of the relationship. Absolute and relative frequencies, measures of central tendency and dispersion (mean and standard deviation, respectively), and measures of central tendency and dispersion were all used in descriptive statistics.

FINDINGS AND DISCUSSIONS

Descriptive Analysis Results

This section presents the results of the descriptive statistical analyses of the data and their interpretations. The descriptive statistics helped to develop the basic features of the study and form the basis of virtually every quantitative analysis of the data. The results were presented in terms of the study objectives.

Information Technology Applications Capability

The objective of the study was to find out the influence of information technology applications capability on firm performance in microfinance banks in Kenya. The status of this variable was described on the basis of, enterprise resource planning, finance applications, customer relations applications and collaboration applications capability. A five-point Likert scale was used to rate responses of this variable and it ranged from; 1 = strongly disagree to 5 = strongly agree and was analysed based on the mean score and standard deviation. The closer the mean score on each score was to 5, the more the agreement concerning the statement. A score around 2.5 would indicate uncertainty while scores significantly below 2.5 would suggest disagreement regarding the statement posed. These results are presented in Table 1.

Table 1: Information Technology Applications Capability

Information Technology Applications Capability	Mean	Std. Dev.
Our enterprise resource planning application has the capability to automate business processes and provide insight and internal controls, drawing on a central database that collects inputs from departments.	3.95	0.752
Our finance application has the capability to provide support for facilitating the management of business processes that deal with money.	3.68	0.679
Our customer relations application has the capability to provide support for engaging with its customers and improve the customer experience.	3.51	0.712
Our collaboration application has the capability to provide support for helping people involved in a common task to achieve their goals.	3.75	0.677
Information Technology Applications Capability	3.723	0.705

It is evident from the findings in Table 1 that the enterprise resource planning application in the banks have the capability to automate business processes and provide insight and internal controls, drawing on a central database that collects inputs from departments as indicated by majority of the respondents who agreed (Mean = 3.95). Most of the respondents (Mean = 3.68) also felt that the their bank's finance application has the capability to provide support for facilitating the management of business processes that deal with money. Further, the results there were indications that customer relations application in the banks have the

capability to provide support for engaging with its customers and improve the customer experience as suggested by most respondents who agreed (Mean = 3.51). Most of the respondents also agreed that collaboration application has the capability to provide support for helping people involved in a common task to achieve their goals (Mean = 3.75).

Overall, the aggregate score on the responses to the variable items is $M = 3.723$ and $SD = 0.705$ which is much higher than the midpoint 2.5 and, therefore, implies that the most of the respondents agreed with little variation that information technology applications capability influenced firm performance

in their microfinance banks. The results confirm those of Xiong and Qureshi (2019) did a study on information technology for development in small and medium-sized enterprises who noted that there is still a tenuous connection between organization studies and information technology (IT) applications capability in terms of how organizations grow. Edmund, Christopher and Zeman (2020) in their study also found that the acquisition and application of technology positively and significantly influences sales performance of firms.

Firm Performance

Finally, the study sought to determine the performance status of finance banks in Kenya. This

was the dependent variable, and the status of this variable was described in terms of; return on investment, return on assets, employee retention and customer retention. The status of this variable was rated on a 5-point Likert scale ranging from; 1 = strongly agree to 5 = strongly disagree and was analysed based on the mean score and standard deviation. The closer the mean score on each score was to 5, the more the agreement concerning the statement. A score around 2.5 would indicate uncertainty while scores significantly below 2.5 would suggest disagreement regarding the statement posed. These results are presented in Table 2.

Table 2: Firm Performance

Firm Performance	Mean	Std. Dev.
Relative to our competitors our microfinance bank's return on investment was much better.	3.84	0.748
Relative to our competitors our microfinance bank's return on assets was much better.	3.51	0.824
Relative to our competitors our microfinance bank's employee retention was much better.	2.99	0.768
Relative to our competitors our microfinance bank's customer retention was much better.	2.68	0.737
Firm Performance	3.255	0.769

The findings in Table 2 indicate that the majority of the respondents felt that their microfinance bank's return on investment was much better relative to their competitors our (Mean = 3.84). Most of the respondents also agreed with that their microfinance bank's return on assets was much better than their competitors (Mean = 3.51). However, the findings suggest that there was uncertainty on whether the banks' employee retention was much better relative to their competitors (Mean = 2.99). Similarly, there was uncertainty on whether the microfinance banks' customer retention was much better relative to their competitors (Mean = 2.68). The aggregate score on the responses to the variable items, the mean is M = 3.255 and SD = 0.769.

The aggregate mean is low and the standard deviation below 1 suggesting that the performance of the microfinance banks in Kenya were not satisfactory. The levels of small MFB performance observed in these findings fail to concur with earlier findings indicating that the over the past three years, the industry's overall balance sheet structure remained constant. However, they support the findings that the industry's total assets have been increasing (AMFI, 2022).

Hypotheses Testing

There was a significant relationship between information technology application capability and the performance in the microfinance banks. Consequently, the null hypothesis (H_0) was rejected, and the conclusion was made that information technology applications capability translates to

improved firm performance in microfinance banks. The findings, therefore, supported that of Omari (2021) who investigated how information and communication technologies affected the performance of small and medium-sized businesses. According to the report, the ability of information and communication technology applications has led to corporate expansion through access to new markets, volume of goods and services sold, and creation of a platform that enables companies to handle more work. The study went on to prove that ICT application competence increases business product and service quality, which in turn boosts customer happiness and makes opportunity for innovation through the introduction of new goods and services. The findings also concur with Tallon and Pinsonneault (2020) which found a positive and significant influence of ICT application Capability and the performance of DT Dobie as indicated by financial and non-financial performance indicators.

CONCLUSIONS AND RECOMMENDATIONS

This study sought to examine the influence information technology applications capability on firm performance in microfinance banks in Kenya. In relation to this objective, the findings revealed that the enterprise resource planning application in the banks have led to the capability to automate business processes and provide insight and internal controls, drawing on a central database that collects inputs from departments. Most of the respondents also felt that their bank's finance application has the capability to provide support for facilitating the management of business processes that deal with money. Further, there were indications that customer relations applications in the banks led to the capability to provide support for engaging with its customers and improve the customer experience. Also, collaboration application has the capability to provide support for helping people involved in a common task to achieve their goals. Results from both the correlation analysis and multiple regression analysis revealed that

information technology applications capability had the most significant association with firm performance in microfinance banks in Kenya.

Based on the results of the study, the study concluded that IT applications boosted business performance, whereas customer relations applications had little influence.

The study recommended that Kenyan microfinance banks should improve their IT applications and to boost efficiency, productivity, and performance.

Recommendations for Future Studies

Based on the recommendations, there could be a number of areas of future studies. The influence of real-time data exchange and stakeholder access on the performance of microfinance banks in Kenya. Future studies could investigate the specific ways in which real-time data exchange and stakeholder access can enhance the operational efficiency, productivity, and overall firm performance of microfinance banks in Kenya.

The effectiveness of IT integration skills development programs in microfinance banks in Kenya. Future studies could evaluate the effectiveness of various IT integration skills development programs implemented in microfinance banks in Kenya and assess their impact on firm performance.

The relationship between IT infrastructure capability and firm performance in other African countries. Future studies could examine the relationship between IT infrastructure capability and firm performance in other African countries to determine whether the findings from the study in Kenya are consistent across the region.

The impact of IT management capability on the financial inclusion of underserved populations in Kenya. Future studies could investigate the relationship between IT management capability and the ability of microfinance banks in Kenya to provide financial services to underserved populations and promote financial inclusion.

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