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FINANCIAL INNOVATION, FINANCIAL INCLUSION AND FINANCIAL PERFORMANCE OF MICRO FINANCE INSTITUTIONS (MFIs) IN MBARARA CITY

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DECLARATION

I, **TUNANUKYE JEVINEAL** declare that this dissertation is my original work and has never been submitted by any one in any academic institution for any award. Where the work of other authors has been referred to, due acknowledgement has been made.



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APPROVAL

We certify that this dissertation has been developed and compiled under our supervision and it is ready for submission

Signature..... Date.....5/12/2023

Prof. Laura A Orobia, PhD

Signature..... Date.....5/12/2023

Ms. Tumwebaze Zainabu

DEDICATION

I would like to dedicate this dissertation to my parents, Mr. and Mrs. Kiiza Gaetano and my siblings. There is no doubt in my mind that without their continued support and counsel I could not have completed this process. And to my dear wife, son and friends, I could not have completed this without your assistance, tolerance and enthusiasm.

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LIST OF ABBREVIATIONS

CVI Content Validity Index

GDP Gross Domestic Product

MFPED Ministry of Finance, Planning and Economic Development

MUBS Makerere University Business School

SMS Small and Medium-sized Enterprises

SPSS Statistical Package for Social Scientists

UBOS Uganda Bureau of Statistics

UIA Uganda Investment Authority

ADA African Development Bank

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ABSTRACT

This study examined financial innovation, financial inclusion and financial performance of micro finance institutions in Mbarara city. A cross sectional survey design was employed whereby data were collected at a specific point in time. Given the nature of research objectives, correlation analysis was performed to test associations between the study variables, while a hierarchical regression analysis was used to test both the individual and combined predictive power financial innovation and financial inclusion on financial performance Data was analyzed using SPSS.The study results show that there is a positive and significant relationship between financial innovation and financial performance. There was also a positive and significant relationship between financial innovation and financial inclusion. It was further established that there was a positive and significant relationship between financial inclusion and financial performance. The study recommends that Micro finance institutions should continuously innovate to create new processes and products that will ease the customer experience. Micro finance institutions should also encourage access and usage of their products through extending their services to the underserved population especially in the rural areas. The government should create policies that encourage innovation in the microfinance institutions such that it can achieve financial inclusion of its population leading to overall economic development. The study suggests that future research may find out the relationship of other variables like crisis management and team competences to find out if they explain the remaining percentage of financial performance

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Financial performance is recognized to create healthier businesses with a faster growth rate. It creates more certainty and confidence in making both short and long term decisions which allow firms to outperform and outmaneuver competitors (Zaidi, Azouzi, Sadraoui, 2021). Micro Finance Institutions (MFI's) are globally recognized as important sources of credit for low income households and small business owners, this is usually through provision of affordable capital to boost or start businesses, opportunity to build savings earn interest on the savings, opportunity to network and share business ideas and experiences, funeral rider support, and business training programs organized by the MFI's (Ssekakubo, 2014; Mugyenyi, 2010). MFIs also play an important role in improving household livelihoods (Turyahabwe, 2013). However, despite the significance of MFI's to the economy at large, they continue to face challenges of poor financial performance (AMFIU Report, 2018). For instance Nourani, Malim and Mia (2020) in their study in Latin America highlighted high inefficiencies of MFIs in terms of excess level of input values, namely, the number of personnel and operating expenses, and shortage of intermediate and output values; particularly, total borrowing, net income, gross loan portfolio, and the number of active borrowers. According to Mvula (2013), MFIs in Malawi are characterized by poor asset quality, losses and failure to meet short term obligations. Ondieki*et al*. (2011) reported that MFIs in Kenya were confronted by myriads challenges such as poor record keeping, loan backlogs, and inadequate capital and audit arrears over the last five years.

Tanzania is not an exception as MFIs have been encountering problems such as lack of working capital, embezzlement and high loan delinquency rates (Mwakajumulo, 2011; Maghimbi, 2010). In the case of Uganda, most MFIs are facing an increasing rate portfolio at risk, declined risk coverage ratio and increased shutdowns of MFIs (Kakungulu*et al*., 2010).

Existing literature shows that there is a relationship between financial innovation and performance of MFI's (Chauhan et al., 2022; Nekesa, 2018; Nyagilo et al., 2018, Mayanja, 2016; Del Gaudio et al., 2021; Loaba, 2022). Financial innovation is the act of creating and then popularizing new financial instruments, as well as new financial technologies, institutions and markets. It can be in terms of product innovation, process innovation, institutional innovation and market innovation (Ridwan & Joseph, 2021).MFIs use financial innovations as formidable strategic variables and essential means tolower costs of offering other financial services (Nofie, 2011)and also improve their performance and maintain effectiveness on the market (Mensah et al., 2019). Most MFIs invest large sums of money in financial innovations and ICT (Aduda & Kingoo, 2012) to decompose and repackage different types of financial risks ((Ridwan & Joseph, 2021). This has an impact of the consequent financial performance.

Other studies show that financial performance can be explained by financial inclusion (Shihadeh et al. 2018; Bhattacharyya et al. 2021; Kumar et al. 2021; Vo and Nguyen 2021). Financial inclusion refers to the process that ensures the ease of access, availability, and usage of formal financial system for members in an economy (Chikalipah 2017). Odero and Ondabu, (2018) sought to determine the effect of financial inclusion on the financial performance of listed banks in Kenya. The study adopted a descriptive research design, and the study population included

management and operational level employees of the 11 banks listed on the Nairobi Securities Exchange. The study determined that financial inclusion has a positive but weak impact on financial performance of banks. Using a sample of 122 Japanese banks from 2004 to 2018, kumar, Thrikawala and acahrya (2021) found that financial inclusion is important even in a developed economy; branch contraction reduces the profitability of Japanese banks, although the numbers of loan accounts and automated teller machines (ATMs) do not affect bank profitability. Financial inclusion encourages multiple low costs, multiple locations and small deposits that amount to huge deposits and high levels of profitability (Okun, 2012; Develtere&Huybrechts, 2002). In addition, financial inclusion facilitates the provision of a multiple small loans, good interest rate and high repayment leading to higher profitability of MFIs *(*Odero&Ondabu, 2018*).*While financial inclusion is categorized as voluntary and involuntary, this study will focus on involuntary exclusion as it can be addressed by appropriate financial innovations and polices.

There are several MFIs operating business in Mbarara City. And due to its location in Western Uganda, Mbarara has the highest concentration of businesses and branches of other firms and thus, an appropriate testing ground. It is noted that a lot of research has been done in regard to the relationship between financial innovation, financial inclusion and financial performance of MFI's (Chauhan et al., 2022; Nekesa, 2018; Nyagilo et al., 2018, Mayanja, 2016; Del Gaudio et al., 2021; Loaba, 2022;Shihadeh et al. 2018; Bhattacharyya et al. 2021; Kumar et al. 2021; Vo and Nguyen 2021). However, these studies have tended to investigate financial innovation and financial inclusion separately. Moreover, the studies have focused on MFI's in developed countries whose features differ from those in Uganda and specifically, Mbarara City.

1.2 Statement of the problem

A good financial performance guarantees business survival and smooth operations including the case of MFIs (Eriku, 2010; Finscope Survey Report, 2018). MFI's in Mbarara City have shown a diminishing financial performance trend over the years. According to UMSC Mbarara Zonal office annual reports (2018-2020), for the same period, the risk coverage ratio declined from 37% to 25%. Besides worsening, it is also below the benchmark of more than 50%. In a period of only 2 years, several MFIs closed business after obtaining loans from Microfinance Support Centre. According to AMFUI (2018), the average portfolio at risk for greater than 30 days was 7.91% in 2016, which slightly improved to 6.91% in 2017 and declined again to 7.2% in 2018. This is a far poor performance compared to regulated financial institutions whose portfolio at risk>30 days is at 3.5%. If this situation is not addressed, it may cripple economic growth and development thereby constraining the achievement of the Uganda Vision 2040 which aims at strengthening the fundamentals of the economy to harness the abundant opportunities around the country. Although extant literature shows that the persistent poor financial performance could be as a result of financial innovation and financial inclusion (Del Gaudio et al., 2021; Loaba, 2022; Shihadeh et al. 2018; Bhattacharyya et al. 2021), these studies are mostly concentrated in developed countries that have different characteristics from Uganda and Mbarara specifically hence the need for this investigation.

1.3 Purpose of the Study

The purpose of this study was to examine the relationship between financial innovation, financial inclusion and financial performance of MFIs in Mbarara City.

1.4 Research Objectives

This study wasguided by the following research objectives:

i. To establish the relationship between financial innovation and financial performance of MFIs in Mbarara City.
ii. To examine the relationship between financial innovation and financial inclusion by MFIs in Mbarara City.
iii. To establish the relationship between financial inclusion and financial performance of MFIs in Mbarara City.

1.5 Research Questions

i) What is the relationship between financial innovation and financial performance of MFIs in Mbarara City?
ii) What is the relationship between financial innovation and financial inclusion by MFIs in Mbarara City?
iii) What is the relationship between financial inclusion and financial performance of MFIs in Mbarara City?

1.6 Scope of the Study

Content scope

This study focused on relationship between financial innovation and financial inclusion as the as independent variables and financial performance as the dependent variable. Financial innovation

was used to refer broadly to any change in the financial system that improves the screening of technological entrepreneurs. Financial inclusion is the increasing access to formal financial services including having bank accounts, using credit and savings facilitated through the banks.Financial performance is a subjective process through which an analysis of how the business can utilize its primary assets (Mutua, 2013). It is as a measure of the financial health of a firm, and it is a means of comparison of the performance of various firms that operate in the industry.

Geographical scope

This study was carried out on MFIs in Mbarara City, as most of these institutions in western Uganda are found in Mbarara City (Mbarara City commercial licensing report, 2016; UBOS, 2015). Mbarara is a developing city geographically Located in the centre of the South Western Region of which this natures opportunities to attract both Foreign and Local Investors since Mbarara serves as a key urban growth centre, economic hub, and gateway. There are existing reports that indicate that micro finance institutions in Mbarara city have not been financially performing well and this forms a basis for studying Mbarara city.

Time scope

The research was based on a cross sectional research design where data is collected from the population at a specific point in time. Basing on this background, the research process covered a period of one year from January 2023.

1.7 Significance of the study

i) The findings from this study will help the management teams of MFI have to reassess banking systems and design appropriate strategies for improving financial performance.

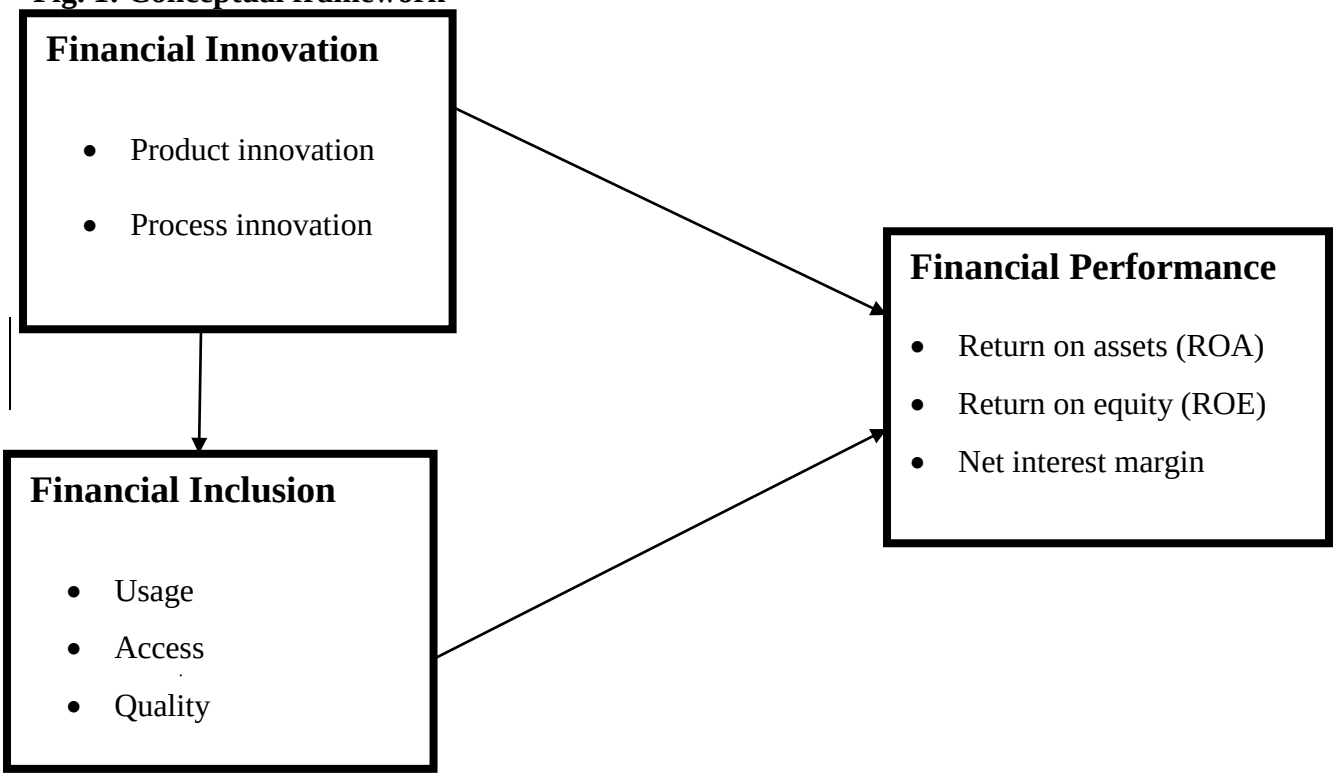
ii) The study findings will also guide policy makers such as the Government in designing policies on how to improve performance of MFIs.

iii) The study findings will be used by scholars and academicians as a source of reference for further research. The findings of this study will act as a source of reference in further studies and spark off further research in banking and performance of MFIs.

1.8 Conceptual framework

In this study the dependent variable was financial performance while the independent variables were financial innovation and financial inclusion as presented in figure 1. Financial innovations conceptualized in terms of product innovation, process innovation and financial inclusion conceptualized in terms of usage, access points and quality of services will lead to enhanced financial performance which is conceptualized in terms of Return on Assets, Net interest margin and Return on Equity.

Fig. 1: Conceptual framework



Source: Developed from related literature review (Graham, 2013; Mayanja, 2016; Nyagilo et al., 2018)

It is conceptualized that any improvement in financial innovation will be associated with improvement in financial performance. Also any improvement in financial inclusion will lead to improvement in financial performance directly. An improvement in financial innovation will lead to improvement in financial inclusion in MFIs in Mbarara City.

CHAPTER TWO

LITERATURE REVIEW

This chapter covers the sector overview, review of literature related to the variables under this study. It provides details relating to both theoretical underpinnings and empirical findings resulting from the previous studies carried in different industries or sectors.

2.1 Overview of the financial sector in Uganda

The financial sector in Uganda comprises of regulated and un-regulated financial institutions, Development Banks, Forex Bureaus, Insurance Companies, Pension Funds, mobile money service providers and Capital Markets. There is also the wholesale finance market which plays an important role in capitalizing and building the capacity of financial institutions. It is structured in a four tier system and includes regulated and non-regulated financial institutions. Tier 1 includes Commercial Banks which are 25 in number and the capital requirement is UGX. 25BN. Tier 2 consists of credit only financial institutions and these are 4 in number and the capital requirement is UGX.1BN. The first 2 Tiers are regulated under the Financial Institutions Act of 2004 and supervised by the Central Bank. Tier 3 includes Micro finance Deposit Taking Institutions (MDI's) and they are 5 in number and their capital requirement for establishment is UGX.500 Million. These are also regulated and supervised by the Central Bank and operate under the MDI Act of 2003. Tier 4 includes different financial institutions (semi-formal and informal) and these are not regulated.

These financial institutions are also categorized as formal, semi-formal and informal financial institutions. The formal institutions are those that are regulated by the central bank and include the commercial banks, credit institutions and the MDIs. The semi-formal institutions include Savings and Credit Cooperative Associations (SACCOs) and other non-deposit taking financial institutions. These are entities incorporated under the general business laws in Uganda but their operations are not regulated under the financial sector laws. The informal financial institutions comprise all those that are not independent legal entities but with operations which are recognised and in favor of community development. These include various types of associations and community based organisations such as Village Savings and Loans Associations (VSLAs), Rotating, Savings and Credit Associations (ROSCAs), investment and savings clubs.

Since 2009, there has been a tremendous evolution in mobile money services that has changed Uganda's financial landscape to include a large proportion of the population that was formerly excluded from the financial services sector. There seems to be an increasing preference for formal non-bank financial institutions, in both rural and urban areas, which, looking at the figure below, can be explained by the increasing usage of mobile money services.

2.2 Key study concepts

2.2.1 Financial Performance

Financial performance is a subjective process through which an analysis of how the business can utilize its primary assets (Mutua, 2013). It is as a measure of the financial health of a firm, and it is a means of comparison of the performance of various firms that operate in the industry.

Several measures apply in analysis of financial performance, but the most important thing is that financial measures are in aggregate. The measures can use line items such as operating income or cash flows, revenues from annual operations and the total sales units.

Net Interest Margin of a financial institution is the difference between interest income generated by a banking financial institution and the interest paid out to the lenders about the assets of the company. Financial institutions earn percentage income from the loans within a given period and the other assets less the interest paid by the firm on the borrowed funds (Mwangi, 2014). The return on investment is what the shareholders look forward to gaining from the organization at the end of the financial period. It shows the profit that earned about the total equity that held by the shareholders.

Eshna (2016) defines financial performance as degree into which financial objectives has been met that is, assessing firms' policies and operations in monetary terms. Financial performance is concerned with the financial health company and is normally used to compare firms from one industry to the other. Financial performance can be used to measure whether shareholders goals of maximizing their returns is being met or not (Tarus&Omandi, 2013).

2.2.2 Financial innovation

Innovations are not just critical for firms in the financial services industry, but also impact other companies enabling them to raise capital in larger amounts and at a lower cost than they could otherwise. Financial innovation is used to refer broadly to any change in the financial system that improves the screening of technological entrepreneurs. Thus, financial innovation is neither

limited to the invention of new financial instruments, nor is it limited to innovation by financial institutions (Laeven, Levine, and Michalopoulos, 2012). Ho (2006), describes financial innovation as the emergence of new financial products or services, new organizational forms or new processes for a more developed and complete financial markets that reduce costs and risks, or provide an improved service that meets particular needs of financial system participants. Llewellyn (2009) suggests three different factors to identify financial innovation: the type, the cause, and the function. In the first case, the phenomenon is identified according to three dimensions: product innovation, which consists in creating new financial instruments, techniques, and markets; innovation that allows risk transfer, separating its different components and re-assembling them into different combinations; process innovation, tied to an improvement of, for example, financial instrument distribution, of the pricing of transactions, or of their performance. This is in agreement with studies by Silber (1975, 1983), who further defines financial innovation as a response of the companies to the economic forces acting on them. The current study therefore will contextualize financial innovation in terms of product innovation and process innovation.

Product innovation is the introduction of a new good or service, or one that is substantially improved. This includes, but is not limited to, improvements in functional characteristics, technical abilities, or ease of use. It is not supposed to include minor customization and superficial/aesthetic design characteristics, though there have been some calls for such activities to be included, perhaps as “soft” innovations. Successful product innovation is vital to many firms. The commercial success of a new product typically depends on how well the product's design meets customers' needs (Rothwell *et al*., 1974).

Process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in the techniques, equipment and/or software used to make or deliver the product. Process innovations can be intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products (OECD, 2005). Process innovation covers the introduction of new business processes leading to increased efficiency, market expansion. Examples include office automation and use of computers with accounting and client data management software. (Schrieder and Heidhues 1995)

2.2.3 Financial inclusion

Financial inclusion is the increasing access to formal financial services including having bank accounts, using credit and savings facilitated through the banks. Over the years financial inclusion has grown beyond physical branch as ICT is revolutionizing the access and use of bank services globally (Diniz et al., 2012). Uganda has succeeded in significantly expanding the reach of financial services over the past decade since 2007 (BOU report, 2013).

Renny (2013) defines financial inclusion as, the process that ensure the ease of access, availability and usage of the formal financial system for all members of an economy‘. Broadly, it means access to finance and financial services for all in a fair, transparent and equitable manner at an affordable cost. Opiyo (2014) denotes it as a, delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups including households, enterprises, SMEs, traders. The various financial services include credit, savings, insurance and payments & remittance facilities‘. Oluwataya (2013) defined it as a, process of bringing the

weaker and vulnerable sections of society within the ambit of the organized financial system. It creates conditions for access to timely & adequate credit and other financial services by vulnerable groups, such as weaker sections and low-income groups at affordable cost.

Financial inclusion refers to the access of affordable financial services by the previously excluded low income and vulnerable groups (Agarwal 2010). Financial inclusion can be measured using three dimensions, namely Usage; Literacy and Access points.

Accessibility

For the accessibility the number of bank deposit, loan and mobile accounts per 1000 adult population was used to integrate the depth of the financial access. Accessibility of financial services by those in remote areas, often rural areas, has been cited as a barrier to financial inclusion. Okutoyi (2013) refer to this as a logistics barrier in that financial services are not developed in many regions where it is not considered feasible by the service provider. Mobile banking has been found in this research to be considered as easily accessible. The issue of accessibility of financial services providers has been a cause for concern for the RBZ which has been calling for banks and Microfinance institutions to open outlets in rural areas so that the unbanked‘ people could join the main stream economy.

Access to mobile banking also brings positive change in income which leads to socio-economic empowerment through increasing saving habits, lessening family violence, raising capabilities to deal with social evils, day to day problems, enhanced asset ownership, creation of employment, improved purchasing power, buying of new clothes, boosting confidence of rural masses,

declining income inequality, greater ability to meet unforeseen circumstances, improved standard of living and change in life style (Ishengoma, 2011). Mobile banking plays a significant role in facilitating inclusion of excluded population.

Quality services

Service quality and customer satisfaction gives MFIs innovative ideas to improve the services with an objective to get a competitive edge in Microfinance sector. Service quality apparently influences the competitiveness of an organization as it is one of the decisive factors Im and Sun (2015). MFIs can distinguish themselves from opponents by offering superior services (Wagner & Winkler, 2013). It is mainly prominent area over the last decade for researchers in MF sector. MFIs must offer services cautiously as there is accessibility of various MFIs offering similar services to all customers. Service Quality of Micro-Finance Institutions must develop the service level constantly (Habib &Jubb, 2015). It's not necessary that who is offering is excellent services today will also be pertinent tomorrow. MFI's must extend strategies to satisfy their customers, if it wants stay alive in the competitive MFI industry.

Usage

In the past, most Ugandan banks had limited the spread of their branches to established urban centers. During that period of financial exclusion, few banks had shown interest in the rural areas of the country. According to Mandell (2008), some banks recorded reduction in financial performance during that period hence they were discouraged from establishing such branches. However, with the growth in financial inclusion, banks have to opening up branches in different

parts of the country. The biggest concern is whether the spread of the branches have an effect on Usage and financial inclusion hence better financial performance.

As banks open up branches to rural areas, the biggest concern is whether the number of branches amount to higher volumes of transactions in terms of Usage. The opening up of branches is aimed at ensuring that the customers gain access to new services, which cannot be provided using agents, representatives, or mobile banking (Musyoka, 2011). In the past, banks were reluctant to open up branches due to the element of cost. It is important to study whether proper spread of branches across different geographical location can have an impact on the financial performance of banks.

The main areas of concern for this study under the usage variable include the number of branches and their spread across the country, the effect in terms of changes in volume of transaction, and the cost incurred in the operations.

2.3 Theoretical review

Theory of innovation diffusion (IDT)

According to Rogers (1995), comparative benefit (the degree to which a technology advances on presently existing tools), compatibility (its steadiness with societal does and standards among its users), complexity (its easiness of usage or learning), trialability (the ability to attempt an innovation prior to obliging to use it), and adequacy (the ability to try an innovation before committing to use it) are all factors that influence the diffusion of an innovation. The banking industry, in particular, is characterized by shifting client demands and the necessity for fast

service delivery. As a result, the theory explains why electronic money transfers and mobile banking have come to be common in the banking industry. Electronic money transfer allows a client to conduct business devoid of physically visiting a bank. On the other hand, mobile banking is quick and includes the transfer of mobile technology from the telecommunications industry to the banking sector. One of the reasons why banks obtain specialized advancements is to achieve a relevant cost and benefit competitive edge. This means that banks who embrace specialized innovations have a little financial competitive advantage over those that do not. The banking industry is defined by changing client demands and the necessity for fast service delivery. As a result, the theory sheds light on how ATMs, POS terminals, mobile banking, and electronic financial transfers have grown commonplace in the banking business. For example, mobile banking has spread mobile technology from the telecommunications industry to the banking industry. Financial innovation will trail the procedure of acceptance, dissemination, and utilization by an organization, regardless of the degree of financial innovation.

Financial Intermediation Theory

Financial intermediation is seen as the extent to which financial institutions bring deficit spending units and surplus spending units together (Ndebbio, 2014). Arguments point out that, banks are able to effectively monitor borrowers and thus play the role of delegated monitoring (Diamond, 1984). Diamond (1984), asserts that intermediaries provide services by issuing secondary financial assets to buy primary financial assets. If an intermediary provided no services, investors who buy the secondary securities issued by the intermediary might as well purchase the primary securities directly and save the intermediary's costs.

Financial market imperfections determine the extent to which talented but poor individuals can raise external funds to initiate projects. Thus, the evolution of financial development, growth and intergenerational income dynamics are closely intertwined. Finance influences not only the efficiency of resource allocation throughout the economy but also the comparative economic opportunities of individuals from relatively rich or poor households; access to finance attempts to reduce market frictions. Information asymmetry is a situation where by the one party has more or better information than the other (Chibba, 2009). Dermirguc-Kunt and Levine (2009) argue that reducing financial market imperfections to expand individual opportunities creates positive incentive effects. These models show that lack of access to finance can be the critical mechanism for generating persistent income inequality or poverty traps, as well as lower growth. In summary, the theoretical models cited above point out five main roles that financial intermediaries play namely: acquisition of information on borrowers, provision of risk reduced agreements, accumulating capital, improve corporate governance and ease the transaction process.

2.4 Relationship between variables

2.4.1 Financial innovation and financial performance

Microfinance institutions continue to provide and meet the changing needs of their customers through providing various financial innovations (Minishi, 2012). In fact, Ngugi (ibid), argues that these institutions provide the country's unbanked segment with an opportunity to save and borrow for personal growth and business development. This makes financial innovations in microfinance institutions even more significant.

Agosin (1999) citing work by McGuire and Conroy, distinguishes three levels of financial innovation: - System or organizational innovation where new institutions tailored to deal with unmet needs are created or allowed to emerge, process innovation which is the creation of new technologies for providing financial services, and product innovation, the supply of new financial products. An important distinction made by Agosin is that governments must concentrate on the first type of innovation because of the likelihood that the private sector will under-produce these innovations. Systemic innovation may arise but this may take time; the process may be lengthy and tedious, hence, there is a role for government to foster it. Cheques are the most paper based mode of payment accounting for 48% of non-cash payments.

Muganda (2011) carried out a study on the relationship between financial innovation and profitability of commercial banks in Kenya. The findings concluded that banks conceptualize financial innovation as a means to create impact in the profit performance. In addition, the study revealed implementing product, process and institutional innovation makes the commercial banks to become more flexible in their operations and it leads to acquisition of qualified personnel in the bank, quality products and allows bank expansion. Nader (2011) analyzed the profit efficiency of the Saudi Arabia Commercial banks during the period 1998- 2007. The results of his study indicated that availability of number of ATMs and number of branches had a positive effect on profit efficiency of Saudi banks.

Product innovation and financial performance

Product innovation is the introduction of a new good or service, or one that is substantially improved. This includes, but is not limited to, improvements in functional characteristics,

technical abilities, or ease of use. It is not supposed to include minor customization and superficial/aesthetic design characteristics, though there have been some calls for such activities to be included, perhaps as “soft” innovations. Successful product innovation is vital to many firms. The commercial success of a new product typically depends on how well the product's design meets customers' needs (Rothwell*et al*., 1974).

Chipeta and Muthinja (2018) investigated the link between financial innovation and financial performance of 42 Kenyan commercial banks. Mobile banking, agency banking, internet banking, and automated teller machines are among the financial advances discussed. They estimated the association between financial innovations and bank financial performance using the generalised method of moments model. The findings suggest that financial innovations have a major impact on bank financial performance, and that firm-specific factors are more essential than industry characteristics in deciding a company's present financial success.

Kiplangat and Tibbs (2018) looked into the impact of financial innovations on commercial banks' financial performance in Kenya. This investigation was completed using a causal research design. A causal research design was used to perform this investigation. The sample size was estimated to be 170 people, based on stratified random sampling. The results were produced using inferential statistics, and the findings revealed that innovation had a considerable impact on financial performance. Based on the levy and charges used, as well as its convenience, mobile banking is the greatest direct contributor. Online banking, EFT, and agency banking were not significant predictors of financial growth, but they were indirectly related to financial growth in terms of liquidity. The study suggested that agency and online banking be used more extensively.

Tabas*et al.,* (2012) carried out a study on the influence of product innovation on financial performance of small and medium sized enterprises in the Czech Republic. Using a statistical sample of 100 companies he found out that the performance of all these companies had increased above the industry average and contrary to service and trade companies it had stabilized above the industry average hence the need for continuous innovation. The findings of this study served as a backdrop from which we identified the product innovations that have been in place in deposit-taking SACCOs in Kajiado County and which are meant to promote service delivery to their clients and attract more customers.

Omwenga (2010) studied the relationship between financial innovations and financial performance of commercial banks in Kenya. Descriptive research design was used to study a sample of 45 licensed commercial banks that were dully registered with CBK. The study recommended that the banks should introduce products that are relatively simple and standard and that offer value addition. Since this investigation sought to determine the significance of innovation to value addition in terms of financial performance of deposit-taking SACCOs, Omwenga's views became of great importance to the current study.

Githakwa (2011) investigated the relationship between financial innovation and profitability of commercial banks in Kenya. Using causal research design on a sample of 44 registered commercial banks in Kenya in the period of 2005-2010, he found out that many commercial banks have embraced financial innovation as a way of increasing efficiency and improving bank performance. These innovations have included massive branch network expansion, development of unique products and automation of banking services that have enabled customers to carry out

banking transactions outside the confines of the banking premise, on their phone and over the internet. Although Githakwa's study was on banks, his findings were useful to us because we intended to determine how product innovation impacts financial performance in deposit-taking institutions.

Process innovation and financial performance

Process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in the techniques, equipment and/or software used to make or deliver the product. Process innovations can be intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products (Ghose & Maji, 2022). Process innovation covers the introduction of new business processes leading to increased efficiency, market expansion, etc. Examples include office automation and use of computers with accounting and client data management software (Naeem &Ozuem, 2021)

Zu, Gu, Li, and Bonsu (2019) investigated the effects of financial innovation on bank profitability through electronic banking services in Africa within 2015 to 2018. The GMM estimations were used in the study via a panel data regression model. Both ROA and ROE showed strong persistence in a consistent manner, according to the findings. The findings also revealed that, with the exception of POS terminals and internet banking, bank cards and ATMs had a beneficial impact on banks' financial success. More importantly, the profitability of most African emerging countries influenced the ratio of ATMs to branch locations, which is quite essential.

With the help of questionnaires, Mensah et al. (2019) investigated the impact of financial innovations on the financial performance of selected Ghanaian banks in terms of income or revenue generation, efficiency, liquidity, profitability, and general patronage of banking services. It was recommended that corporate banks make it a policy to build an efficient and successful marketing department as part of their strategic management process to oversee the publicity of all financial innovation products. It is also suggested that the pricing of innovative items be affordable to avoid scaring off potential buyers or users.

Kimani's (2016) study on the analysis of the SMEs in Nairobi found a positive relationship between the adoption of financial innovation and the SMEs' financial performance (measured by the enterprises' market share, an increase in their savings and a reduction in their operating costs). Specifically, product innovation was measured by the creation of new deposit accounts, new credit arrangements and financial products. Process innovation was measured by the introduction of new business processes, while institutional innovation was measured by changes in the business structure, the establishment of new types of financial intermediaries and changes in the supervisory framework.

Ubi&Mba (2019) assessed the role of financial innovation on the growth of small and medium industries in Nigeria. They found that financial innovation (measured by the presence of ATMs, point-of-sale terminals, internet banking, mobile banking, branchless banking) positively contributed to improving the performance of the SMEs. Islama et al. (2016) specifically analysed the effect of mobile money on increasing business investment in Kenya, Uganda and Tanzania. They found that the use of mobile money had a positive effect on the enterprises' likelihood of

purchasing fixed assets. This positive effect was attributed to a reduction in transaction costs, an increase in liquidity and an increase in creditworthiness associated with the use of financial services on mobile phones.

Gunday et al., (2011) studied the effects of financial innovations on firms' performance. They sought to explore the effect of the organizational, process, product and marketing innovations on the different aspects of firms' performance including innovative, production, market and financial performances based on an empirical study covering 184 manufacturing companies in Turkey. They found out that there is a positive relationship between the various forms of innovation that ultimately impact a firm's performance. This study enabled us to identify the innovations put in place by deposit-taking SACCOs in Kajiado County and how they have affected the financial performance of the SACCOs.

2.4.2 Financial inclusion and financial performance

According to Shihadeh (2021), individuals not impacted by financial exclusion have the ability to create businesses and invest in education, which is attributed to reducing poverty and increasing economic growth. This occurs as a result of providing individuals with an opportunity to have a secure place to save, thereby encouraging financial stability resulting from high levels of bank deposits being utilized to contribute to a stable deposit base for banks (Fungáčová and Weill 2015). According to the financial intermediation theory, the financial service institutions offer is seen as a means to connect surplus spenders to deficit units within an economic space. As Diamond (1984) argued, financial mediators serve as designated agents of savers and can attain economies of scale. As a result, those who save entrust their funds to these intermediaries to be

invested in whatever ventures they deem viable, such as digital credit, with investors possessing the ability to fund withdrawals at any time via predetermined circumstances.

Goel and Sharma (2017) argued that ignoring the absence of nearby branches or a dearth of items fit the weaker part's requirements. Bank branches are critical for underserved segments of society, and eliminating branches limits the amount of credit available to small businesses. It should be noted that increased branch presence results in a rise in client base, boosting deposit and loan portfolios and diversifying risk. Banks grow their customers via branch locations, ATMs, point-of-sale (POS) locations, and other electronic terminals (Shihadeh and Liu 2019). This expansion is expected to enhance the performance of banks as it leads to more customers, although point-of-sale terminals might increase the capital expenditure and profit might not be significantly high as a result of cost increment (Shihadeh et al. 2018), banks use branches, ATMs, and POS locations to increase customer reach, attract deposits, and offer services (Shihadeh et al. 2018).

Various studies have been conducted on mobile led financial services and financial inclusion, both globally and locally. Ondiege (2015) did a study on regulatory impact on mobile money and financial inclusion in African countries targeting Kenya, Nigeria, Tanzania and Uganda. This study examined both telecom-led model and a bank-led model and their influence on inclusion. However, these studies fail to highlight on synergism brought about by complementarity of the two models. Further, this study focused on challenges of adoption of technology rather than the core objective which was the influence of mobile led financial services on financial inclusion.

Mago and Chitokwindo (2014) conducted a study on the impact of mobile banking on financial inclusion in Zimbabwe focusing on Masvingo Province. However, conspicuously, the study left out on a comparative assessment of different players in the mobile money services. Therefore, it left out on the competition bit which is a perquisite in a competitive financial environment for attainment of financial inclusion. In addition, the study was limited to the informal sector and tertiary students, which is different from commercial banks and mobile money service providers.

Bansal (2014) did a study, perspective of technology in achieving financial inclusion in rural India. This study shows an attempt to study the contribution of ICT towards financial inclusion in the country and analyze different application of ICT which banks are adopting. However, the study does not precisely show the role of other players in the industry. Also, the study disregards other factors that may influence mobile led financial services. These may include company‘s inherent characteristics as well as customer‘s taste and prevalence. Having been limited to India, the findings of the study cannot be generalized to Uganda perspective.

Merritt (2010) on the next phase in the evolution in person-to-person payments in mobile money transfer services did not show the influence of mobile led financial services competitiveness on financial inclusion. Mehrotra and Yetman (2013) studied the role of central banks in financial inclusion. This study failed to address the issue of competitiveness of mobile led financial services that clearly outlines efforts by various firms to enhance their market and in so doing enhancing financial inclusion.

The studies above have not successfully established whether there is a relationship between financial inclusion and financial performance of Microfinance Institutions in Uganda. Most

studies looked at financial inclusion elements as the focus of their research, and have not managed to look at the contribution of financial inclusion as a whole on the financial performance of MFIs.

2.4.3 Financial innovation and financial inclusion

Qamruzzaman& Wei (2019) employ the Panel ARDL in a linear and nonlinear framework to examine the link between financial inclusion and financial innovation, as well as financial development and remittance inflows, in the case of six South Asian countries—Bangladesh, India, Pakistan, Nepal, Bhutan, and Srilanka—using monthly data from 1990M1 to 2018M12. A Granger-causality test has also been used to analyze directional causality using System GMM specification. The outcomes of the Panel ARDL study corroborated the long-term and short-term favorable relationship between financial innovation and financial inclusion. Lavrov (2011) emphasizes the importance of introducing modern financial technologies and their benefits. In line, Neural networks Rivas (2017), Artificial Intelligence & the Internet of Things (Schulte & Liu, 2017), and the growth of Bitcoin hardware (Taylor, 2017) are among the adoption technologies researched. Studies reveal that financial and technological advances are inseparably linked, and they progress together throughout time. Financial innovations provide a way to fund innovative technology ventures, while technical advancement lays the groundwork for new financial solutions. Fintech and blockchain technology, in particular, have given rise to the most recent financial advances (Chen, Wu &Yang, 2019). The current financial institutions, such as banks and other financial organizations, provide the bulk of accessibility to financial products and services.

Technology allows non-financial entities like telecommunication companies to provide financial services, a phenomenon known as fintech innovation. People who previously had no access to financial services are now empowered thanks to fintech advancements. Mobile money is a fintech invention frequently hailed as a crucial enabler of financial inclusion (Peruta, 2018) unfold that Fintech is one technology innovation that has arisen as a remedy to financial service inaccessibility, mainly via technology such as mobile phones. Studies have brought the positive approach and possible benefits of financial innovation. Llewellyn (2009) highpoints the benefits of sustainable financial innovations that reduce financial system defects by lowering risk, closing the information gap, cutting transaction costs, and minimizing tax payments. Financial innovations are used in investment decisions to secure a high return on investment projects, reduce investment risk and transaction costs, and enhance access to varied investment options (Eichholtz&Yönder, 2015). In line, financial innovation deployed appropriately can enhance revenues (financial revenues) while cutting prices (financial costs), strengthening the company's profitability and significance.

Using a panel of MENA nations from 2001 to 2012, Ghosh (2016) looked into the linkages between financial inclusion, cell phone activity, and economic status. Mobile banking has a favorable effect on financial level and financial inclusion. Bazarbash& Beaton (2020) Investigate the association between fintech loans to businesses, consumers, and critical areas of financial development using data from 109 countries collected between 2015 and 2017. The study reveals that in nations where financial depth is declining, marketplace lending to consumers is increasing, emphasizing the significance of fintech credit in filling the credit gap left by traditional lenders. The findings demonstrate that low-income countries are exploiting the

consumer fintech credit potential. Massara (2019) report that in Sub-Saharan Africa, new technologies are being developed and adopted that can alter the competitive landscape in the financial sector. Chen (2016) unlocks that China's fintech companies have risen significantly faster than those in the United States. This experience has significant implications for comprehending financial innovation and building inclusive financial systems.

CHAPTER THREE

METHODOLOGY

3.1 Research Design

A cross sectional design was used to answer the research questions. The research employed a survey design comprising of quantitative data collection approach, this is because surveys allow the collection of large amount of data from a sizable population in a highly economical way. According to Polit and Beck (2010), this design gives rise to a more economical mode of collection of data at one point in time. A cross-sectional survey involves collection of data in a snapshot at a particular point in time (Churchill and Israel, 2010). A cross-sectional survey allowed the researcher to report the data immediately it is collected from the field.

3.2 Study Population

A study population as described by Russell (2013) is a universal set of study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the result. Thus, the study population was comprised of the 50 MFIs operating in Mbarara and these made up the unit of analysis. The unit of inquiry comprised of 4 officers including branch managers, credit supervisors, operations supervisors and credit officers because these are considered to be more knowledgeable in area of financial innovation, financial inclusion and financial performance of MFI's. Responses from these four individuals were aggregated at the level of an MFI during the data analysis stage.

3.3 Sample and Sampling Technique

A sample size of 44 MFIs was determined using the sample size determination table by Krejcie and Morgan (1970). A lottery method was employed, where numbers 1-50 were written on different small pieces of paper, then placed in a box, and picked one by one without replacement till the required 44 was achieved. At the end, the MFI's that were selected to participate in this study were limited to those assigned on the selected pieces of paper.

3.4 Data Collection Methods

The study used primary data collected by use of a self–administered, structured and close-ended questionnaire rated using a 5–point Likert scale. The questionnaire was divided into major sections to address specifically every variable in the model. These included; background information, financial innovation, financial inclusion and financial performance. The questionnaire was developed using measurement items developed and tested by previous scholars (Graham, 2013; Mayanja, 2016; Nyagilo et al., 2018).

3.5. Operationalization and Measurement of Variables

As explained in the theoretical and conceptual frameworks, the independent variable is financial innovation and financial inclusion while the dependent variable is financial performance. These variables were measured using item scales developed by previous scholars drawn from existing literature. Modifications were made where necessary to suit the study context.

Table 1: Operationalization and measurement of variables

Global variable	Construct	Operationalization	Measurement	Sample questionnaire items
Financial performance		Growth rate in financial indicators such as ROI, NIM, ROA (Wallach, 1983; O'Reilly, Chatman & Caldwell, 2013)	Respondents rank items included in the questionnaire on a 5-point scale	Over the last 3 years this MFI's…Return on Equity and Assets has increased by……. Over the last 3 years this MFI's…net interest margin has increased by…….
Financial Innovation	Product innovation	This is examined as the improvements in functional characteristics, technical abilities, or ease of use.(Vitell; 1986; Stevens, Steensma, Harrison & Cochran, 2015)	Respondents rank items included in the questionnaire on a 5-point scale	In the last three years, this MFI has *introduced* the following products/services: . mobile banking, ……
	Process innovation	This is examined in terms of significant changes in the techniques, equipment and/or software used to make or deliver the product(Vitell; 1986; Stevens, Steensma, Harrison & Cochran, 2015)	Respondents rank items included in the questionnaire on a 5-point scale	In the last three years, this MFI has *introduced* new delivery or distribution methods for the following products/services: mobile banking, electronic banking……..
Financial inclusion	Accessibility	This is examined as the ability of individuals or enterprises to obtain financial services, including credit, deposit, payment, insurance, and other risk management services.	Respondents rank items included in the questionnaire on a 5-point scale	1.There are usable access roads leading to this MFI 2. We have several service points for our customers……..
	Usage	This is examined as the volume of credits plus deposits relative to the GDP (Beck et al., 2014).	Respondents rank items included in the questionnaire on a 5-point scale	**Our customers …** Pay their bills through this MFI, Save with this MFI…..
	Quality	This is examined in terms of levels of satisfaction (Beck et al., 2014).	Respondents rank items included in the questionnaire on a 5-point scale	We provide…..friendly, fair, confidential and prompt services

3.6 Validity and Reliability of the Instruments

Validity

Validity is the extent to which research instruments measure what they are intended to measure (Osoand, 2008). The researcher used the expert judgment to verify the validity of the instruments. The experts rated each item as either relevant or not irrelevant. Validity was determined using Content Validity Index (CVI). CVI=Items rated relevant by both judges divided by the total number of items in the questionnaire as shown here under. As recommended by Amin (2005), for the instrument to be valid, the CVI should be at least 0.7, a condition that was met as shown in the table below

Table 2: Validity results

Variable	Number of items	CVI
Financial innovation	14	0.946
Financial inclusion	20	0.825
Financial performance	7	0.851

Reliability

Reliability is the extent to which a research instrument yields consistent results across the various items when it is administered again at a different point in time (Sekaran, 2003). To establish reliability, the instruments were pilot-tested on the same subject at a time interval of four weeks. To ensure reliability of quantitative data, the Cronbach (1951) Alpha Coefficient for Likert-type scales test was performed. In statistics, Cronbach (1951) alpha is a coefficient of reliability. It is commonly used as a measure of the internal consistency or reliability of a psychometric test score for a sample of examinees. Upon performing the test, the results that were 0.7 and above were considered reliable (sekaran, 2006).

Table 3: Reliability results

Variable	Number of items	Cronbach Alpha Coefficient
Financial innovation	14	0.879
Financial inclusion	20	0.715
Financial performance	7	0.822

3.7 Data Processing and Analysis

Data from the field was encoded, entered into SPSS version 21, edited, cleaned and aggregated using a firm as a breaking variable. The process of cleaning included missing value analysis and testing for outliers. This was necessary given the nature of the research objectives. Data analysis techniques adopted include Pearson's correlation to test the associations between the study variables and regression analysis to determine the predictive power of the variables. At bivariate

level Financial Innovation and financial inclusion as the independent variables were correlated with financial performance as the dependent variable using Pearson‘s Correlation Coefficient. Hierarchical regression analysis was used to determine the predictive power of the separate variables on the dependent variable (financial performance).

3.8 Ethical Considerations

The researcher ensured that the privacy and confidentiality of the subject’s information is protected. Specifically, to ensure privacy, the subjects were informed upfront that indeed their names were not required (Mugenda&Mugenda, 2003). To ensure confidentiality, the subjects were informed upfront that the information they give would be solely used for academic purposes and data obtained on private matters would be treated in confidence (Amin, 2005). The researcher also got a letter of introduction from Makerere University Business School, which was presented to the respondents in order to further ensure that the information they gave was treated with utmost confidentiality.

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF RESULTS

4.0 Introduction

This chapter presents the results from descriptive and inferential analyses. The descriptive analysis was performed to describe the relevant aspects of the phenomena under consideration and provide detailed information about each relevant variable. For the inferential analysis, the study used the Pearson correlation to measure the degree of association between variables under consideration and the regression analysis to estimate the contribution of the variables on financial performance

4.1 Demographic characteristics

Respondents were asked to provide information about their demographic characteristics which includes their gender, age, and education level, position in the institution and the time they have been in the current position. The results from their responses are presented in the sections below.

Table 4: Demographic characteristics

Characteristic	Item	Frequency	Percent
Gender	Male	63	55.3
	Female	51	44.7
Age	18-28	16	14.0
	29-30	39	34.2
	31-39	47	41.2
	40 yrs+	12	10.5
Marital status	Single	36	31.6
	Married	60	52.6
	Separated	11	9.6
	Widow/widower	7	6.1
Education level	Diploma	35	30.7
	Bachelor's degree	49	43.0
	Master	30	26.3
Employment position	Branch manager	38	33.3
	Loans officer	38	33.3
	Section head	38	33.3
Duration in position	Less than 1 year	8	7.0
	1 to 5 years	45	39.5
	5 to 10 years	47	41.2
	10+ years	14	12.3
Duration in the organization	Less than year	10	8.8
	1 to 5 years	34	29.8
	5 to 10 years	47	41.2
	10+ years	23	20.2

Results in table 4 indicate that majority of the respondents were male (55.3%). The female were represented at 44.7%. This indicates that MFIs in Mbarara city employ more men than women in the positions of Branch manager, loans officer, and section heads. More so, although the number

of males exceeded that of females, the representation of both sexes in the study was fair thus reduced gender biases. Majority of the respondents were aged between 31 and 39 (41.2%), followed by those aged between 29 to 20 years (34.2%) and those aged between 18 to 28 years (14.0%). The least number of respondents were above 40 years (10.5%). This implies that majority of Microfinance institutions consider youth workforce since the youth are believed to be a productive age group whose potential when tapped can make the economy so vibrant. Hence, MFIs can capitalize onto the creativity, knowledge, ideas and energy of young people which will prove a crucial asset for boosting the development of microfinance institutions in Mbarara city.

Majority of the respondents are married (52.6%) followed by the single at 31.6% and then the separated at 9.6%. The least were the widow/widower with 6.1%. The majority of the respondents were married and this implies that Microfinance institutions in Mbarara City mainly employs people with more responsibilities and hence putting much of their effort and time on the duties assigned to them to fulfill the responsibilities. This helps in improving financial performance. Majority of the respondents had a bachelor's degree (43.0%), followed by those with a diploma (30.7%) and then those with a master degree (26.3%) were the least respondents. This indicates that the employees in the microfinance institutions of Mbarara city are highly educated which implies that respondents had the requisite literacy to understand the implications of financial performance on microfinance institutions as well as the ability to understand the set questions, terminologies and concepts used in the study and hence gave valid and reliable data. Therefore, they are bound to take good right decisions to curb the performance of microfinance institutions in Mbarara city. The respondents asked were in positions of branch manager with

33.3%, loans officers (33.3%) and Section heads with 33.3% and the response rate was the same from all the respondents in the study which implied that data was collected from the most reliable sources and the conclusions from this study are reliably valid for any decisions in regards to financial performance of microfinance institutions in Mbarara city.

Majority of the respondents had been employed in their positions for 5 to 10 years (41.2%) followed those that were employed for 1 to 5 years (39.5%) and then those who were employed for 10+ years (12.3%). The least group of respondents had been employed for less than 1 year (7.0%). indicating that Microfinance institutions had experienced staff. In addition, employees had adequate knowledge about the contribution of financial innovation and financial inclusion to financial performance and can relate to the overall performance of microfinance institutions in Mbarara city and hence gave reliable data. Majority of the respondents had worked in the organization for 5 to 10 years (41.2%) followed those that were employed for 1 to 5 years (29.8%) and then those who had worked for 10+ years (20.2%). The least group of respondents had been employed for less than a year (8.8%). This is an indication that majority of the respondents fit in the time scope for the study and had ascertained the duration which had an effect on their understanding of the study variables.

4.2 MFI characteristics

Respondents were asked to provide information about the characteristics of their MFIs including number of years in operation, number of branches, number of employees, source of financing

and ownership of the MFI. Data was aggregated and the results from their responses are presented in the sections below.

Table 5: MFI characteristics

Characteristic	Item	Frequency	Percent
Number of years in operation	Less than 5 years	3	7.9
	5 to 10 years	5	13.2
	10 to 15 years	20	52.6
	Above 15 years	10	26.3
Number of branches	Less than 5	18	47.4
	5 to 10	15	39.5
	10+	5	13.2
Number of employees	Less than 15	8	21.1
	15 to 30	20	52.6
	30+	10	26.3
Source of financing	Equity	6	21.1
	Loans	14	31.6
	Interest income	5	13.2
	Donations and grants	10	26.3
	Other	3	7.9
Ownership of MFI	Local	23	60.5
	Foreign	10	26.3
	Dual	5	13.2

Results from table 5 indicate that majority of the MFIS had been operational for 10 to 15 years (52.6%), followed by those that existed for above 15 years (26.3%) and then those that existed for 5 to 10 years (13.2%). The least number of microfinance institutions had been operational for less than 5 years (7.9%). This shows that most of the MFIs in Mbarara city have been in

existence for a long period of time and thus should have experienced the effects of financial innovation and financial inclusion on their financial performance. Majority of the MFIs had less than 5 branches (47.4%), followed by those with 5 to 10 branches (39.5%) and then those with 10+ (13.2%). An indication that there is a gap in growth of Microfinance institutions and hence still lacking which calls for improvement in financial performance to stimulate the growth of these institutions in Mbarara city.

Majority of the MFIs had employees who were between15 to 30 (52.6%) followed by those above 30 (26.3%) and then those with less than 15 (21.1%). This implies that MFIS in Mbarara have a growing number of productive workforces that is adequate to enhance financial innovation and financial inclusion for improved financial performance of MFIS in Mbarara city. Majority of the MFIS were financed by loans (31.6%), followed by those financed by donations and grants at 26.3% and those financed by Equity at 21.1% and then those financed by interest income at 13.2%. The least MFIS were financed by other sources at 7.9%. This implies that many institutions are simply unable to meet the demands of their members for loans and therefore, outside external funding can help them do that. More so, because it is able to satisfy the thirst for loans, the institution gains the confidence of its members and hence MFIs accessed external credit to generate more institutional income as well as improve the financial performance of MFIS in Mbarara city. Majority of the MFIs were owned locally (60.5%) followed by those foreign owned at 26.3% and the least MFIS were dual (13.2%). An indication that most of the microfinance institutions are owned locally with the major aim of sustaining local economic growth and individual development thus promoting financial inclusion and

financial innovation for improved financial performance of microfinance institutions in Mbarara city.

4.3 Correlation results

Objective one and two sought to establish the relationship between financial innovation and financial performance; and the relationship between financial inclusion and financial performance respectively. In order to achieve these objectives, correlation analysis was carried out and the results are provided in the table below

Table 6: Correlation results

Correlations	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Product innovation-1	1							
Process innovation-2	.690**	1						
Financial innovation-3	.912**	.926**	1					
Access-4	.549**	.382**	.502**	1				
Usage -5	.423**	.395**	.444**	.588**	1			
Quality -6	.224*	-.006	.113	.216*	.188*	1		
Financial inclusion-7	.490**	.267**	**.406****	.712**	.661**	.795**	1	
Financial performance -8	.565**	.552**	**.607****	.362**	.340**	.246*	**.216****	1

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

*. Correlation is significant at the 0.05 level (2-tailed).

Results from table 6 indicate that there is a positive and significant relationship between financial innovation and financial performance (r=.607**). Among the indicators of financial innovation, product innovation, came out with a stronger relationship with financial performance (r=.565**)

followed by process innovation (r=.552**). This means that a positive change in financial innovation is associated with a positive change in financial performance.

From the same results, there is a positive and significant relationship between financial innovation and financial inclusion (r=.406**). The indicators of financial innovation are also positively and significantly related to financial inclusion with coefficients .490** for product innovation and .267** for process innovation. This implies that a positive change in financial innovation in terms of process and product innovation is associated with a positive change in financial inclusion

Results also indicate that there is a positive and significant relationship between financial inclusion and financial performance (r=.216**). Among the indicators of financial inclusion, access came out with a stronger relationship with financial performance (r=.362**) followed by usage (r=.340**) and then quality (r=.246*). This means that a positive change in financial inclusion in terms of access, usage and quality is associated with a positive change in financial performance

4.4 Regression analysis

The researcher also carried out regression analysis to determine the predictive power of financial innovation and financial inclusion on financial performance. The results are shown in the table below.

Table 7: Regression results

	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta
Number of branches	0.247	0.076	0.299	0.201	0.06	0.244	0.2	0.061	0.242
Number of employees	0.187	0.078	0.104	0.288	0.062	0.205	0.389	0.062	0.106
Source of financing	0.229	0.041	0.22	0.226	0.032	0.457	0.226	0.032	0.359
Financial innovation				0.404	0.049	0.587**	0.412	0.054	0.598**
Financial inclusion							0.433	0.092	0.328**
R		.265a			.507b			.598c	
R Square		.070			.257			.358	
R Square Change		.070			.187			.101	
F Change		4.86			68.243			23.127	
Sig. F Change		.722			.003			.000	

Model 1 – the control variables of number of branches, number of employees and source of financing were regressed on financial performance. Results in model 1 show that the control variables explain 7% of variance in financial performance.

Model 2 – financial innovation was added in model 2. The results show that the addition of financial innovation to the equation, accounts for an extra 18.7% of the variance explained by the

model (R2Δ= .187; fΔ= 58.243). The results also confirm a significant relationship between financial innovation and financial performance (β=.587**).

Model 3 – financial inclusion was added in model 3. The results show that the addition of financial inclusion to the equation, accounts for an extra 10.1% of the variance explained by the model (R2Δ= .101; fΔ= 23.127). The results also confirm a significant relationship between financial inclusion and financial performance (β=.328**).

Overall final model explains 35.8% of variance in financial performance. This means that the remaining 64.2% is explained by factors other than number of branches, number of employees, source of financing, financial innovation and financial inclusion.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses and concludes the findings of the study, recommendations and areas for further research. The study investigated financial innovation, financial inclusion and financial performanceof micro finance institutions in Mbarara city.

5.1 Discussion of findings

This chapter discusses the findings on the relationship investigated between financial innovation, financial inclusion and financial performance of micro finance institutions in Mbarara city in the order of research objectives.

Objective one was to establish the relationship between financial innovation and financial performance of micro finance institutions in Mbarara city. the results indicated that there was a positive and significant relationship between financial innovation and financial performance. This implies that a positive change in financial innovation is associated with a positive change in financial performance. By offering innovative services, micro finance institutions can increase the number of people who open and maintain formal accounts and, thus, attract deposits, increase the number of borrowers, and invest more in business, education, and health. Therefore, by increasing the number of individuals and businesses that borrow from micro finance institutions and use other banking services, micro finance institutions can increase their revenues and profits, and thus, enhance their performance indicators. Financial innovation results in increased productivity as the micro finance institutions find ways to improve existing processes, streamline

operations, and implement new forms of technology which aids to better understand and respond to customer needs through ongoing innovation, do a better job attracting new customers and retaining existing clients.these findings are I line with the findings of previous scholars. Chipeta and Muthinja (2018) who investigated the link between financial innovation and financial performance of 42 Kenyan commercial suggested that financial innovations have a major impact on bank financial performance, and that firm-specific factors are more essential than industry characteristics in deciding a company's present financial success. Mensah et al. (2019) found a positive relationship between bank innovations and financial performance and recommended that corporate banks make it a policy to build an efficient and successful marketing department as part of their strategic management process to oversee the publicity of all financial innovation products. It is also suggested that the pricing of innovative items be affordable to avoid scaring off potential buyers or users. Ubi&Mba (2019) found that the use of new financial innovations had a positive effect on the enterprises' likelihood of performance. This positive effect was attributed to a reduction in transaction costs, an increase in liquidity and an increase in creditworthiness associated with the use of financial services on mobile phones. In addition, the study revealed implementing product, process and institutional innovation makes the commercial banks to become more flexible in their operations and it leads to acquisition of qualified personnel in the bank, quality products and allows bank expansion.

Objective two was to establish the relationship between financial innovation and financial inclusion. The results indicate that there is a positive and significant relationship between financial innovation and financial inclusion. This implies that a positive change in financial innovation is associated with a positive change in financial inclusion. Financial innovation helps

to foster financial inclusion by providing access to financial services to members of society and individuals who previously lacked such access. Financial innovation provides different types of services that can be tailored and adapted to the needs of different individuals, including those who were previously unable to access financial institutions or services. Through technology, new financial products that are more affordable or have lower entry requirements than traditional financial products can be created. That allows individuals who would otherwise not have access to such services due to limited income, lack of financial education, or other barriers to gain access to these services, enabling them to manage their finances better and build their assets. Additionally, financial innovation can help reduce the cost of financial services, allowing more people to access such services. Financial inclusion is increased by providing access to more people, allowing individuals and businesses to obtain the capital they need to achieve their economic goals. he increased accessibility of banking services has enabled more people to become financially included by being able to open bank accounts, transfer money safely and securely, access credit and manage their finances better. These findings are in line with the findings of previous scholars. Lavrov (2011) emphasizes the importance of introducing modern financial technologies and their benefits. In line, Neural networks Rivas (2017), Artificial Intelligence & the Internet of Things (Schulte & Liu, 2017), and the growth of Bitcoin hardware (Taylor, 2017) are among the adoption technologies researched. Studies reveal that financial and technological advances are inseparably linked, and they progress together throughout time. Financial innovations provide a way to fund innovative technology ventures, while technical advancement lays the groundwork for new financial solutions. Fintech and blockchain technology, in particular, have given rise to the most recent financial advances (Chen, Wu

&Yang, 2019). The current financial institutions, such as banks and other financial organizations, provide the bulk of accessibility to financial products and services.

Objective three was to establish the relationship between financial inclusion and financial performance. The results indicated that there is appositive and significant relationship between financial inclusion and financial performance. This means that a positive change in financial inclusion is associated with a positive change in financial performance. The increase in access of financial services by the underserved population helps the microfinance institutions to increase the number of customers who in turn will use their access to consume the products like loans. This results into charging them interest that will increase their profits. The provision of quality services will also result into more clients thus financial performance. Bank branches are critical for underserved segments of society, and eliminating branches limits the amount of credit available to small businesses. It should be noted that increased branch presence results in a rise in client base, boosting deposit and loan portfolios and diversifying risk. Providing individuals with an opportunity to have a secure place to save encourages financial stability resulting from high levels of bank deposits being utilized to contribute to a stable deposit base for microfinance institutions. These findings are in line with those of previous scholars. Bansal (2014) established that there is a positive and significant relationship between financial inclusion and financial performance in rural india. The study indicates that the usage of financial services increases the profits of the bank and hence financial performance. Mago and Chitokwindo (2014) also found that there is a positive relationship between financial inclusion and financial performance. The study recommended that banks need to provide services that will attract clients to use them and

also make them accessible which will result in an increase in sales. Banks grow their customers via branch locations, ATMs, point-of-sale (POS) locations, and other electronic terminals (Shihadeh and Liu 2019). This expansion is expected to enhance the performance of banks as it leads to more customers, although point-of-sale terminals might increase the capital expenditure and profit might not be significantly high as a result of cost increment (Shihadeh et al. 2018), banks use branches, ATMs, and POS locations to increase customer reach, attract deposits, and offer services (Shihadeh et al. 2018).

5.2 Conclusion

From the findings, it can be conclude that there is a positive and significant relationship between financial innovation and financial performance; a positive and significant relationship between financial innovation and financial inclusion; a positive and significant relationship between financial inclusion and financial performance.

By offering innovative services, micro finance institutions can increase the number of people who open and maintain formal accounts and, thus, attract deposits, increase the number of borrowers thus increasing their revenues and profits.

Financial innovation helps to foster financial inclusion by providing access to financial services to members of society and individuals who previously lacked such access with different types of services that can be tailored and adapted to the needs of different individuals

The increase in access of financial services by the underserved population helps the microfinance institutions to increase the number of customers who in turn will use their access to consume the products like loans leading to an improvement in financial performance.

5.3 Recommendations

It is therefore recommended that;

Micro finance institutions should continuously innovate to create new processes and products that will ease the customer experience. This will aid to attract new customers and retain existing customers who will in turn consume the products and services provided leading to a better financial performance.

Micro finance institutions should also encourage access and usage of their products through extending their services to the underserved population especially in the rural areas. This can be done by establishing branches in these areas and extending branchless services like mobile banking. This will aid them to tap into new markets thus increasing their potential to earn more profit.

The government should create policies that encourage innovation in the microfinance institutions such that it can achieve financial inclusion of its population leading to overall economic development. This can be done through a reduction on taxes imposed on innovations that reduce transaction costs for the customers.

5.4 Limitations of the study

Overall final model explains 35.8% of variance in financial performance. This means that the remaining 64.2% is explained by factors other than number of branches, number of employees, source of financing, financial innovation and financial inclusion.

The current study also adopted a cross sectional research design where data is collected at one point in time which may not indicate the long term effects financial innovation and financial inclusion on financial performance.

5.5 Areas for further research

Future research may find out the relationship of other variables like crisis management and team competences to find out if they explain the remaining percentage of financial performance. This is because the current variables (financial innovation and financial inclusion) only explain 35.8% of variance in financial performance of microfinance institutions. A longitudinal research design may also be adopted to determine the long term effects of financial innovation and financial inclusion on financial performance of micro finance institutions.

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QUESTIONNAIRE

MAKERERE UNIVERSITY

QUESTIONNAIRE FORM

Data entry ID:……..……

Dear Sir/ Madam,

I am ***TunanukyeJevineal***undertaking a study on "***Financial innovation, Financial inclusion and financial performance of MFIs in Mbarara City***" as a partial fulfillment for the award of Masters of Business Administration of Makerere University. You have been identified as a resourceful person to this study. Feel free to participate as whatever response you give will be kept confidential and shall only be used for academic purposes.

MFI ID _____ Date of collection: _____

SECTION A: DEMOGRAPHICS OF RESPONDENTS

For each of the following questions, Please tick what applies to you.

a1. Gender 1( ) Male 2( ) Female

a2. Age bracket 1( ) 18-28yrs 2( ) 29-39yrs 3( ) 40-49yrs4( ) 50 yrs+

a3.Marital status 1( ) Single 2( ) Married 3( ) Separated 4( ) Widow/widower

a4. Highest level of education 1( ) Certificate 2 ( ) Diploma 3 ( ) Bachelor

4 ( ) Masters 5 ( ) PhD 6 ( ) Others specify…….

a5. Your current position 1( ) Branch Manager 2( ) Loans officer 3( ) Section head

a6. Duration in the current position: 1 ( ) Less than 1yr 2 ( ) 1-5yrs 3( ) 5-10yrs 4 ( ) 10yrs+

a7. Duration in the current organization: 1 ( ) Less than 1yr 2 ( ) 1-5yrs 3( ) 5-10yrs 4 ( ) 10yrs+

SECTION B: MFI CHARACTERISTICS

b1. Number of years in operation:

1 ( ) Less than 5 yrs 2 ( ) 5-10 yrs3 ( ) 10-15yrs 4 ( ) 15yrs+

b2. Number of branches countrywide: 1 ( ) Less than 5 2 ( ) 5-10 3 ( ) 10+

b3. Number of employees in the current branch: 1 ( ) Less than 15 2 ( ) 15-30 3( ) 30+

b4. Main source of financing:

1( ) Equity 2 ( ) Loans 3 ( ) Interest income 4 ( ) Donations and grants 5 ( ) Other (specify)……..

b5. Ownership of the MFI: 1( ) Local 2( ) Foreign 3( ) Dual

SECTION C: FINANCIAL INNOVATION

Here below are items relation to possible financial innovations in MFIs. Please rate the following statements according to what applies to your organization on the scale 1-5.

Product innovation						
code	In the last three years, this MFI has *introduced* the following products/services:	Strongly disagree	Disagree	No idea	Agree	Strongly agree
pi1	Mobile banking	1	2	3	4	5
pi2	E- banking	1	2	3	4	5
pi3	Agency banking	1	2	3	4	5
pi4	Direct marketing	1	2	3	4	5
pi5	Electronic funds transfer	1	2	3	4	5
pi6	Debit/credit cards	1	2	3	4	5
pi7	Small scale business loans	1	2	3	4	5

pi8	Small scale business accounts	1	2	3	4	5
Process innovation						
	In the last three years, this MFI has *introduced* new service delivery methods like;	Strongly disagree	Disagree	No idea	Agree	Strongly agree
P1	Digitalization of all retail products	1	2	3	4	5
P2	Electronic Funds Transfer	1	2	3	4	5
P3	Cheque processing	1	2	3	4	5
P4	Direct marketing	1	2	3	4	5
P5	Improved queuing	1	2	3	4	5
P6	Number and distribution of ATMs	1	2	3	4	5

SECTION D: FINANCIAL INCLUSION

Here below are items relation to possible financial inclusionby MFIs. Please rate the following statements according to what applies to your organisation on the scale 1-5.

Accessibility of financial services						
code	Statements	Strongly disagree	Disagree	No idea	Agree	Strongly agree
acc 1	There are usable access roads leading to this MFI	1	2	3	4	5
acc 2	We have several service points for our customers	1	2	3	4	5
acc 3	We have established branches within the City	1	2	3	4	5
acc 4	Customers can use mobile banking to access our services	1	2	3	4	5
acc 5	The cost of borrowing in this MFI is affordable	1	2	3	4	5
acc 6	We have enough capital to enable us offer as loans to customers	1	2	3	4	5
Usage of financial services						
code	Our customers …	Strongly disagree	Disagree	No idea	Agree	Strongly agree
u1	Pay their bills through this MFI	1	2	3	4	5
u2	Save with this MFI	1	2	3	4	5
u3	Receive loans to finance personal needs	1	2	3	4	5

u4	Receive loans to finance their business	1	2	3	4	5
u5	Receive financial management training	1	2	3	4	5
u6	Receive dividends on their contributions	1	2	3	4	5
u7	Receive bonuses	1	2	3	4	5
Quality of products and services						
Code	Statements	Strongly disagree	Disagree	No idea	Agree	Strongly agree
q1	We provide prompt feedback to our customers	1	2	3	4	5
q2	Our staff are friendly and helpful	1	2	3	4	5
q3	We impose fair service charges	1	2	3	4	5
q4	We ensure confidentiality of all account transactions	1	2	3	4	5
q5	We provide prompt information regarding transactions of customers	1	2	3	4	5
q6	The offices hours are convenient for the customers	1	2	3	4	5
q7	we have modern equipment that make transactions easy	1	2	3	4	5

SECTION E: FINANCIAL PERFORMANCE

Using the scales below, please tick (√) one criterion most appropriate to your organization.

code	Over the last 3 years this MFI's…	Not very significantly	Not significantly	Not sure	Significantly	Very significantly
fp1	Profit margin increased ….	1	2	3	4	5
fp2	Return of assets increased ….	1	2	3	4	5
fp3	Return on equity increased ….	1	2	3	4	5
fp4	Portfolio at risk increased ….	1	2	3	4	5
fp5	Debt/equity increased ….	1	2	3	4	5
fp6	Yield on portfolio ratio increased ….	1	2	3	4	5
fp7	Non-performing portfolio/total portfolio ratio increased ….	1	2	3	4	5

Thank you for your time