EFFECT OF MOBILE BANKING ON FINANCIAL PERFORMANCE OF SMALL & MEDIUM-SIZED ENTERPRISES IN KAJIADO COUNTY, KENYA

VALENTINE JUMA OKELLO

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University

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Signature..... Date.....

Valentine Juma Okello

MBA/2019/44423

Supervisors

This thesis has been submitted to Umma University for examinations with our approval as the University supervisors

Signature..... Date.....

Dr. Agnes Munene (Ph.D.)
Department of Business Management,
School of Business and Technology,
UMMA University.

Signature..... Date.....

Dr. Alex Koech (Ph.D.)
Department of Business Management,
School of Business and Technology,
UMMA University.

DEDICATION

This work is dedicated to the Almighty God for enabling me come this far. Special dedication also goes to my Family, my employer Umma University for your support, patience, understanding & encouragement during the long working hours while pursuing this study. To my late parents am so very much indebted to you and am proud of how you raised me.

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ABSTRACT

Despite the widespread availability and adoption of mobile banking technology, research on its specific impact on the financial performance of Small and Medium Enterprises (SMEs) is lacking. The effective utilization of mobile banking by SMEs to enhance financial performance and the factors influencing its effectiveness remain unclear. This study aimed to examine the relationship between mobile banking adoption and the financial performance of SMEs. Objectives included determining the effects of mobile banking service costs and accessibility on financial performance, as well as assessing the extent of mobile banking adoption among SMEs in Kajiado County. A descriptive research design targeted a population of fifty-eight (58) licensed SMEs in Kajiado County. Primary data from questionnaires and interviews were coded for analysis. Normality tests confirmed a normal distribution of the data. Statistical analyses, including regression analysis and ANOVA, were conducted. The findings indicated a strong negative correlation (-0.974, $p = 0.000$) between mobile banking service costs and SME financial performance, demonstrating a significant relationship. The rejection of three hypotheses ($r=0.351$, $p<0.05$), ($r=0.321$, $p<0.05$), and ($r=0.246$, $p<0.05$) suggested a positive association between mobile banking service adoption and improved financial performance, including revenue growth and profitability. Specifically, mobile banking service costs had a positive and significant association with financial performance ($r=0.665$, $p<0.05$), while mobile banking service accessibility showed a positive and significant correlation ($r=0.751$, $p<0.05$). The study recommends collaboration between financial institutions and mobile network operators to reduce service costs and expand coverage, thereby encouraging greater adoption by SMEs in Kajiado County and enhancing their financial performance.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

GOK	Government of Kenya
SMEs	Small and Medium-size Enterprises
MBSC	Mobile Banking Service Cost
MBSAC	Mobile Banking Service Accessibility
MBSA	Mobile Banking Service Adoption
TE	Technological efficiency
GDP	Gross Domestic Product
CBK	Central Bank of Kenya
FIT	Financial Intermediation Theory
IDT	Innovation Diffusion Theory
TAM	Technological Acceptance Model

DEFINITIONS OF TERMS

Mobile Banking:

Mobile banking is a financial service provided by banks that allows customers to access their bank accounts and perform various financial transactions using their mobile devices, such as smartphones and tablets (Baabdullah et. al, 2019). This can include tasks such as checking account balances, paying bills, transferring money, and depositing checks. Mobile banking is convenient because it allows you to manage one's finances from anywhere, at any time, as long as one has an internet connection.

Mobile Banking Service Costs:

In this study Mobile Banking Service Cost refers to the total explicit and implicit costs of participants in mobile banking financial transactions and is a key indicator for SMEs in decisions to adopt new technology. SMEs using mobile banking services make savings related to operation costs and transportation – courier services, resulting in improved business efficiency.

Mobile Banking Service Accessibility:

In this study Mobile Banking Service Accessibility refers to the ability to use mobile banking services regardless of location. The proliferation of hand-held devices and availability of network services has led to more people and SMEs carrying out transactions online**.**

Mobile Banking Service Adoption:

In this study Mobile Banking Adoption refers to the use of a mobile device to carry out financial transactions. The services are provided by the financial institutions via mobile applications installed by the user. SMEs have adopted mobile banking over the old method of making payments through cheques or withdrawing cash over the bank counter.

Technological Efficiency:

In this study technological efficiency refers to the effectiveness with which the use of mobile banking by SMEs has improved the financial performance of SMEs.

Financial Performance-

In this study Financial Performance refers to desired financial results which affect the operation of the business such as increase in sales turnover, reducing debt by collecting money owed to the

business and able to pay what is due in time because of being able to manage cash in and out of the business.

Small and Medium enterprises

A small-sized enterprise has fewer than 50 employees, while a medium one has between 50 and 250 employees. In Kenya, the Micro and Small Enterprises (MSE) Bill 2012 defines small enterprises as those firms, trade, service, industry or business activities that have an annual turnover of Kes 0.5-5 million and have a population of 10 to 50 employees. SMEs in Kenya are characterized by ease of entry and exit, small-scale economic activities, self-employment with a high proportion of family members work as apprentices, limited capital and equipment requirement to start and run, low level of skills requirement, limited access to formal credit, limited focus on value addition and cash-based transaction

Pilot study: -A pilot study, also called a "feasibility" study, is a small-scale preliminary study conducted before any large-scale quantitative research in order to evaluate the potential for a future, full-scale project.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Small and Medium Enterprises (SMEs) are crucial for economic growth and development in every country (Berisha & Pula, 2015). They contribute significantly to key development objectives, including employment creation, income equity, industrialization, economic growth, innovation, and a favorable business climate (Berisha & Pula, 2015). Globally, SMEs represent about 90% of enterprises, contributing over 55% of GDP and more than 65% of jobs in developed economies. In developing countries, SMEs constitute more than 60% of GDP and over 70% of jobs. In Kenya specifically, SMEs make up 98% of all businesses, generate 30% of annual jobs, and contribute 3% to the country's GDP (Mwavali, 2021).

To remain competitive and achieve constant growth, organizations are increasingly adopting digital payment systems to reduce financial and non-financial costs (Johansson et al., 2015). The payment system has evolved from cash and credit transactions to mobile payment systems (MPS) due to advancements in the internet, increased mobile phone usage, changing market demands, and the rise of social networks (Muthiora, 2015). MPS enables businesses to process payments through mobile devices, providing quick and convenient ways to accept payments from anywhere. It is viewed as a key tool for improving performance, enhancing accessibility, and facilitating global reach for SMEs and corporate organizations (Luna et al., 2019; Nguyen et al., 2020).

The availability of digital payment technologies, such as mobile money and internet banking, has gradually increased in developing countries, supporting financial inclusion initiatives and offering benefits like time and place independence, queue avoidance, availability, and remote payment

options (Ligon et al., 2019). However, challenges such as complexity, perceived risk, premium pricing, and lack of critical mass should also be considered in the adoption of MPS.

1.1.1 Small and Medium Enterprises

No. 2Sessional Paper of the year 2005indicates that in Kenya SMEs are large groups of enterprises employing between 1-50 workers in all sectors. According to the Kenya National Bureau Statistics (2015), more than 5,970,600 Kenyans who have secured jobs on this informal sector; which translates to roughly 19% of the overall Kenyan population (Chogi, 2016). The reason is less capital is required to start business in such sectors also it is less structured. SMEs are a primary sector in the country's economy and also in creation of many new jobs, this is because of the continuous growth they are experiencing (Nyangori2012).

Small and Medium Scale Enterprises (SMEs) is accepted globally as a tool for empowering the citizenry and economic growth (Lara et.al, 2019), and its globally is dependent upon a conducive business environment. The SMEs play a significant and indispensable role in the economic development of a country where they generate varied sources of income, create employment, enhance innovation and competition, provide opportunity for upskilling, and ultimately help improve living standards (Anyanga & Nyamita, 2016; KNBS, 2016).

The favoring of the SMEs in developed countries in EU became a subject of structural policy already in the 80s when it was found that SMEs were the most dynamic factor of economic growth, a source of job creation and regional development (Dobrovič Ján, 2015). Despite this, business impediments have been recognized as stumbling blocks standing in the way of SME growth around the globe (Jesca & Leodger, 2019).

Regionally, Small and Medium Enterprises (SMEs) encompass over 90% of African business enterprises and generate over 50% of African employment opportunities and GDP. Moreover, as at 2016 there were about 400 million SMEs in developing countries (IDRC, 2016). But this trend has slowly been growing negatively in recent years. In Tanzania for instance, SMEs face several constraints such as limited finances, poor market accessibility, low entrepreneurial knowledge and bureaucracy which hinders their growth (Jesca & Leodger, 2019). Mashenene & Rumanyika (2014) reported inadequate business training, insufficient capital and an anti-entrepreneurial culture to be the major constraints affecting SMEs in Tanzania.

Kenya, as in many other growing economies, SMEs are central to the development of the economy. They comprise about 80% of all Kenyan businesses (7.4 million MSMEs), jointly employ approximately 14.9 million people (78% of labor force) and account for a third of Kenya's GDP (Krishnan, Were, and Te Velde 2019). This is despite over 85% of these ventures being unlicensed thus forming part of the informal sector popularly known as jua kali sector (KNBS, 2016). The SME sector not only provides goods and services but is also a key driver in stimulating competition and innovation while enhancing the enterprise culture that is critical for economic advancement, industrialization and transformation (KIPPRA, 2013; RoK, 2015). KNBS (2016) emphasized the critical role of SMEs in Kenya's industrialization strategy; more so in generation of employment and income opportunities for the majority of people.

1.1.2 Financial Performance

Financial performance is a complete evaluation of a company's overall standing in categories such as assets, liabilities, equity, expenses, revenue, and overall profitability. It is measured through various business-related formulas that allow users to calculate exact details regarding a company's

potential effectiveness(Jayeola et al., 2022). According to Amalendu (2019), financial performance means a firm's overall financial health over a given period of time.

In general, the financial performance of SMEs can vary widely depending on the specific industry in which they operate, as well as their size, location, and other factors. Consequently, technology can play a significant role in the financial performance of small and medium-sized enterprises (SMEs) around the world(Talom & Tengeh, 2019). By adopting new technologies, SMEs can improve their efficiency, reduce costs, and increase their competitiveness. This can lead to stronger financial performance and contribute to the overall success of the business. There are many different ways that technology can impact the financial performance of SMEs(European Digital SME Alliance, 2020). Some examples include Automation: By using automation technologies, such as mobile technology, robotics, and machine learning, SMEs can reduce the time and effort required to complete certain tasks, leading to increased efficiency and cost savings(Matsongoni & Mutambara, 2018).

Regionally, in many developing countries small and medium enterprises (SMEs) account for a significant share of production and employment and are therefore directly connected to poverty alleviation(Ademosu & Morakinyo, 2021). Especially in developing countries, SMEs are challenged by the globalization of production and the shift in the importance of the various determinants of competitiveness. Through the rapid spread of information and communication technologies (ICT) and ever-decreasing prices for communication, markets in different parts of the world become more integrated(Igwe et al., 2018). Therefore, one basic question is whether the use of ICT (as information processing technology or as information communication technology) can

help them to cope with these new challenges. The financial performance of small and medium-sized enterprises (SMEs) in Tanzania for instance, has a challenge that is often cited as the limited access to financing, as many SMEs in Tanzania have difficulty obtaining the funding they need to start and grow their businesses(Ismail, 2022). This can make it more difficult for SMEs to invest in new technologies, expand their operations, and achieve strong financial performance. Despite these challenges, many SMEs in Tanzania are able to achieve strong financial performance and contribute significantly to the economy(Nkwabi & Mboya, 2019).

Locally, in Kenya, according to Kibicho & Mungai, (2019), groups that typically had limited access to formal bank services have greatly benefited from the financial products and services offered through the M-Pesa platform. Financial performance to them refers to a subjective measure of how well a firm can use technology assets from its primary mode of business and generate revenues(Omondi & Jagongo, 2018). Its accessibility and effectiveness are compliant with customer requirements and easy to access the organization's resources hence achieving customers' satisfaction levels.

Financial institutions in Kenya are now partnering with mobile and utility administrative suppliers with the purpose of administering Mobile banking services (Buse & Tiwari, 2007). Mobile banking has exhibited the guarantee to leverage mobile technology to widen financial services to huge sections of unbanked poor people fundamentally because it is rapidly turning into a pervasively deployed technology, even among the poor in society(Jacob N. M., 2014).

1.1.3 Mobile Banking

Mobile banking is a financial service provided by banks that allows customers to access their bank accounts and perform various financial transactions using their mobile devices, such as smartphones and tablets (Baabdullah et. al, 2019). This can include tasks such as checking account balances, paying bills, transferring money, and depositing checks. Mobile banking is convenient because it allows you to manage one's finances from anywhere, at any time, as long as one has an internet connection. Some banks also offer mobile banking apps that can be downloaded to customers' devices for easy access (Sharma & Sharma, 2019).

Clegg (2018) reported a lack of people-based capability, a lack of competence, and a lack of skills and information technology to be the central factors hindering SME growth in the UK. According to Zhu, Zou, & Zhang, (2018), changes in the business environment have led firms to increasingly rely on IT to achieve and retain competitiveness, improve productivity, and prosper in contemporary dynamic markets (Yunis et al., 2018). The use of mobile banking has the possibility to lower transaction costs of making payment or receiving payment, which means that many companies was increase their business model and improves their business, lower transaction costs engendered from mobile banking, as clients do not need to spend time and money to visit branches or banks to make transactions such as payments, which saves clients income and time(Amoah & Mungai, 2020).

Mobile banking has become increasingly popular in East Africa in recent years, as it provides a convenient and secure way for people to access financial services and conduct transactions using their mobile devices (Vida et.al, 2020). Many banks in the region have developed mobile banking apps that can be used to check account balances, pay bills, transfer money, and more. Some

examples of popular mobile banking apps in East Africa include M-Pesa in Kenya, Tigo Pesa in Tanzania, and Airtel Money in Uganda (Loaba, S. 2022). These apps are usually available for free download from app stores and can be easily accessed after you have enrolled for the service with one's bank.

Changes in the business environment have prompted firms to increasingly rely on information technology (IT) to remain competitive, boost productivity, and thrive in dynamic markets(Gichuki & Mulu-Mutuku, 2018). However, despite the evident benefits and increased availability of mobile banking technology, research on its specific impact on the financial performance of SMEs is lacking. This study aims to bridge that gap and explore the relationship between mobile banking adoption and SME financial performance, specifically in Kajiado County.

1.2 Problem Statement

The essential role of economic development, poverty reduction, and job establishment is attributed to SMEs as underscored in Kenya's Vision 2030 and Big Four agenda in the industrialization objective and long-term development blueprint. In spite of the significance, statistics indicate three out of five SMEs fail within the first few months of operations (KNBS, 2017). While there are various reasons for such failures, one central reason attributed is the lack of proactive and sustainable adoption of financial services innovations. The opportune convenience laced with simplicity, safety, and quickness in operation brought into play by the inception of comprehensive mobile banking ideology calls for SMEs to shift from their classical common business-as-usual activities such as bank transactions and communication. Mumbi (2017) asserts that many SMEs in developing countries lack the ability to innovate or seize available opportunities brought by new technology such as mobile banking, and consequently, to what extent the adoption of mobile

banking affects the financial performance of SMEs remain significantly unknown. Previous studies on Kenyan SMEs have primarily focused on their contribution to the economy in terms of employment, income, and gross domestic product, while others have examined access to credit and government policy and strategy frameworks. However, despite the widespread availability and adoption of mobile banking technology, there is a lack of research specifically exploring its impact on the financial performance of SMEs. Moreover, it is unclear how SMEs can best utilize mobile banking to improve their financial performance and what factors may influence the effectiveness of mobile banking in this context. This study filled this gap in knowledge by investigating the relationship between mobile banking adoption and the financial performance of SMEs. The study was focused on Kajiado County.

1.3 General Objective

The general objective of this study was to establish the effect of Mobile Banking and moderating effect of technological efficiency on the financial performance of small and medium-size enterprises in Kajiado County, Kenya.

1.3.1 Specific Objectives

(i) To determine the effects of mobile banking services cost on financial performance of SMEs in Kajiado County, Kenya.

(ii) To assess the effect of mobile banking service accessibility on financial performance of SMEs in Kajiado County, Kenya.

(iii) To determine the extent of mobile banking service adoption on the financial performance of SMEs in Kajiado County, Kenya.

(iv) To determine the moderating effect of technological efficiency on the relationship between Mobile banking and financial performance of SMEs in Kajiado County, Kenya.

1.4 Research hypothesis

The study was guided by the following research hypotheses:

H_{01}: The cost of mobile banking services has no effect on the financial performance of SMEs in Kajiado County, Kenya.

H_{02}: The accessibility of mobile banking services has no effect on the financial performance of SMEs in Kajiado County, Kenya.

H_{03}: The level of mobile banking adoption has no significant effect on their financial performance of SMEs in Kajiado County, Kenya.

H_{04}: Technological efficiency does not moderate the relationship between mobile banking and financial performance of SMEs in Kajiado County, Kenya.

1.5 Significance of Study

Through the findings of this study, SMEs owners in Kajiado County, Kenya are able to strategize on how to realize maximum benefits from mobile banking.

The research findings add dimension that may help improve policy direction with regard to regulation of mobile Money as well as factors that spur economic growth.

To Kajiado county government this study will help them identify best ways to improve resource allocation on SMEs in Kajiado plus how best they can collect revenues from SMEs.

To the academicians and students of finance, the study will assists build the knowledge base in the discipline by adding on the existing literature on mobile Money and financial performance.

The scholars can use the study as a source of reference material besides suggesting areas where future research may be conducted.

1.6 Scope of the Study

The study was carried out in Kajiado County, Kenya and it focused on SMEs operating within the County. The target population was business owners of all the 58 SMEs licensed and registered in Kajiado County, Kenya.

1.7 Limitations of the Study

The limitations of the study included low cooperation from the respondents due to their unwillingness to give information regarding their business performance especially mobile money transactions. Another challenge was lack of enough time to conduct the interviews due to the nature of their tight schedules. Additionally, the use of descriptive research design meant the introduction of intervening variable in play. However, these limitations were mitigated through the use of pilot study which helped in redefining the questionnaire to enhance ease of answering the questions.

1.8 Organization of the Study

Five chapters formed the structure of this thesis. Chapter one covered the background of the study, the problem statement, study objectives, significance, scope and organization of the study. Chapter two reviewed related theories and empirical literature on the research topic summarized the literature and research gaps and conceptual framework. Chapter three outlined the research methodology to be used to be able to achieve the research objective. Chapter four outlined the data analysis and chapter five summary and conclusions

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provided an overview of the relevant theories supporting the study. It presented a critical review of empirical literature on effects of mobile banking on financial performance of SMEs and summary of research gaps. The conceptual framework presented in a schematic diagram showed the link between Mobile banking and financial performance of SMEs.

2.2 Theoretical Literature

2.2.1 Financial Intermediation Theory

Financial Intermediation Theory as postulated by Gurley and Shaw (1960), assert that financial markets played vital roles in stimulating the advancement of economies, resulting in the dissimilarities in advancement across economies. The theory is derived from two other theories: The Agency Theory and the Information Asymmetry Theory(Sarpong-Danquah et al., 2018). Intermediaries play an important role in ensuring that there is a stable flow of funds between the excess and shortage units(McEwan, 2020).

Financial intermediation theory was intended to cater for establishments that accept deposits, provide insurance programs and distribute resources to businesses(Boďa & Zimková, 2021). The theory was built on the models of resource allocation based on perfect and complete markets by suggesting that it is frictions such as transaction costs and asymmetric information that are important in understanding intermediation (Carter, 2018).

A well-developed financial system is beneficial to the economy as a whole (Boďa & Zimková, 2021). Basically, the argument behind this idea is that the efficient allocation of capital within an

economy fosters economic growth(Boďa & Zimková, 2021). Financial intermediation can affect economic growth by acting on the saving rate, on the fraction of saving channeled to investment, or on the social marginal productivity of investment. In general, financial development must be positive for economic growth(Ademosu & Morakinyo, 2021; Nnabugwu, 2021).

Allen and Santomero (1997) reviewed the state of intermediation theory and attempt to reconcile it with the observed behavior of institutions in modern capital markets. They argue that current theory of financial intermediation too heavily focuses on the functions of financial institutions that are no longer crucial in mature financial systems. They suggest that the emphasis on the role of intermediaries as reducing the frictions of transaction costs and asymmetric information is too strong; while these factors may once have been central to the role of intermediaries, they are increasingly less relevant (Bert & Dickvan, 2019).

Financial intermediation theory and mobile banking are related in that mobile banking can be seen as a form of financial intermediation. Financial intermediation theory emphasizes the role of intermediaries, such as banks and other financial institutions, in facilitating the flow of funds between savers and borrowers. Mobile banking, which allows individuals to access financial services and conduct transactions through mobile devices, can be seen as a form of intermediary that helps connect savers and borrowers. Mobile banking can also help increase access to financial services and promote financial inclusion, which are key goals of financial intermediation theory.

When considering the relation between Financial Intermediation Theory and mobile banking service accessibility, several key points can be observed: by providing access to financial services

through digital platforms, can contribute to improving accessibility for individuals and businesses, including those in remote or underserved areas. This aligns with the core objective of financial intermediation theory, which aims to provide widespread access to financial services. There is also Expanded Customer Base: Mobile banking services can attract a broader customer base, including those who were previously unbanked or had limited access to traditional banking services. By offering convenience and flexibility in accessing financial services through mobile devices, these services can help bridge the gap between potential borrowers and lenders, fostering financial inclusion.

Financial Intermediation Theory relates to technological efficiency through operational efficiency: Technological advancements can contribute to the operational efficiency of financial intermediaries. Automated processes, digitized documentation, and online transaction systems can streamline operations, reduce manual errors, and enable faster and more accurate processing of financial transactions. This can improve the efficiency of intermediaries in mobilizing savings, assessing creditworthiness, and disbursing loans, leading to a more efficient allocation of resources. Additionally, Technological efficiency can improve access to financial services, particularly in underserved or remote areas. Mobile banking, internet banking, and digital payment systems can enable individuals and businesses to access financial services conveniently, without the need for physical infrastructure. This can promote financial inclusion and enhance the efficiency of intermediaries by expanding their customer base.

2.2.2 Innovation Diffusion Theory

Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or

product gains momentum and diffuses or spreads through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product(Dahabreh et al., 2020; Alyoubi & Yamin, 2021).

Adoption means that a person does something differently than what they had previously such as purchase or use a new product, acquire and perform a new behavior. The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible(Goh & Sigala, 2020). IMF (2018) explains it as a wide range of new applications of information technology in business models and products that are transforming the economy towards digital economy or digital sectors. The examples can be found in the use of the internet mainly as the penetration in four sectors: household, the private sector, the government and international trade(Benhabib et al., 2021).

According to Elmghaamez et al., (2022) the world bank as of 2018 had presented evidence of rapid growing use of the internet in developed and developing economies. Online banking, which is easily done from home or from the office through a personal computer, has fought for its place in comparison to traditional bank transfers. Information on the status of a bank account or payment transaction in a short time via mobile phones is merged as "mobile banking". Mobile banking has advanced to today's payment with the help of mobile phones anywhere and anytime, and mobile phone manufacturers have had to meet the growing needs of users for simpler and easier banking transactions(Zhang, 2018).

While we believe the model provides a much-needed integration of the highly dispersed knowledge on the subject of technology adoption, there are some acknowledged limitations (Landers, 2021). First, much of the work on which the theory is based, and dominated by the assumption that users adopt new technology to maximize their utility. Conversely, the Sociology literature (Taherdoost, 2018; Baecker, 2021) argues that consumers may adopt a new technology, for instance, by following a temporary fashion. In this case the user is not maximizing their utility, but rather maximizing their social orientation. The resulting conflict of assumptions, means that the model is context dependent rather than generally predictive (Dillon, 2020).

Innovation Diffusion Theory and mobile banking services accessibility are related in that Innovation Diffusion Theory can help explain how the adoption and accessibility of mobile banking services spread among different groups of users. According to Innovation Diffusion Theory, the adoption of new technologies, like mobile banking, is influenced by various factors, such as perceived usefulness, ease of use, relative advantage, compatibility, and complexity. These factors can affect how quickly and widely mobile banking services are adopted and used.

Consequently, mobile banking services accessibility, which refers to the availability and ease of access to mobile banking services, can be influenced by the same factors that affect the diffusion of innovation. For example, if mobile banking services are perceived as useful, easy to use, and provide relative advantages over traditional banking services, more people may opt to adopt them. This, in turn, can increase the accessibility of mobile banking services to a wider range of users. Overall, Innovation Diffusion Theory can help explain how mobile banking services accessibility

can be influenced by the adoption and diffusion of innovation among different user groups in the SMEs, and how various factors can affect the speed and extent of this process.

Innovation Diffusion Theory explains how innovations are adopted and diffused through a social system. Technological efficiency can influence the diffusion process by demonstrating the benefits and efficiency gains of adopting a new technology. If a technology is perceived to be more efficient than existing alternatives, it may be adopted more quickly and widely. Consequently, Efficiency can be considered as an innovation characteristic; within Innovation Diffusion Theory, the characteristics of an innovation, such as relative advantage, compatibility, and complexity, influence its adoption. Technological efficiency can be seen as an important characteristic of an innovation. If a new technology is perceived to be more efficient in terms of time, cost, or resource utilization compared to existing technologies, it is more likely to be adopted and diffused.

According to the IDT, the adoption of an innovation, such as mobile services, is influenced by several factors, including perceived attributes of the innovation and the characteristics of potential adopters. Mobile banking access can act as a facilitator or barrier to the diffusion process. IDT relates to mobile banking access in relative advantage, compatibility, complexity, observability and trialability, where mobile banking accessibility allows potential adopters to try out the services without significant barriers or commitments can foster adoption. Offering free trials, limited-access versions, or introductory offers can encourage users to experience the benefits of mobile service access and reduce perceived risks.

2.2.3 Technological Acceptance Model

Technology Acceptance Model (TAM) is widely adopted theory for examining the behavioral intention of using computers by the users. According to Ali & Dhaha (2014), TAM was first introduced by Davis (1989) and cited that the perceived usefulness and perceived ease of use were major determinants for using computers. Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance", while perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort" and further declared that these two beliefs determine the majority of variance in an adoption of a new technology.

According to Mutinda (2014), TAM has received praises from earlier researchers on its contribution towards our understanding into consumer behavior and further stated that "It has proven to be a useful theoretical model in helping to understand and explain user behavior in information system implementation". Many researchers, however conducted numerous researches of TAM model for example, according to (Velicia-Martin et al., 2021; Xu et al., 2021; Thomas-Francois & Somogyi, 2022) the researchers asserted that TAM has been applied in the context of online consumer behavior and received empirical support via numerous studies. TAM was chosen as the appropriate model and was extended to include other factors such as perceived ease of accessibility of the mobile banking services, perceived low cost of the mobile banking services, perceived need, perceived security, perceived support from the mobile services provider and from the government, perceived satisfaction and actual usage of the mobile banking (Simiyu & Oloko, 2015).

Mobile Banking has rapidly become a vital driver of economic growth owing to the numbers of transactions, positions of indirect employment, and direct revenue that it generates (GSMA UK 2017). According to The Economist, in Kenya, the country in which Mobile Money has flourished more than in any other such as (Jacob N. M., 2014; Minkoua Nzie et al., 2018; Chandran et al., 2021), there are more active Mobile Money accounts than adults in the population. According to the Central Bank of Kenya, the total value of transactions during 2017 was of the order of $57 billion, almost three-quarters of the GDP of the country, from $24 billion in 2013.

The surge for the platform is not unique to Kenya, although it highlights one of the success stories. It has been suggested that more people have registered Mobile Banking accounts than bank accounts in Kenya. The dramatic proliferation of Mobile Banking accounts was made possible only by the swift formulation and implementation of regulations that are conducive to enabling people to use the system and the formation of sound partnerships among relevant stakeholders.

Various considerations need to be considered in order to apply a theoretical framework and researchers need to be acutely aware of the multiple limitations which are inherent in endeavoring to do so. Maruping, Bala, Ventakesh, and Brown (2016) maintained that to obtain a proper understanding of the factors which promote increased use of IT, it is necessary to have a comprehensive theoretical and practical knowledge of the frameworks and models by means of which the use of IT is investigated.

One of the limitations of the TAM concerns the variable which pertains to the behavior of users, which is inevitably evaluated through subjective means such as behavioral intention (BI) such as interpersonal influence. Although it may be true in theory or for personal use of technology, the

conceptualization may not be plausible or accurate in a work environment. Accordingly, Maruping, Bala, Ventakesh, and Brown (2006) proposed that behavioral expectations should be used to predict the intentions of employees about the use of technology, rather than behavioral intention used by TAM.

The Technological Acceptance Model (TAM) and mobile banking adoption are related in that TAM provides a theoretical framework for understanding and predicting the factors that influence the adoption of mobile banking services. TAM suggests that the adoption of new technologies, such as mobile banking, is influenced by two primary factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which users believe that mobile banking was improve their banking experience, while perceived ease of use refers to the ease with which users can learn and use the mobile banking service.

In the context of mobile banking adoption, TAM suggests that users are more likely to adopt mobile banking services if they perceive them to be useful and easy to use. For example, if users believe that mobile banking provides a more convenient way to access their accounts or perform transactions, they are more likely to adopt it. Similarly, if users find mobile banking to be easy to use and navigate, they are more likely to adopt it. Overall, TAM can help financial institutions and mobile banking providers understand the factors that influence mobile banking adoption and develop strategies to promote its adoption. By focusing on perceived usefulness and ease of use, providers can design mobile banking services that better meet the needs and preferences of users, leading to increased adoption and usage.

In the context of mobile banking service accessibility, the TAM can provide insights into users' acceptance and adoption of mobile banking services. The TAM suggests that users' perceptions of the usefulness and ease of use of mobile banking influence their intention to adopt and use these services. This, in turn, can impact their access to and utilization of mobile banking services. The TAM suggests that positive perceptions of usefulness and ease of use lead to a higher intention to adopt and use technology, which, in the case of mobile banking, translates into increased access to mobile banking services. Users who perceive mobile banking as useful and easy to use are more likely to actively seek access to these services and utilize them for their banking needs.

The Technological Acceptance Model (TAM) and Technological Efficiency are two distinct concepts related to the adoption and utilization of technology. The Technological Acceptance Model (TAM) is a theoretical framework developed to understand and explain users' acceptance and adoption of new technologies. It focuses on users' perceptions of the technology's usefulness and ease of use as key determinants of their intention to use and actual usage behaviour. TAM suggests that users are more likely to accept and adopt a technology if they perceive it as useful and easy to use. On the other hand, Technological Efficiency refers to the effectiveness and productivity achieved through the use of technology. It emphasizes the ability of technology to streamline processes, improve performance, and achieve desired outcomes efficiently. Technological Efficiency is often associated with the effectiveness of technology in achieving specific goals, enhancing productivity, reducing costs, and optimizing operations.

2.3 Empirical Literature

2.3.1 Mobile Banking Service Costs

It has been argued that technology innovations have the capacity to reduce costs, increase efficiency value addition to existing clients as well as reach the unreached or unbanked populations (AT1SG. 2019). Sayid (2018), studied the effects of mobile service costs on the financial performance of Small and Medium Enterprises (SMEs) in Mogadishu, Somalia. The results of the study revealed that mobile money service costs positively affected financial performance of Small and Medium Enterprises (SMEs) in Mogadishu, Somalia.

According to Kigen (2011), service costs is the total explicit and implicit costs of participants in financial transactions. Both lenders and borrowers incur service costs. According to the bank supervision report (CBK. 2019) service cost of doing business for banking institutions ultimately affect the lending rates. However, the access through Innovation subgroup of the G20 Financial Inclusion expert group-ATISG (2010) report contents that technology innovations have the capacity to reduce costs, increase efficiency as well as reach the unreached or unbanked populations.

In a study by Iravonga & Mironga, (2018) sought to establish how mobile banking has affected the financial performance of SMEs in Kakamega County. The research was conducted as exploratory research. The target population of study for the research comprised of the SMEs that provide financial services within the Kakamega County. They used a sample size of 373 SMEs and Semi-structured questionnaires to collect information from SMEs entrepreneurs. The data from the completed questionnaires were cleaned, coded and entered into the computer using the

statistical package for social sciences (SPSS) for Windows analysis. The findings revealed that SMEs used mobile banking services to send and receive money, check account balance, knowing when to deposit or withdrawal from their bank account. Dominic Mugambi (2015) studied the acceptance of mobile payment in the tour operator sector of Kenya. The study was anchored on technology acceptance model (TAM) as reinforced by the theory of reasoned action (TRA).

2.3.2 Financial Performance

Financial performance is the achievement of the company's financial performance for a certain period covering the collection and allocation of finance measured by capital adequacy, liquidity, solvency, efficiency, leverage and profitability (IAI, 2016). Financial performance is the company's ability to manage and control its own resources. Cash flow, balance sheet, profit-loss, capital change can be the basis of information for corporate managers to make decisions (Didin, 2017).

The broad concept of financial management incorporates basically all financial decisions within all functional areas of the firm (Patrick et.al, 2019). Financial management decisions generally concern the acquisition, management, and financing of the resources that generate cash flows and affect the wealth of the firm. Overall, whether the decisions regard acquisition, management, or financing, they range from active to passive. The idea is to obtain the best long-term benefits from the allocation of the firm’s scarce resources. In this sense the decisions are forward looking. At the same time, decisions, plans, and policies need to be followed up; so, in this sense the decisions are more historically oriented. In sum, the idea is to ensure that financial objectives are pursued at all times (Lars, 2010).

The evaluation of small-companies performance includes financial and non-financial indicators of companies. The main source of information about financial indicators of business activities is the financial statements of a company; basing on them there is performed the evaluation of the company's business activities and financial status (Anthony et.al, 2019). The evaluation of small companies' business performance and financial status have a significant role in making financial managerial decisions, as it help assessing the risks and potential benefits planning the perspective performance of the company. Through Financial indicators one can use it as the main criteria for evaluation of business performance (Deng et.al, 2020).

2.3.3 Mobile Banking Service Adoption

Mobile Banking Service adoption has helped businesses streamline their operations in line with new technologies in Kenya. A study by Muchai (2019), on the effect of mobile banking adoption on the performance of small and medium enterprises in Nairobi County, revealed that ease of use, cost effectiveness; security of the service, accessibility and diversity has enabled SMEs to continue to use mobile banking services.

Mobile banking services adoption are valued by users because of the inherent time and place independence, and the overall effort-saving qualities (Suoranta, 2013). More generally, security and convenience have been suggested as the key drivers for the growth of mobile commerce (Jarvenpaa et.al, 2018). Personal mobile devices are effective in identifying the payer and confirming the transaction. Despite the claims of insecurity (Herzberg, 2017), the users seem to be willing to use quite simple mechanisms, for example MSISDN (the user's mobile telephone number) and PIN (personal identification number) for authorizing mobile micropayments. Mobile banking adoption positively influences SME spar for mince in the county of Nairobi. The study

recommended SMEs to adopt m-banking services in their organizations. In this way the organization was be adopting the changing technologies so that to remain competitive(Muchiri, 2019).

2.3.4 Mobile Banking Service Accessibility

The fast advancement of communications, mobile technologies, and the proliferation of smart devices has increased the importance of mobile banking services for banks, financial institutions, and users. In developing countries, especially in Africa, mobile banking plays` a strong role, providing a way to overcome financial exclusion and physical distance by allowing local population to conduct financial transactions. Acceptance studies in this region are scarce, leaving us an almost unexplored area of research(Baptista & Oliveira, 2015; Khan, 2022).

Mobile banking service access refers to the extent to which individuals or businesses choose to adopt and use mobile banking services for their financial transactions and banking needs. It involves the process of accepting and integrating mobile banking technology into one's financial routine. Several factors can influence the adoption of mobile banking services, including perceived usefulness, ease of use, security concerns, trust in technology, and demographic characteristics. In a study by Zhang et al. (2017), researchers examined the factors influencing mobile banking adoption among individuals. The findings revealed that perceived usefulness, ease of use, trust, and perceived risk were significant factors influencing individuals' adoption decisions. Additionally, demographic factors such as age, education, and income were found to influence adoption intentions.

In a study by Lin et al. (2018), researchers focused on SMEs and their adoption of mobile banking services. The study identified factors such as perceived usefulness, compatibility with existing systems, security, and trust as crucial determinants of mobile banking adoption among SMEs. The findings emphasized the importance of addressing the specific needs and concerns of SMEs in promoting adoption. Consequently, Chong and Chen (2019) conducted a study on the adoption of mobile banking services in a developing country context. The study revealed that factors such as perceived usefulness, ease of use, social influence, and perceived risk significantly influenced the adoption of mobile banking services among individuals. The findings highlighted the importance of considering social and contextual factors in driving adoption.

Empirical studies examining mobile banking service access have provided insights into various factors that influence the accessibility of these services. Mansi, M., et al. (2016), on "Factors affecting the adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust." investigated the factors influencing mobile banking adoption in Jordan. It found that factors such as perceived usefulness, perceived ease of use, social influence, and trust significantly influenced the accessibility of mobile banking services. Trust emerged as a crucial factor affecting customers' willingness to adopt mobile banking.

Karjaluoto, H., et al. (2015), on "Mobile banking in Finland: A case study of users' experiences.", explored users' experiences with mobile banking in Finland. It revealed that factors such as ease of access, user-friendliness of the mobile banking application, and reliability of the service influenced the accessibility of mobile banking for users. Additionally, the study highlighted the importance of clear and straightforward instructions to enhance accessibility. Consequently, Liao, Z., et al. (2019) on "Mobile banking adoption in Vietnam: An empirical analysis based on the

UTAUT2 framework." examined mobile banking adoption in Vietnam and identified various factors influencing service accessibility. It found that performance expectancy, effort expectancy, social influence, and facilitating conditions significantly affected users' intention to adopt mobile banking. Service availability and network coverage were also highlighted as important considerations for mobile banking accessibility.

Aboelmaged, M. G. (2012) on "Predicting mobile banking adoption: A meta-analytic structural equation modeling approach." investigated the factors influencing mobile banking adoption, including access-related factors. It found that perceived ease of use, perceived usefulness, and perceived accessibility significantly influenced users' intention to adopt mobile banking services. Perceived accessibility referred to users' perception of the ease of accessing and using mobile banking services. Malaquias, R. F., & Hwang, Y. (2014), on "Examining factors influencing intention to use mobile banking services." examined the factors influencing users' intention to use mobile banking services, including access-related factors. It found that convenience, which included factors like easy access to services, time-saving features, and availability of services, significantly influenced users' intention to adopt mobile banking.

These studies highlight the importance of factors such as perceived usefulness, ease of use, trust, user-friendliness, reliability, and service availability in determining the accessibility of mobile banking services. By considering these factors, mobile banking providers can enhance the accessibility and user experience of their services, ultimately encouraging greater adoption by users. It is worth noting that these findings are specific to the context of each study and may vary across different regions or populations. The studies highlight the importance of factors such as

perceived accessibility, convenience, and ease of use in shaping users' adoption and intention to use mobile banking services. Access-related factors play a crucial role in attracting users and promoting the adoption of mobile banking.

2.3.5 Technological Efficiency

Empirical studies examining technological efficiency in the context of mobile banking have focused on factors such as system reliability, transaction speed, user interface design, and service quality. Jun, M., et al. (2004), on "Factors influencing the adoption of Internet banking: An integration of TAM and TPB with perceived risk and perceived benefit." investigated the factors influencing the adoption of Internet banking, which can be applicable to mobile banking as well. It found that factors related to technological efficiency, such as system reliability and transaction speed, significantly influenced users' adoption and usage of online banking services. Liao, Z., & Cheung, M. T. (2002), study on "Internet-based e-banking and consumer attitudes: An empirical study." examined consumers' attitudes towards Internet-based e-banking, which can be relevant to mobile banking. It found that factors such as the user interface design, system reliability, and perceived service quality significantly influenced consumers' attitudes and intentions to use e-banking services.

Additionally, Yousafzai, S. Y., et al. (2009), study on "The adoption of mobile banking in Pakistan: The role of perceived risks and functional innovativeness." investigated the adoption of mobile banking services in Pakistan. It found that perceived system reliability and transaction speed were important factors influencing users' adoption of mobile banking. Users were more likely to adopt mobile banking if they perceived the technology to be efficient and reliable. Kuisma, T., et al. (2007), on "Mobile banking services: User requirements and preferences." examined user requirements and preferences for mobile banking services. It found that users valued efficient and

time-saving features such as quick transaction processing, easy navigation, and a user-friendly interface. Technological efficiency was an essential factor in users' satisfaction and adoption of mobile banking.

Ahmed. Y., et al. (2010), study on "An empirical analysis of mobile banking adoption in Malaysia." investigated the factors influencing the adoption of mobile banking services. It found that users' perceptions of technological efficiency, including system reliability, transaction security, and system response time, significantly influenced their intention to adopt mobile banking. Also, a study by Yu, C. S. (2012), on "Factors influencing individuals to adopt mobile banking: Empirical evidence from the UTAUT model." examined the factors influencing individuals' adoption of mobile banking services. It found that perceived technological efficiency, including factors like system reliability, responsiveness, and transaction security, significantly influenced users' intention to adopt mobile banking. These studies highlight the importance of technological efficiency in shaping users' perceptions and adoption of mobile banking services. Factors such as system reliability, transaction security, responsiveness, and ease of use are critical in ensuring a technologically efficient mobile banking experience.

2.4 Critiques of Existing Literature

Prevailing research have established that there exists quite a connotation between various factors that affect SMEs' financial performance. However, the experiential and theoretical literature reveals that the present studies on mobile banking services on institutions’ financial performance do not quite represent the developing effects of mobile banking services on the financial performance of SMEs in Kenya. A lot of studies on the effect of mobile banking services are actually more mainstream businesses and companies vice vie SMEs. A highly performing micro,

small and medium enterprises (MSMEs) industry plays a significant role in the country's economy, furthering the gross domestic product (GDP) through alleviating levels of destitution and advancing entrepreneurial practice. Thus, enhancing sustainable financial performance among MSMEs is fundamental.

Many commentators criticize the existing theories that explain technological and innovation influence the financial performance of businesses in that there is no accurate measurement in the current extremely adaptive corporate setting, firms and how they are forced to formulate new viable performances to match the speed of technological advancements as well as international contention along with their financial performance. Studies such as Kigen (2011) Iravon & Miroga (2018) Hani Mohamed (2019) and Geffin Muhandachi (2020) analysed the influence of mobile banking on transaction charges of finance organizations where they established that mobile banking had significantly minimized transaction expenses, promoted trade and well as improved their financial performance although the greatest impediment was that there was minimal study on a small customer base such as those of SMEs that had subscribed to mobile banking.

Consequently, using secondary data and a causal research design, Mwange (2013) stated that Mobile Banking had close to an impact on commercial banks' profitability in Kenya. Aduda and Kingoo (2012) looked into the relationship between the performance of commercial banks in Kenya measured in terms of profitability and internet banking. The two studies demonstrated that mobile banking strongly and significantly affects the performance of banks in Kenya. Nonetheless, it remained uncertain concerning the role played by particular mobile banking service facilities to credit performance of Micro-enterprises in Kenya. This indicates that there is limited study that clearly assesses the effects of mobile banking on SMEs' financial performance in Kenya.

2.5 Summary of literature review and research gap

From the study of the literature review theory and empirical literature, the study establishes the following research gaps that it intends to fill: -There is a lack of proactive and sustainable adoption of financial services innovations for new markets and gaining a competitive advantage through greater interactivity, cheaper transactions, and direct communication with partners and clients. Consequently, more research is needed to address the extent to which the adoption of mobile banking affects the financial performance of SMEs.

Accordingly, few significant researches have linked the adoption of mobile banking and the financial performance of SMEs particularly in Kenya however more research needs to be undertaken to establish the effect of mobile banking on the financial performance of SMEs in Kenya counties. Finally, there is a gap in empirical and transaction studies of the adoption of mobile banking and how it affects the financial performance of SMEs in counties. A summary of literature and research gaps is detailed in table 2.1.

Table 2.1: Summary of Literature and Research Gaps

Author	Study	Methodology	Findings	Research gaps	Addressing the research gap
Iravon & Miroga (2018)	Effect of mobile banking on the financial performance of small-scale and medium enterprises in Kakamega county	Exploratory research	-There was a significant relationship between the cost of mobile banking services and the financial performance of SMEs in Kakamega County.	❖ Failed to show the direction of the link between mobile banking services cost and SME's financial performance	❖ Demonstrate the direction of the link through the mediation of variables.

Hani Mohamed (2019)	Effect of mobile banking on the financial performance of commercial banks in Kenya	Descriptive research designs	-The study revealed that mobile banking access and the financial performance of commercial banks have a strong positive correlation	❖ Failed to show the direction of the link between mobile banking services accessibility and commercial banks' financial performance	❖ Show the direction of the link through the mediation of variables.
Geffin Muhandachi (2020)	Adoption of mobile banking and financial performance of micro small and medium enterprises in Bungoma county, Kenya	Descriptive study design	-Mobile payment had a positive and significant influence on the financial performance of MSMEs in Bungoma	❖ Failed to show the direction of the link between mobile banking user services and SME's financial performance	❖ Included mobile banking user services variable

2.6 Conceptual Framework

The conceptual framework is the researcher's conceptualization of the relationship between the variables under study. The study conceptualizes the relationship between mobile banking and financial performance of SMEs in Kajiado county.

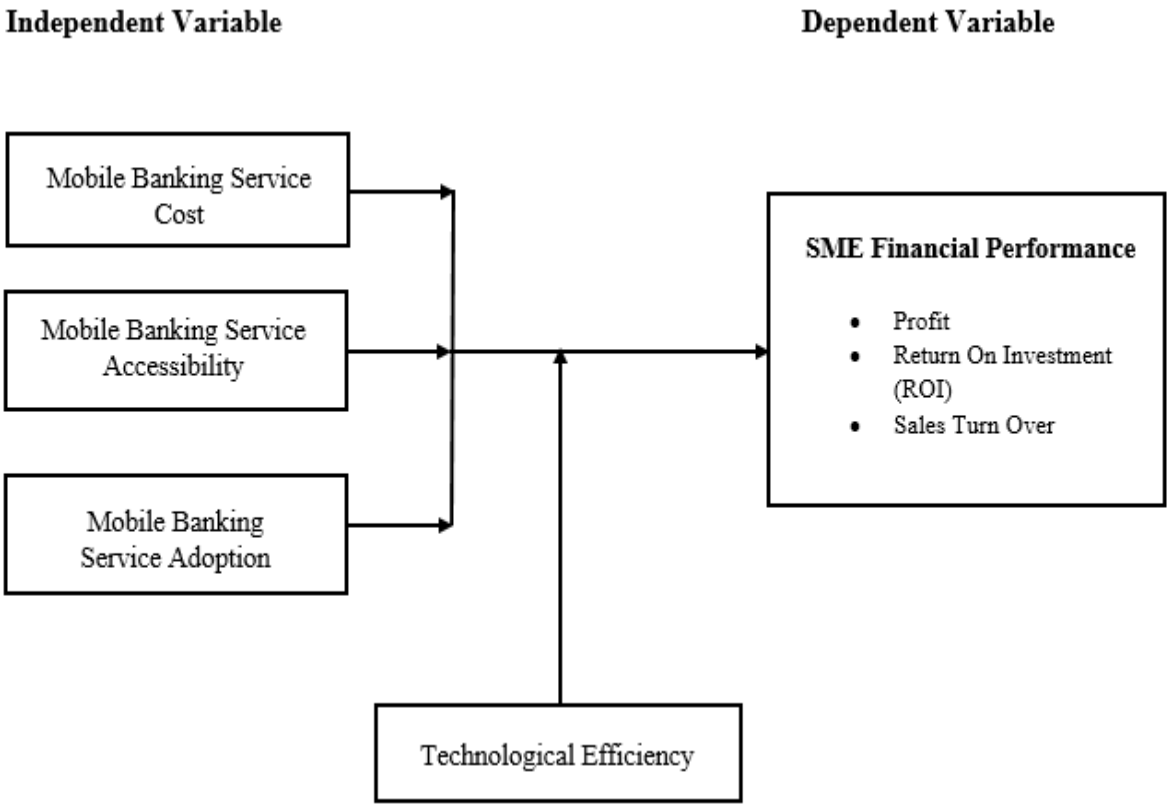


Figure 2.1: Conceptual Framework

From figure 1.1 above, SMEs Profits refers to income from business activity minus the expenses or operations costs. Profit growth may come from improved business performance due to access to financial services – banking, loans, receipts and payment – through mobile banking services. SMEs using mobile banking services make savings related to operation costs and transportation –

courier services, resulting in improved business efficiency. Literature indicates that use of mobile banking services contributes to increase on revenue of SMEs.

Return on Investment (ROI) is a ratio between Net Income and Investment (cost resulting from an investment of some resource at a point in time). A high ROI means the investment gains compare favorably to its costs. As a performance measure, ROI is used to evaluate the efficiency of an investment. It is one way of relating profits to Capital Invested.

Sales volumes refers to the number of units sold over a particular period of time. Under mobile banking SMEs are able to make more sales since most clients are able to pay for the goods and services via Mpesa which is fast and convenient. SMEs can place orders, pay for them and have them supplied without necessarily having to close business to go to the bank to withdraw cash. This creates additional time for SMEs owners to carry out their business. They are also able to sell their products online without necessarily having the customer come to the shop. Once the customer makes payment for the goods they are delivered.

Mobile banking service costs (operation and transport costs) as refers to the study, as being the total explicit and implicit costs of participants in mobile banking financial transactions and is a key indicator for SMEs in decisions to adopt new technology. The cost of a payment transaction has a direct effect on consumer adoption if the cost is passed to consumers. According to Innovation subgroup of the G20 Financial Inclusion expert group-ATISG (2019) report contents that technology innovations have the capacity to reduce costs, increase efficiency as well as reach the unreached or unbanked populations.

Mobile banking services adoption refers to the use of a mobile device to carry out financial transactions. The services are provided by the financial institutions via mobile applications

installed by the user. Mobile banking enables clients and users to carry out various transactions, which may vary depending on the institution. To the study, the mobile banking services adoption refers to the means of having banking services through mobile phones which SMEs make it possible to access various banking services and the touch of the mobile device application. Services that include and not limited to paycheck that are directly deposited into account or funds can be scheduled to automatically transfer from one checking to another account. Making loan payments, and avoiding late fees by scheduling all of loan payments before the due date.

Mobile banking services accessibility, refers to the Services offered through the mobile channel where mobility has emerged as an important concept. Ubiquity forms the core value proposition offered by mobile services. Accessibility is defined as the ability to use banking services regardless of location. The proliferation of hand-held devices and availability of network services has led to the reconfiguration of cognition about service accessibility. SMEs are no longer satisfied with provision of services, but demand that accessibility should no longer be constraints by their physical location. Table 2.1 below summarizes the operationalization of the independent variables for the study.

Table 2.2: Table showing the Operationalization of Variables

Variable	Objective	Indicators	Measurement Scale
Mobile Banking Service Costs	To determine the effects of mobile banking service costs on financial performance of SMEs in Kajiado County.	Use of till numbers to receive cash from customers and use of Pay-bill numbers to make payments to suppliers	Numerical
Mobile Banking Service Accessibility	To assess the effect of mobile banking services accessibility on financial	The dimensions of financial inclusion in terms of access, usage and quality of financial service.	Nominal/Ordinal

	performance of SMEs in Kajiado County.		
Mobile Banking Service Adoption	To assess the effect of mobile banking service adoption on financial performance of SMEs in Kajiado County.	The numbers of SMEs that conduct their business using mobile money. The number of transactions done per day.	Numerical
Technological Efficiency	(iv) To determine the moderating effect of technological efficiency on the relationship between Mobile banking and financial performance of SMEs in Kajiado County, Kenya.	These indicators that collectively reflect the technological efficiency of mobile banking systems and contribute to a seamless and effective user experience such as Response Time, Uptime and Availability, Transaction Processing Speed.	Numerical/Ordinal

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research design and methodology that was be followed in conducting this study. It describes the research design, population of the study, sample size, sample frame, data collection methods and data analysis and presentation of the research findings.

3.2 Research Design

Dannels (2018) defines research design as the plan and structure of investigation so conceived so as to obtain answers to research questions. The plan is the overall program of the research and includes an outline of what the investigator was done from writing of the hypothesis and their operational implications for the final analysis of data. This study Explanatory Research Design in determining the relationship between the variables.

Explanatory research design, has a broader objective of explaining or understanding the relationship between variables, including causal relationships. It aims to identify and explore the factors or mechanisms that contribute to the observed relationship between the independent and dependent variables. Explanatory research design involves both quantitative and qualitative research methods, including surveys, interviews, observations, or statistical analyses. While it seeks to provide explanations for the relationship between variables.(Sahin, 2021). The design helped probe specific aspects of study variables by collecting the information of a set of parameters known beforehand that are desirable to collect data about.

3.3 Target Population of the Study

A population is the collection of all possible observations about which the study was made inferences(Scheiber, 2014; Dahabreh et al., 2020). It is a group of individuals taken from the

general population who share a common characteristic. This study targeted the entire fifty-eight (58) SMEs operating in Kajiado County as licensed by County Government of Kajiado. Consequently, the study targeted the business owners because they are directly involved in the finance activities in their respective businesses (Appendix III).

3.4 Sampling Frame and Techniques

The sampling frame describes the list of all population units from which the sample was selected (Mohd Ishak & Abu Bakar, 2014; Taherdoost, 2018). This research applied census technique for its sampling frame. A census method is that process of the statistical list where all members of a population are analyzed. The population relates to the set of all observations under concern. For a census, the frame consists of a list of all the fifty- eight (58) SMEs respondent Business owners to be surveyed. It therefore involves a complete enumeration of the target population from which the sample is selected.

According to Krosnick (2018) In a census, data are collected through complete enumeration, hence the sample size is equal to the population size. This method is reliable and accurate as it provides intensive and in-depth information covering many facets of the problems. A census thus eliminates sampling error and provides data on all the individuals in the population (Dahabreh et al., 2020). The samples taken was be considered adequate as they consider the objectives, purpose and variables of the study.

3.5 Data collection and methods

3.5.1 Primary Data

The primary data was collected by structured questionnaires that captured the specific objectives of the research. The questionnaires were adopted from a similar research done in Bungoma (Geffin Muhandachi,2020)

3.6 Data Collection Instruments

Questionnaires were used for data collection. A questionnaire is a potent tool that can capture valuable data from the targeted population(Krosnick, 2018). Questionnaires in this study was appropriate in collecting data from the sample population and upholding confidentiality. They were prepared in the form of the Likert-scale type (showing respondents' agreement or disagreement) by constructing into five-point scale where the lowest scale represented strongly disagree and the highest scale represented strongly agree (Likert, 1932).

The questionnaires were organized into two parts; the first part comprised the demographic question on the respondents, and the second part contained items relating to the variables, both the independent variable and the dependent variable on the determinants of effective fraud management. The data collected was both qualitative and quantitative, and included the respondents' opinions on specified research objectives of the study.

3.7 Pilot Study

Pilot study helped to identify possible problems and assists the researcher to revise the instruments before the actual study to prove the effectiveness of the instruments for the study. The questionnaires were designed on the basis of the objectives of the study and pretested, to ascertain their suitability, before the final submission to the selected respondents. The questionnaires were piloted with a purpose to detect any error in the research instruments this was carried out at 6 Selected SMEs (10% of the Target 58 licensed SMEs) within Machakos County. The sample was purposely selected as it has similar characteristics as the target population for the study.

3.7.1 Validity of the research instruments

Validity is the degree to which the empirical measure or several measures of the concept accurately measure the concept(Mohamad et al., 2015). It is the extent to which an instrument measures what

it is set to measure(Clark & Watson, 2019). The data collection tools were constructed in close consultation with university supervisors for their expert opinion and later piloted to ensure validity.

3.7.2 Reliability

Reliability concerns the degree to which a particular measuring procedure gives similar results of a number of repeated trails(Mohamad et al., 2015). Reliability of the instruments was ascertained using the Cronbach's coefficient alpha (Cronbach, 1951) for testing the internal consistency of the scales that was be used in measuring the variables. A reliability co-efficient of 0.70 is acceptable to conclude that the instrument is reliable as a data collection tool. The research used 6 (10% of the target population) respondents in testing reliability of the questionnaire. These findings were used to fine-tune and ensure the efficacy of the questionnaire for collecting reliable data prior to the actual study to enable the generalize-ability of the study findings.

3.8 Data Processing and Analysis

According to Bryman and Bell (2014) data analysis refers to a technique used to make inferences from data collected through systematic and objective identification of specific characteristics. Both descriptive and inferential statistics were adopted for the study by the use of SPSS version 27. The quantitative data was analyzed by using descriptive statistics which include frequency distribution tables and measures of central tendency (the mean), measures of variability (standard deviation), and measures of relative frequencies. The inferential statistics included a regression model that establishes the relationship between variables.

This study adopted a simple linear and multiple regression analysis that helped to establish the relationship between the variables under study and also helped in the testing of the hypothesis. Another analysis done was Pearson's correlation analysis to establish the relationship and strength between these variables. A co-coefficient r and a magnitude indicated the strength and direction

of the relationships. r values of between +0.10< r<0.29 was a weak correlation, 0.30< r<0.49 was a moderate correlation, and +0.5< r< 1 was a strong relationship according to Sahu (2013).

Analysis was done to test the significance of the model by the use of Analysis of variance (ANOVA) and R2 was used to measure the extent of the goodness of fit of the regression model. effect of mobile banking on financial performance of small & medium-sized enterprises, the study adopted a linear regression model and Pearson correlation. The Pearson correlation tested the strength of the relationship while the regression analysis established the form of relationship between the independent and dependent variable as follows: -

The following regression equation was used;

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_i}$$

Where: -

Y	-	Financial Performance
X_1	-	Mobile Banking Service Costs,
X_2	-	Mobile Banking Service Accessibility,
X_3	-	Mobile Banking Service Adoption.
X_4	-	Technological efficiency
β_0	-	Is a constant, representing the SMEs Performance activities when every independent variable is zero.
β_1.... B_4	-	Are the coefficients, in which every marginal change in variables/determinants affects SMEs Performance correspondingly.
ε_i	-	The error term or Noise

A moderator is a variable that affects the direction and the strength of the relationship between an independent or predictor variable and a dependent criterion variable. This variable may reduce or enhance the direction of the relationship between a predictor variable and a dependent variable, or

it may change the direction of the relationship between the two variables from positive to negative. A moderator is supported if the interaction of the predictor and moderator on the outcome of the dependent variable is significant. The study used multiple regressions analysis (stepwise method) to establish the moderating role of the constitution (z) on the relationship between the independent variable (decentralization) and the dependent variable (SMEs Performance).

3.9 Diagnostic Tests

Diagnostic tests conducted in this study addressed the different bias forms that happened in research targeting to evaluate the estimates' accuracy. The study undertook the following diagnostic tests.

3.9.1 Testing for Autocorrelation

The Durbin-Watson (d) statistic was used to test if the error terms were serially related. As a rough rule of thumb, if Durbin–Watson is less than 1.0, there may be a cause for alarm. Small values indicating successive error terms are, on average, close in value to one another, or positively correlated. To test for significant non-autocorrelation, the Durbin-Watson statistic was computed and compared to the values from the Durbin-Watson tables at a 0.05 level of significance. Violation of the auto-correlation is attributed to a Durbin-Watson statistic less than the lower tabulated limit. The assumption is however not violated if the calculated Durbin-Watson statistic is greater than the upper tabulated limit (Kultar,2007).

3.9.3 Multi Collinearity Test

Multicollinearity refers to high correlations between explanatory variables. Bryman (2011), holds that multicollinearity is not a significant problem in econometric estimation in the sense that it does not violate any assumptions. However, it can cause standard errors to be very large and hence the need to investigate whether some explanatory variables may be insignificant due to the presence of high multicollinearity. This study employed variance inflation factor (VIF) to test for

multicollinearity, a test that was used to assess the composition of an explanatory variable's standard error caused by its correlation with other explanatory variables. Values of correlation coefficient greater than 0.8 were used as an indicator of the presence of multicollinearity problems in this study.

3.9.4 Normality Test

Normality testing is used to link scores in the sample to a normally distributed set of scores with the same mean and standard deviation (Ghasemi & Zahediasl, 2012). Normality testing was significant to this study as it assisted the researcher to identify the shape of the distribution and help to predict variable scores. The test also determined if the data was well modelled and normally distributed for the results to be generalized. Normality was tested using the Shapiro-Wilk Test which is a regression and correlation test. According to the Shapiro-Wilk test if the significant value is less than 0.05 the data is normally distributed and the value should lie between 0 and 1, small values lead to the rejection of normality while a value of 1 indicates normality of the data (Yap & Sim, 2011). Normality testing associates the scores in the sample to a normally distributed set of scores with the same mean and standard deviation.

3.9.5 Linearity Test

The study undertook a test of linearity, using Correlation analysis, to establish whether further analysis would yield desired relationships. Kothari (2016) notes that correlation analysis is useful as it could indicate a predictive relationship between variables that can further be explored using other statistical tools. The study relied on the most common measure of correlation; the Pearson Product Moment Correlation Coefficient, **r**. According to Cooper and Schindler (2006) a correlation coefficient, **r =0**, indicates that variables are independent; while a correlation coefficient, **r =1**, indicates a strong relationship between the variables. This relationship could; be

positive (+), indicating a direct linear relationship or negative (-), indicating an inverse relationship, between variables (Kothari, 2016).

3.10 Hypotheses Testing

The research hypotheses were tested using the *p*-value approach at 95% confidence level based on regression analysis. The decision rules are that the null hypothesis should be rejected if the calculated *p*-value is less than the significant level (0.05); and accepted if the calculated *p*-value is greater than the significance level (0.05). The significance of the independent variables was tested using F test and *p*-value approaches. The decision rules are to reject the null hypotheses that the effect of independent variable(s) is insignificant if the computed F value exceeds the critical F value or if the *p*-value will be less than the critical value of 0.05 (Brace, Kemp & Snelgar, 2012)

Table 3.1: Test of Hypothesis

Hypothesis	Type of Analysis	Interpretation of Results
H_{01}: The cost of mobile banking services has no effect on the financial performance of SMEs in Kajiado County, Kenya.	Correlation analysis Univariate regression analysis	For $p < 0.05$, H0 to be rejected; and HA accepted
H_{02}: The accessibility of mobile banking services has no significant effect on the financial performance of SMEs in Kajiado County, Kenya	Correlation analysis Univariate regression analysis	For $p < 0.05$, H0 to be rejected; and HA accepted
H_{03}: The level of mobile banking adoption by SMEs in Kajiado County, Kenya has no significant effect on their financial performance.	Correlation analysis Univariate regression analysis	For $p < 0.05$, H0 to be rejected; and HA accepted
H_{04}: The moderating effect of technological efficiency has no significant effect on the relationship between mobile banking and	Correlation analysis Univariate regression analysis	For $p < 0.05$, H0 to be rejected; and HA accepted

financial performance of SMEs in Kajiado County, Kenya

3.12 Ethical Considerations

Ethics is a branch of philosophy that deals with the conduct of people and guides the norms or standards of behavior of people and relationships with each other (Blumberg et al, 2005). The following ethical considerations guided the study: equitable selection of subjects; individuals were made to understand the nature of the study and possible implications, confidentiality and anonymity of the respondents. UMMA university post graduate's department together with the research project supervisors was involved in ensuring established ethics are followed.

CHAPTER FOUR

RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the results and findings of a study conducted to investigate the effect of mobile banking on the financial performance of SMEs in Kajiado County. The study aimed to explore the factors that influence the adoption of mobile banking by SMEs and to determine the impact of mobile banking on the financial performance of SMEs.

4.2 Response Rate

As mentioned in the section 3.5, the questionnaire was spread to the targeted respondents (SMEs employees) for two weeks. After twelve days, the total responses received were 58, an equivalent of 100% response rate. The total 58 responses make the result accurate. Therefore, it was deemed adequate enough to pre- qualify the analysis of the rest of the data and present the findings thereafter. According to Babbie (2016), response rate refers to "the proportion of people in the sample who actually complete the questionnaire and return it to the researcher" (p. 219). Response rate is a critical aspect of survey research as it directly affects the representativeness of the sample and the generalizability of the results (Groves et al., 2014).

Table 4. 1.
Response Rate

Responses	No.	Percentages
Administered questionnaires	58	100%
Returned	58	100%
Usable questionnaires	57	98.3%

Source: Research Data (2023)

4.3 Data Screening and Cleaning

The data screening and cleaning process normally involves an inspection of the collected data and correction (or removal) of any errors that potentially can cause substantial impacts on the analysis results (Osborne, 2013). It often includes an examination of missing values, identification of substantial errors, management of raw data for an appropriate use of the analysis and assessment of normality and outliers (Tabachnick & Fidell, 2014).

4.4 Demographic Information

This section contains demographic profile of the research respondents. The demographic variables presented are gender, age, education level, age of the firm, and the number of employees. Demographic findings such as age, gender, income, education level, and occupation play a critical role in research especially in social science research where it is used examine the relationships between demographic variables and research outcomes or behaviors. In practice, demographic characteristics of the respondents are important in assisting the researcher in the determination of the effectiveness of the respondent to answer the survey questions (Kotler et al., 2013). In the current study, demographic findings were expressed as percentages computed from the proportions of total frequencies.

The study put into account the gender of the respondents. From the results, 60.3% (34) of the respondents were male, 39.7% (23) of them were female and there was no transgender. The results indicate that there was no bias in terms of employment since male, female and transgender individuals were given a chance to share their knowledge and experience in the targeted manufacturing firms.

In terms of age, most 27.6% (16) of the respondents were within the bracket of 47 to 56 years, followed by 25.9% (15) which is 37 to 46 age brackets. Those who were between the age of 27 and 36 were 22.4% (13). The 5.2% (3) respondents were above 56 years, lastly, 19% (10) are above between 19 and 26 years. Overall, the bulk of the respondents are between 19 to 56 years of age.

Furthermore, most organizations use education as an indicator to know the qualifications of the employee in terms of skills or productivity (Benson, Finegold, & Mohrman, 2004). This study therefore, deemed it important to establish if the educational level of the respondents bearing in mind performance of SMEs in Kajiado county. From the results, 58.6% (33) of the respondents have a Bachelor degree, 12.1% (7) Diploma, 5.2% (3) of the respondents have Certificate level of education, 5.2% (3) have other qualifications and finally 19% (11) have O-level certificate. It is evident that the management possesses the requisite skills to perform their duties effectively.

The numbers of employees were also ascertained by the researcher. Basing on the findings, 50% (29) of the respondents stated that there are above 29, 15.52% (9) of them noted that there are below 10 employees while 34.48% (19) of them were of the opinion that there are more than 10 but less than 29 employees in the Small and medium enterprises.

The study further sought to find out the number of years the SMEs had been in operation. The study found out that the number of years; the SMEs have been in operation varied from one (1) year to 20 years. The findings indicated that, 25% (14) of the respondents noted that the firms have operated for a period of 1-5 years. The study further shows that 33% (19) of them noted that the SMEs firms have operated for a period ranging from 6 to 10 years, 29% (16) is between 11 to 15

years, and finally 16% (8) between 16 and 20 years. On average, the lion's share of SMEs firms has operated for 6 to 10 years.

Table 4. 2:
Demographic Information

		Frequency	**Percent**
Gender	Male	34	60.3
	Female	23	39.7
	Transgender	0	0
	Total	**57**	**100**
Age	Btwn 18-26	10	19.0
	Btwn 27 - 36	13	22.4
	Btwn 37- 46	15	25.9
	Btwn 47-56	16	27.6
	Above 56	3	5.2
	Total	**57**	**100**
Level of Education	O/ level	11	19
	Certificate	3	5.2
	Diploma	7	12.1
	Bachelor degree	33	58.6
	Other	3	5.2
	Total	**57**	**100**
No. of Employees	Below 10	9	15.5
	Btwn 11-29	19	34.5
	Above 29	29	50
	Total	**57**	**100**
Firm Age	Less than 5 yrs	14	25
	Btwn 6-10yrs	19	33
	Btwn 11-15yrs	16	29
	Btwn 16 -20yrs	8	16
	Above 20 yrs	0	0
	Total	**57**	**100**

Source: *Research Data (2023)*

4.5 Descriptive statistics

Running descriptive statistics enables the researcher to establish whether the statistical means were good fit of the observed data. The standard deviation values indicate how well the means represent the data (Field, 2017; Saunders et al., 2016). Skewness and Kurtosis indicate the normality of data.

Furthermore, carrying out descriptive analysis enables the researcher to identify out of bounds entries beyond the expected range.

The study sought to establish the views of the respondents regarding Mobile Banking Service Costs, Mobile Banking Service Accessibility, Mobile banking service adoption, Technological efficiency and Financial Performance of Small and Medium Enterprise setup. The responses from the respondents were subjected to five-point Likert scale where a scale of 5 means strongly agree and 1 means strongly disagree with the statements. The responses were summarized in the analysis to give the mean, standard deviation and the skewness and kurtosis measures. Skewness and kurtosis values within a range of -2 to +2 indicated normally distributed variables.

4.5.1 Mobile Banking Service Costs

The study sought to establish the effect of Mobile Banking Service Costs on financial performance of SMEs in Kajiado County. Table 4.3 below presents the mean, standard deviation and the skewness and kurtosis measures of Mobile Banking Service Costs and its impact on the financial performance of small and medium enterprises (SMEs) in Kajiado County. The table consists of 5 items about mobile banking service costs and its impact on SMEs' financial performance.

The study sought to determine whether the costs associated with mobile banking services are reasonable; (mean = 4.27, SD = 0.766) Overall, the majority of the respondents (65.5%) either agreed or strongly agreed that the costs associated with mobile banking services were reasonable.

The study also sought to know whether Mobile banking services help reduce transaction costs (mean = 4.18, SD = 0.827). Besides, Mobile banking services help SMEs save money on banking expenses (mean = 4.25, SD = 0.777). Almost three-fourths of the respondents (72.4%) either agreed or strongly agreed that mobile banking services help SMEs save money on banking

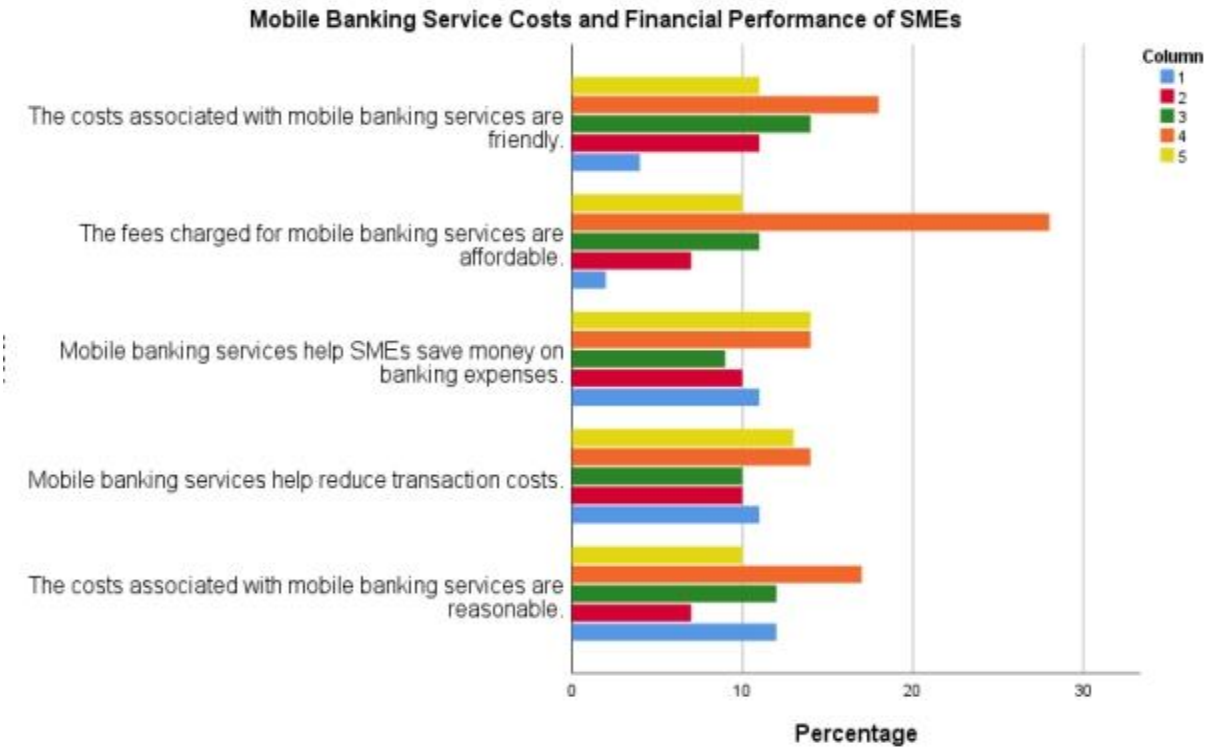
expenses. Further on the same, the fees charged for mobile banking services are affordable (mean = 4.22, SD = 0.801). On whether the costs associated with mobile banking services are friendly. (mean = 4.32, SD =0.86) In a nutshell, the findings on Mobile Banking Service Costs on financial performance of SMEs culminated a range of 0.766 to 0.866 and skewness and kurtosis suggested that normality of the data ranged from -1.96 to + 1.96 as indicated by the table 4.3 below.

Table 4. 3
Mobile Banking Service Costs

n=57	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
The costs associated with mobile banking services are reasonable.	1	5	4.27	0.766	-1.53	1.012
Mobile banking services help reduce transaction costs.	1	5	4.18	0.827	-1.581	1.826
Mobile banking services help SMEs save money on banking expenses.	1	5	4.25	0.777	-1.334	1.096
The fees charged for mobile banking services are affordable.	1	5	4.22	0.801	-1.437	1.446
The costs associated with mobile banking services are a barrier.	1	5	4.32	0.880	-1.826	1.074

Source: *Research Data (2023)*

Based on the table and responses provided, the majority of the respondents either agree or strongly agree that the costs associated with mobile banking services are reasonable (65.5%), help reduce transaction costs (72.4%), help SMEs save money on banking expenses (72.4%), and that the fees charged for mobile banking services are affordable (65.5%). However, there is more variation in responses for the statement "the costs associated with mobile banking services are a friendly", with 50% of respondents either agreeing or strongly agreeing, and 43.1% either disagreeing or strongly disagreeing. The following figure is a representation of the results.



Source: *Research Data (2023)*

The descriptive analysis of Table 4.3 above provides a useful overview of the perceptions of SMEs towards the costs and benefits of mobile banking services. The results can be used to inform further analysis and interpretation of the relationship between mobile banking and financial performance, as well as to identify areas where improvements in mobile banking services may be needed to better meet the needs of SMEs in Kajiado County. Overall, majority of the respondents in Kajiado county do not view mobile banking service costs as a significant factor to the financial performance of SMEs, and even see these services as beneficial in terms of reducing costs and helping SMEs save money.

4.5.2 Mobile Banking Service Accessibility

The section presents the findings related to effect of Mobile Banking Service Accessibility on financial performance of SMEs by discussing the descriptive findings. Table 4.4 provides the descriptive results of the variable, Mobile Banking Service Accessibility and its impact on the financial performance of small and medium enterprises (SMEs) in Kajiado County. The table consists of 10 statements about mobile banking service accessibility and its impact on SMEs' financial performance.

From the findings, Mobile banking services are easily accessible in Kajiado County (mean = 4.04, SD = 1.021), furthermore Mobile banking services are affordable for SMEs (mean = 3.82, SD = 1.066). Additionally, Mobile banking services are reliable in Kajiado County (mean = 4.04, SD = 0.953). Moreover, Mobile banking services have improved financial management in SMEs in Kajiado County (mean = 4.14, SD = 0.736) then, Mobile banking services have increased access to credit for SMEs (mean = 4.30, SD = 0.928). In addition, Mobile banking services have increased sales for SMEs (mean = 4.06, SD = 1.063). The Mobile banking services have improved cash flow management for SMEs (mean = 4.18, SD = 1.034)

Similarly, on Mobile banking services have improved customer service for SMEs (mean = 4.13, SD = .711), while Mobile banking services have reduced operating costs for SMEs (mean = 4.21, SD = .768). Lastly, on Mobile banking services have increased profitability for SMEs (mean = 4.35, SD = .7). In general, the mean response for Mobile Banking Service Accessibility was 4.1009, standard deviation 0.552, skewness -1.65 and Kurtosis 1.111

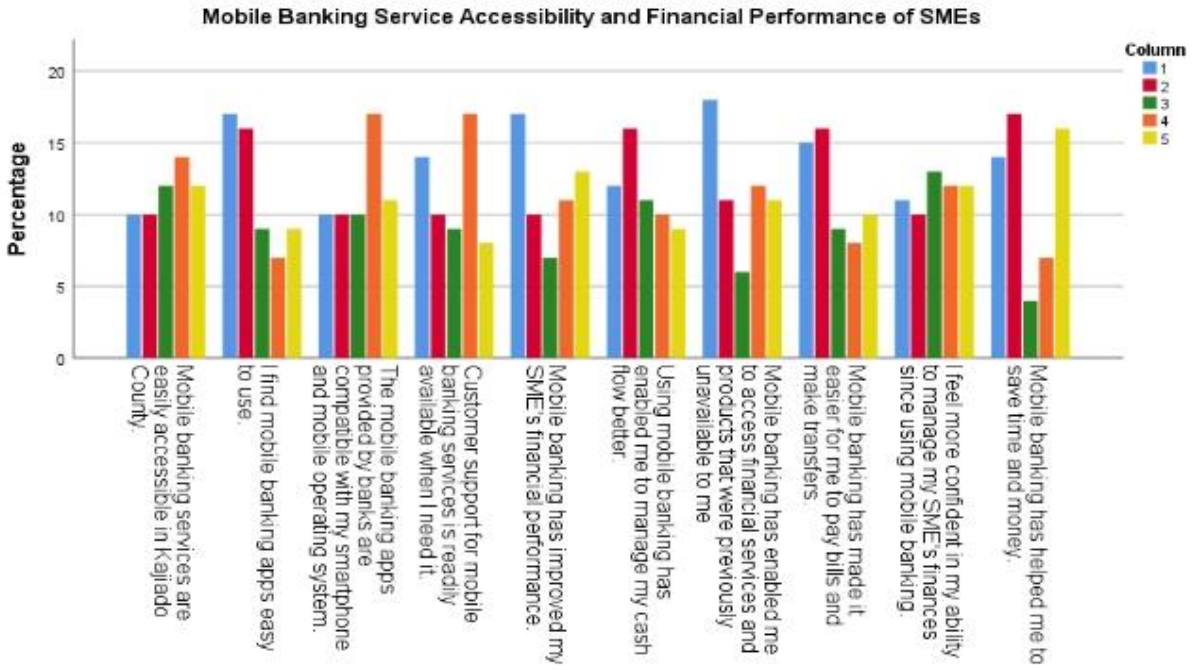
Table 4. 4

Mobile Banking Service Accessibility

Items	N	Mean	Std. Dev	Skewness	Kurtosis
Mobile banking services are easily accessible in Kajiado County.	442	4.04	1.021	-1.406	1.910
I find mobile banking apps easy to use.	442	3.82	1.066	-0.964	0.516
The mobile banking apps provided by banks are compatible with my smartphone and mobile operating system.	442	4.04	0.953	-1.041	0.969
Customer support for mobile banking services is readily available when I need it.	442	4.14	0.736	-1.161	1.716
Mobile banking has improved my SME's financial performance.	442	4.30	0.928	-1.734	1.116
Using mobile banking has enabled me to manage my cash flow better.	442	4.06	1.063	-1.244	1.010
Mobile banking has enabled me to access financial services and products that were previously unavailable to me.	442	4.18	1.034	-1.419	1.643
Mobile banking has made it easier for me to pay bills and make transfers.	442	4.13	0.711	-1.139	1.021
I feel more confident in my ability to manage my SME's finances since using mobile banking.	442	4.21	0.768	-1.274	1.608
Mobile banking has helped me to save time and money.	442	4.35	0.700	-0.801	0.172

Source: *Research Data (2023)*

Based on the responses from the target population of 57, the findings suggest that mobile banking services have a positive impact on the financial performance of SMEs in Kajiado County. Respondents generally agreed that mobile banking services are easily accessible, affordable, reliable, and have improved financial management, increased access to credit, increased sales, improved customer service, reduced operating costs, and increased profitability for SMEs. However, some statements received mixed responses or a relatively high percentage of neutral responses, indicating that there is room for improvement in certain areas. The following figure is a representation of the results.



Source: Research data, 2023.

Overall, the findings suggest that mobile banking services play a significant role in enhancing the financial performance of SMEs in Kajiado County. The descriptive statistics in Table 4.4 provide a snapshot of the distribution of responses to various statements related to mobile banking service accessibility and financial performance of SMEs in Kajiado County. By analyzing the frequency and percentage of responses across the different categories, researchers gained insights into the general attitudes and perceptions of SME owners towards mobile banking, which is useful in informing policies and strategies related to mobile banking adoption and usage.

4.5.3 Mobile banking service adoption

The study sought to establish the effect of mobile banking service adoption on financial performance of SMEs in Kajiado county. The table 4.5 below represents a Likert scale for Mobile banking service adoption on Financial Performance of SMEs. The table consists of eight statements related to the impact of mobile banking on the financial performance of small and

medium-sized enterprises (SMEs). The participants are asked to rate their level of agreement with each statement on a five-point scale, with 1 indicating "Strongly Disagree" and 5 indicating "Strongly Agree".

The first statement, resulted that Using mobile banking services has improved my SME's financial performance, (mean = 4.17, SD = 0.908). Secondly, Mobile banking has enabled me to make transactions faster and more efficiently, (mean = 4.44, SD = 0.742). Furthermore, Mobile banking has helped me to reduce transaction costs for my SME (mean = 4.3, SD = 0.701). Mobile banking has enabled me to access financial services and products that were previously unavailable to me, (mean = 4.21, SD = 0.817). In addition, using mobile banking services has helped me to improve my SME's cash flow management, (mean = 4.21, SD = 0.807).

The Mobile banking has enabled me to make more informed financial decisions for my SME, (mean = 4.17, SD = 0.883). Finally, using mobile banking services has improved my SME's access to credit and financing, (mean = 4.37, SD = 0.67). In addition, Mobile banking adoption and user services had a standard deviation ranging from 0.701 to 0.908 and skewness and kurtosis suggested that normality of the data ranged from -1.96 to + 1.96. as indicated by the table 4.5 below.

Table 4.5

Mobile banking service adoption

n=57	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
Using mobile banking services has improved my SME's financial performance.	1	5	4.17	0.908	-1.446	1.477
Mobile banking has enabled me to make transactions faster and more efficiently.	1	5	4.44	0.742	-2.214	1.684
Mobile banking has helped me to reduce transaction costs for my SME.	1	5	4.30	0.701	-1.084	1.548
Mobile banking has enabled me to access financial services and products that were previously unavailable to me.	1	5	4.21	0.817	-0.972	0.990
Using mobile banking services has helped me to improve my SME's cash flow management.	1	5	4.21	0.807	-1.151	1.974
Mobile banking has enabled me to make more informed financial decisions for my SME.	1	5	4.17	0.883	-1.466	1.728
Using mobile banking services has improved my SME's access to credit and financing.	1	5	4.37	0.767	-1.532	1.179

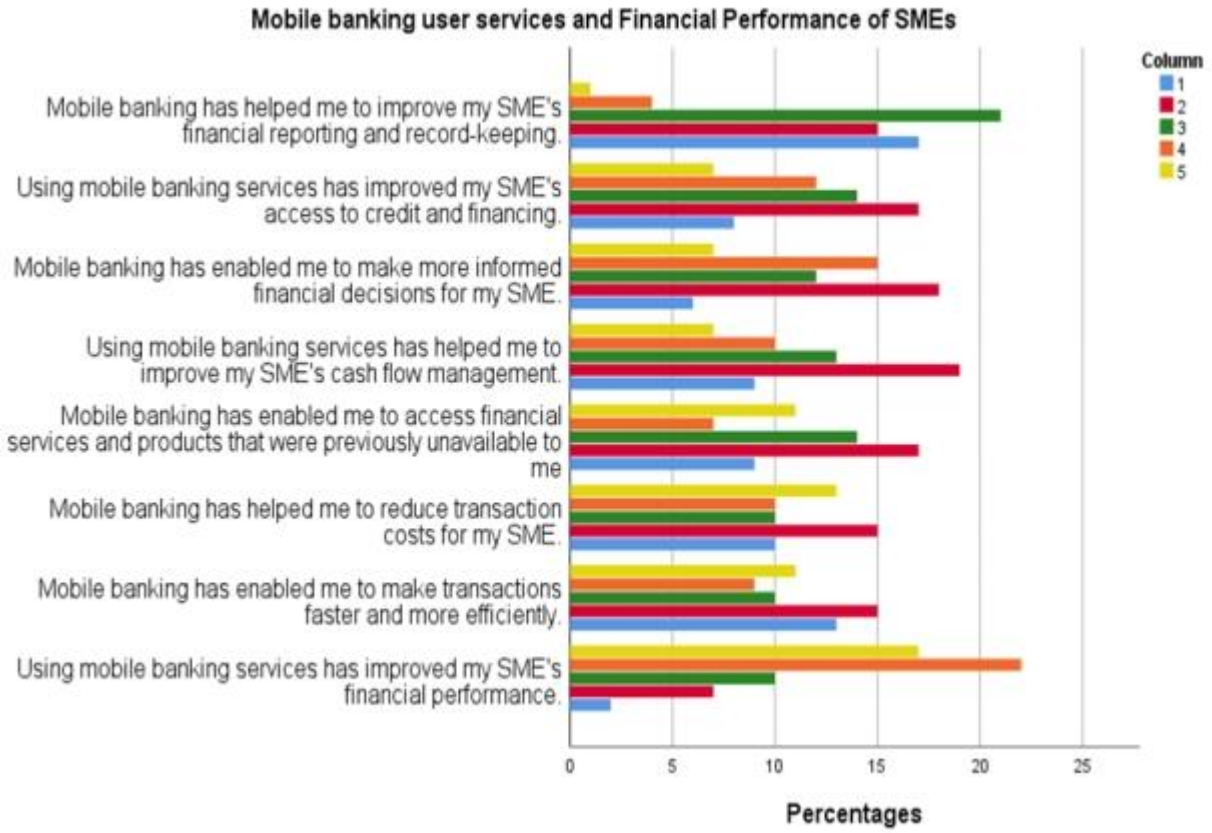
Source: *Research Data (2023)*

From the table above, the majority of participants had a positive view of the impact of mobile banking on SME financial performance. For example, for the statement "Using mobile banking services has improved my SME's financial performance", 68.97% of participants either agreed or strongly agreed, while only 13.79% either disagreed or strongly disagreed. This suggests that mobile banking is generally seen as a positive tool for enhancing SME financial performance.

Additionally, there were some areas where participants had more mixed views. For example, in relation to the statement "Mobile banking has enabled me to access financial services and products that were previously unavailable to me", 37.93% of participants either agreed or strongly agreed, while 20.69% were neutral and 24.14% either disagreed or strongly disagreed. This suggests that

while some SMEs have been able to access new financial services through mobile banking, there are still some barriers to entry.

It is worth noting that the number of participants who were neutral or did not have a strong opinion was relatively high for some statements. For example, for the statement "Using mobile banking services has helped me to improve my SME's cash flow management", 20.69% of participants were neutral. This may reflect the fact that some SMEs have not yet fully embraced mobile banking, or may not have had enough experience with it to form a strong opinion. The following figure is a representation of the results.



Source: Research data, 2023.

The descriptive statistics in Table 4.5 provide insights into the perceptions of SME owners about the impact of mobile banking on their financial performance. The frequencies and percentages of responses indicate the level of agreement or disagreement among respondents for each statement, and can be used to identify trends and patterns in the data. Overall, descriptive analysis of Table 4.5 provided a general understanding of the perceptions of SME owners regarding the impact of mobile banking services on their financial performance. The findings can be further analyzed and interpreted using statistical methods to examine the relationship between the use of mobile banking services and financial performance of SMEs.

4..5.4 Technological Efficiency

Technological Efficiency has been linked to the effect of mobile banking and flexibility when dealing with rapid changes in financial performance of SMEs (Lee, Lee, & Schniederjans 2011). The study therefore sought to establish the moderating effect of supply Technological Efficiency among the Small and Medium Enterprises in Kajiado County. Table 4.6 illustrates the results. As evidenced on the table below, our firm uses technological efficiency to run the business (mean = 4.3, SD = .597). Also, Mobile banking has enabled me to make transactions faster and more efficiently due to technological efficiency (mean = 4.24, SD = .71).

Further on the same, we have developed more ability to apply continuous improvement and customer focus concepts due to technological efficiency (mean = 4.42, SD = .595). Besides, our business keeps track of successful product and service ideas due to improved technology (mean = 4.29, SD = 0.737) and We have developed more ability to understand the interconnection of Mobile banking services with other disciplines as a result of technological efficiency (mean = 4.18, SD = .884). In addition, Technological efficiency has enabled me to make more informed financial decisions for my SME (mean = 4.23, SD = .634). In general, the summation of technological

efficiency had a mean of 4.3093 and standard deviation of 0.40589. The implication is that the SMEs have made efforts towards Technological efficiency.

Table 4.6:
Technological Efficiency

n=57	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
Our firm uses technological efficiency to run the business.	1	5	4.30	0.597	-1.188	1.930
Mobile banking has enabled me to make transactions faster and more efficiently due to technological efficiency.	1	5	4.24	0.710	-1.219	1.218
We have developed more ability to apply continuous improvement and customer focus concepts due to technological efficiency.	1	5	4.42	0.595	-.665	0.569
Our business keeps track of successful product and service ideas due to improved technology.	1	5	4.29	0.737	-1.547	1.568
We have developed more ability to understand the interconnection of Mobile banking services with other disciplines as a result of technological efficiency.	1	5	4.18	0.884	-1.442	1.825
Technological efficiency has enabled me to make more informed financial decisions for my SME.	1	5	4.23	0.634	-1.042	1.149

Source: *Research Data (2023)*

4.5.5 Financial Performance

Financial performance refers to the degree to which financial objectives have been accomplished over a specific period of time (Hayes, 2013). It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Tattichi *et al.*, 2010). The benefits made by firms through the utilization of assets are expected to be advantageous to the firms so long as the benefits

incurred supersede the costs. So long as such advantages are experienced, the existence of firms is assured. The results on financial performance are presented in Table 4.7. Basing on the findings, the financial returns of the SMEs investment meets the firm's expectations (mean= 4.19, SD=.832). There has also been a better rate of return which is equivalent or higher than the average return rate of the market (mean= 4.16, SD=.847). Besides, Investment decisions results for the last one year projected a positive financial performance (mean= 4.18, SD=.836).

In addition, the total profits received monthly in respect of goods sold, goods purchased and services rendered during the last one year is higher compared to other years (mean= 4.19, SD =.833). Further, the total capital expenditure over the last one year is low compared to previous year (mean= 4.27, SD .895), moreover, the firms meet the prevailing financial obligations as they fall due (mean 4.16,.883), and the firm makes more profits whenever invest in a new venture (mean= 4.17, SD= .853), financial performance culminated a mean of 4.19, standard deviation of .606, while skewness and kurtosis suggested that normality of the data for skewness ranged between -1.96 to + 1.96 and below 10 for kurtosis as indicated in Table 4.7.

A general guideline for skewness is that if the number is greater than +1.96 or lower than –1.96, this is an indication of a substantially skewed distribution. For kurtosis, the general guideline is that if the number is greater than +10, the distribution is too peaked. Likewise, a kurtosis of less than –10 indicates a distribution that is too flat. Distributions exhibiting skewness and/or kurtosis that exceed these guidelines are considered non-normal (Hair *et al*., 2017).

Table 4.7:
Financial Performance

N= 57	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
Our SME has achieved a satisfactory level of profit as a result of mobile banking.	1	5	4.19	.832	-1.577	3.652
The rate of return of our firm is equal to or higher than the average return rate of the market.	1	5	4.16	.847	-1.626	3.860
Our SME has achieved a satisfactory return on investment as a result of mobile banking	1	5	4.18	.836	-1.330	2.634
The total profits received monthly in respect of goods sold, goods purchased and services rendered during the last one year was higher compared to other years.	1	5	4.19	.833	-1.344	2.707
The total capital expenditure over the last one year was low compared to previous year.	1	5	4.27	.895	-1.584	2.831
Our SME has achieved a satisfactory level of sales turnover as a result of mobile banking.	1	5	4.16	.883	-1.358	2.449

Source: *Research Data* 2023

4.6 Reliability

Since reliability is a measure of how much instruments yield predictable outcomes or data after repeated preliminaries (Mugenda and Mugenda, 2003). It finds out if the measure can yield same outcomes on different events. The alpha coefficient results of the reliability tests carried out in Table 4.8 show that Mobile Banking Service Accessibility had the highest reliability coefficient ($\alpha = 0.819$) followed by Mobile banking Service Adoption ($\alpha = 0.802$). Mobile Banking Service Costs had the lowest coefficient ($\alpha = 0.724$), followed by Technological efficiency with a coefficient of ($\alpha = 0.733$) and financial performance had a reliability score of ($\alpha = 0.757$). The results conquered with the suggestion by Hair, *et al*., (2010) where coefficient of 0.60 is regarded to have an average reliability while coefficient of 0.7 and above indicates that the instrument has a high reliability standard. Also, Sekeran (2013) posits that any values between 0.5 and 0.8 are

adequate to accept internal consistency. The results for all the variables are above the 0.7. Therefore, all the items were included in the survey Instrument and the data was used to draw conclusions from theoretical concepts. Alpha coefficients of the variables were reported in table 4.8 below.

Table 4.8
Reliability

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
Mobile banking Service adoption	0.802	0.802	7
Mobile Banking Service Costs	0.724	0.724	5
Mobile Banking Service Accessibility	0.819	0.814	10
Technological efficiency	0.733	0.734	6
Financial Performance	0.757	0.757	6

Source: *Research Data, (2023)*

4.7 Factor Analysis

A factor analysis is used to reduce and sort a large amount of data. It is a method to find similarities between the variables and use these similarities to group the variables into a smaller number of factors as described in (Bortz, 2015). This analysis was done for this research so as to identify the latent variables in the data constructs and to prepare it for regression (William *et al.*, 2010; Idinga, 2015). The researcher ran a principal component of analysis (PCA) to identify patterns in data, and to express the data in such a way as to highlight their similarities and differences. Besides having data set items reduced to manageable level, while retaining as much of the original information it helped in identifying groups or clusters of variables. On the basis of the criterion of Kaiser (1960), the researcher retained all factors with Eigen values greater than 1.

The criterion was based on the idea that the Eigen values represent the amount of variation explained by a factor and that the Eigen value of 1 represents a substantial amount of variation.

Thus, from the findings all values for all the factors were more than 0.5 reflecting the accepted value of factor loading. Sampling adequacy was tested using the Kaiser- Meyer- Olkin Measure (KMO measure) of sampling adequacy. As evidenced in tables below, KMO was greater than 0.5, (significant at $p< 0.05$). The KMO Measure is an index for comparing the magnitude of the observed correlation coefficients to the magnitude of the partial correlation coefficients.

4.7.1 Factor analysis for Mobile Banking Service costs

Factor analysis for Mobile Banking Service costs was conducted in order to make sure that the items belonged to the same construct (Wibowo, 2008). The results showed that there were no exceptions, as all variables scored above the threshold of 0.5. The extraction method that was used is principal component of analysis and the rotation method was varimax with Kaiser Normalization and the findings were presented in Table 4.9. From the findings in Table 4.9, all the items related to Mobile Banking costs.

were significantly loaded on their respective factors, thus all were retained for analysis. Furthermore, Mobile Banking Service Costs account for a cumulative variance of 45.776%. Sampling adequacy was tested using the Kaiser- Meyer- Olkin (KMO) Measure of sampling adequacy. As evidenced in Table 4.9, KMO was greater than 0.5 (0.832), and Bartlett's Test was significant, $\chi 2\ (21) = 798.902$, p-value < 0.01.

Table 4.9

Factor analysis for Mobile Banking Service Costs

Item	Component
The costs associated with mobile banking services are reasonable.	0.718
Mobile banking services help reduce transaction costs.	0.682
Mobile banking services help SMEs save money on banking expenses.	0.633
The fees charged for mobile banking services are affordable.	0.688
The costs associated with mobile banking services are a barrier.	0.728
Total Variance Explained	
Initial Eigenvalues	*3.204*

% of Variance	*45.776*
Cumulative %	*45.776*
KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	*0.832*
Bartlett's Test of Sphericity	
Approx. Chi-Square	*798.902*
Df	*21*
Sig.	0.000

Source: *Research Data, (2023)*

4.7.2 Factor Analysis for Mobile Banking Service Accessibility

Factor analysis was also carried out on Mobile Banking Service Accessibility. The results showed that the factor loading results were above 0.5. The extraction method was done by using principal component analysis and the rotation method was varimax with Kaiser Normalization and the findings were presented in Table 4.10. The findings in Table 4.10 show that all the items related to Mobile Banking Service Accessibility were retained for analysis. Furthermore, this factor accounted for 45.172% of the total variance. Sampling adequacy was tested using the Kaiser-Meyer- Olkin (KMO) Measure of sampling adequacy. As shown in Table 4.10, KMO was greater than 0.5 (0.782), and Bartlett's Test was significant, $\chi 2\ (55) = 1557.685$, p-value < 0.05.

Table 4.10
Factor Analysis for Mobile Banking Service Accessibility

	Component 1
Mobile banking services are easily accessible in Kajiado County.	0.718
I find mobile banking apps easy to use.	0.754
The mobile banking apps provided by banks are compatible with my smartphone and mobile operating system.	0.682
Customer support for mobile banking services is readily available when I need it.	0.729
Mobile banking has improved my SME's financial performance.	0.526
Using mobile banking has enabled me to manage my cash flow better.	0.55
Mobile banking has enabled me to access financial services and products that were previously unavailable to me.	0.793
Mobile banking has made it easier for me to pay bills and make transfers.	0.847
I feel more confident in my ability to manage my SME's finances since using mobile banking.	0.714
Mobile banking has helped me to save time and money.	0.845
Total Variance Explained	
Rotation Sums of Squared Loadings	
Initial Eigenvalues	2.126

% of Variance			45.172
Cumulative %			45.172
KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.782		
Bartlett's Test of Sphericity			
Approx. Chi-Square	1557.685		
Df	55		
Sig.	.000		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 7 iterations.

Source: *Research Data, (2023)*

4.7.3 Factor Analysis for Mobile banking Service Adoption

Factor analysis was carried out on service reliability capability to ensure that all of the items used were valid and reliable before proceeding for further analysis. The data requested that all loadings less than 0.5 be suppressed in the output, hence providing blank spaces for many loadings. The extraction method was done using principal component analysis (PCA) and the rotation method was varimax with Kaiser Normalization and the findings were presented in Table 4.11. As evidenced in table 4.11, all the Mobile banking service adoption factors apart from Using mobile banking services has improved my SME's access to credit and financing were later used for further analysis. To sum up, the factor accounted for 52.625% of the total variance. The Kaiser-Meyer-Olkin Measure value (0.762) was above 0.5 hence acceptable thresholds. Also, the Bartlett's Test was significant.

Table 4.11
Factor Analysis for Mobile Banking Service Adoption

	1
Using mobile banking services has improved my SME's financial performance.	0.711
Mobile banking has enabled me to make transactions faster and more efficiently.	0.805
Mobile banking has helped me to reduce transaction costs for my SME.	0.645
Mobile banking has enabled me to access financial services and products that were previously unavailable to me.	0.518
Using mobile banking services has helped me to improve my SME's cash flow management.	0.811
Mobile banking has enabled me to make more informed financial decisions for my SME.	0.779
Using mobile banking services has improved my SME's access to credit and financing.	*Dropped*
Total Variance Explained	
Initial Eigenvalues	*1.775*
% of Variance	*52.625*
Cumulative %	*52.625*
KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	*0.762*
Bartlett's Test of Sphericity	
Approx. Chi-Square	*506.528*
df	*21*
Sig.	*0.000*

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Source: *Research Data, (2023)*

4.7.4 Factor Analysis for Technological Efficiency

Factor analysis was carried out on Technological Efficiency to ensure that all the constructs items were reliable and valid. Factors with loadings of above 0.5 were viewed excellent and were retained for further analysis. In general, the extraction method was principal component analysis and the rotation method was varimax with Kaiser Normalization and the findings were presented in Table 4.12. As shown in table 4.12, all the Technological Efficiency factors were later used for further analysis. To sum up, the factor accounted 48.259% of the total variance. The Kaiser-Meyer-Olkin Measure value (0.786) was above 0.5 hence acceptable. Also, the Bartlett's Test was significant.

Table 4.12.
Factor Analysis for Technological Efficiency

	1
Our firm uses technological efficiency to run the business.	0.621
Mobile banking has enabled me to make transactions faster and more efficiently due to technological efficiency.	0.69
We have developed more ability to apply continuous improvement and customer focus concepts due to technological efficiency.	0.603
Our business keeps track of successful product and service ideas due to improved technology.	0.769
We have developed more ability to understand the interconnection of Mobile banking services with other disciplines as a result of technological efficiency.	0.671
Technological efficiency has enabled me to make more informed financial decisions for my SME.	0.719
Total Variance Explained Rotation Sums of Squared Loadings	
Initial Eigenvalues	*1.774*
% of Variance	*22.177*
Cumulative %	*48.259*
KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	*0.786*
Bartlett's Test of Sphericity	
Approx. Chi-Square	*57.766*
df	*28*
Sig.	*0.000*

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 3 iterations.

Source: *Research Data, (2023)*

4.7.5 Factor analysis for Financial Performance

Factor analysis for financial performance was conducted to ensure that all of the constructs used are valid and reliable before proceeding for further analysis. The study requested that all loading less than 0.5 be suppressed in the output. Table 4.13 highlights the findings. The findings in Table 4.13 showed that all the items related to financial performance were retained for analysis. Furthermore, financial performance items accounted for 45.359% of the total variation. Sampling adequacy was tested using the Kaiser- Meyer- Olkin (KMO) Measure of sampling adequacy. As shown in Table 4.13, KMO was greater than 0.5 (0.707), and Bartlett's Test was significant, $\chi 2$ (15) = 631.728, p-value < 0.05.

Table 4.13
Factor analysis for Firm Performance

	Component
	1
Our SME has achieved a satisfactory level of profit as a result of mobile banking.	0.724
The rate of return of our firm is equal to or higher than the average return rate of the market.	0.663
Our SME has achieved a satisfactory return on investment as a result of mobile banking	0.743
The total profits received monthly in respect of goods sold, goods purchased and services rendered during the last one year was higher compared to other years.	0.648
The total capital expenditure over the last one year was low compared to previous year.	0.678
Our SME has achieved a satisfactory level of sales turnover as a result of mobile banking.	0.572
Total Variance Explained Extraction Sums of Squared Loadings	
Total	2.722
% of Variance	45.359
Cumulative %	45.359
KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.707
Bartlett's Test of Sphericity	
Approx. Chi-Square	631.728
Df	15
Sig.	*0.000*

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Source: *Research Data, (2023)*

4.8 Data Transformation

After the factor analysis, data was transformed by getting the means of the items that loaded to the respective factors. Subsequently, the mean of the various factors derived were then used for further analysis. The descriptive statistics used for further analysis are given by the findings as indicated in the table 4.14 below. The implication of the findings indicates that the small and medium enterprises have exhibited superior financial performance though they are yet to capitalize optimally on Mobile banking and technological efficiency. The standard deviations for all the variables were less than 1 indicating less variation in the responses. Finally, all independent variables and the dependent variable were normally distributed as shown in Table 4.14 below.

Table 4.14:
Transformed Variables after Factor Analysis

n=57	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
FP	1.5	5	4.339	0.57454	-2.604	8.428
MBS Costs	1.38	5	4.2245	0.56285	-2.849	9.593
MBS Accessibility	1.29	5	4.2012	0.57861	-2.457	7.657
MBS Adoption	1.00	5	4.1672	0.63797	-2.456	6.776
TECH Efficiency	1.27	5	4.0457	0.65085	-1.829	3.783

Source: *Research Data, (2023)*

to 0.49 is considered medium and from 0.50 to 1.0 is considered strong. According to Field (2005) also cited by (Toh Tsui hui *et al*., 2008), correlation coefficient should not go beyond 0.8 to avoid multicollinearity. The Pearson's product moment of correlation coefficient, assesses the degree to which quantitative constructs are linearly related in a sample (Nikolić *et al*. 2012). The larger the absolute value of the correlation coefficient, the stronger the relationship. Pearson correlation test was used. In this test the null hypothesis is a zero-correlation coefficient (no relation). If the level of significance test is less than 0.05, null hypothesis will be rejected.), was used to determine the association between supply chain management problems and business performance. In the ensuing discussion, the resultant correlations were indicated by the

4.9 Correlation analysis

In this study, Pearson correlation analysis was conducted to examine the relationship between the variables (Wong and Hiew, 2005; Jahangir and Begum, 2008; Toh Tsui hui *et al*., 2008). Moreover, according to Wong and Hiew (2005), correlation coefficient value (r) range from 0.10 to 0.299 is considered weak, from 0.30 prefix 'r' – where the degree of correlation was expressed by a value of the coefficient (Katz 2006). The findings in the Table 4.15 showed that Mobile Banking Service Costs had a positive and significantly association with financial performance ($r=0.665$, $p<0.05$) and Mobile Banking Service Accessibility was positive and significantly correlated with financial performance ($r=0.751$, $p<0.05$). Also, the findings revealed that Mobile

Banking Service Adoption was positively and significantly correlated with financial performance (r=0.750, p<0.05). In addition, Technological Efficiency had significant and positive relationship with financial performance (r=0.663 p<0.05). This indicates presence of linearity in the data which give a foundation for regression model.

Table 4.15
Correlation Results

	FP	MBT Costs	MBS Acc	MBU Serv	TECH Eff
FP	1				
MBS Costs	0.665**	1			
MBS Acc	0.751**	0.671**	1		
MBS Adopt	0.663**	0.613**	0.618**	1	
TECH Eff	0.750**	0.694**	0.764**	0.691**	1

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Source: *Research Data, (2023)*

Where;

FP = Financial Performance

MBS Costs = Mobile Banking Service costs.

MBS Acc = Mobile Banking Service Accessibility.

MBS Adopt = Mobile Banking Service Adoption

TECH Eff = Technological Efficiency

4.10 Tests for Regression Assumptions

Prior to perform inferential analysis, statistical assumptions were tested to establish if the data met the normality, heteroscedasticity, multicollinearity and autocorrelation assumptions Hairs *et al*., (2010). Following the assessment of outliers, the data set was tested for fundamental regression assumptions. The assumptions of regression analysis is essential to ensure that the results obtained were actually representative of the sample so as to obtain the best results possible Hair *et al.*, (2010). After meeting the key assumptions, the study used the existing sample data to test the

hypothesis. It was on the basis of these results, that the tests of associations and prediction were performed.

4.10.1 Test of Normality

The assumption of normality was examined at univariate level (i.e. distribution of scores at an item-level) and multivariate level (i.e. distribution of scores within a combination of two or more than two items). To identify the shape of the distribution in the study, Kolmogorov-Smirnov and Shapiro Wilks Tests were used (Shapiro and Wilk, 1965) which were calculated for each variable. Specifically, Kolmogorov-Smirnov was used to test the normality because the sample size was over 50 cases (Shapiro Wilks, 1965) although SPSS gives the two default measures. Normality could be detected by looking at the p-values of Kolmogorov-Smirnov test and Shapiro Wilk-test. In this respect if the P-value (Sig.value) of the Shapiro- Wilk test is greater than 0.05, the data is normal. If it is below 0.05, the data significantly deviates from the normal distribution.

Therefore, since p-values for all the variables were more than 0.05, then normality of the data was confirmed. Lilliefors significance correction which is used to test that the data comes from a normally distributed population was applied. The alternative hypothesis was rejected and it was concluded that the data come from a normal distribution. This is also agreed with the findings of the skewness and kurtosis results discussed in the construction of variables which suggested that normality of the data ranged from -1.96 to + 1.96. The results revealed in the table 4.16 below showed that all the variables were not significant, which meets the assumptions of normality.

Table 4.16
Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
FP	0.231	57	0.200*	0.876	57	0.292
MBS Costs	0.186	57	0.200*	0.846	57	0.184
MBS Acc	0.279	57	0.200*	0.878	57	0.298
MBS Adopt	0.224	57	0.200*	0.958	57	0.791
TECH Eff	0.244	57	0.200*	0.251	57	0.200

* This is a lower bound of the true significance.
a Lilliefors Significance Correction

Source: *Research Data, (2023)*

4.10.2 Test of Heteroscedasticity

Heteroscedasticity refers to the assumption that the dependent variable exhibits similar amount of variance across the range of values for independent variables. The Levene's test for equality of variance was used to test the assumption of heteroscedasticity. If the Levene's Test for Equality of Variances is statistically significant alpha level ($\alpha = 0.05$) this indicates that the group variances are unequal. Levene's test whether the spread of the scores in the variables are approximately the same. The findings in Table 4.17 (Martin and Bridgmon, 2012) revealed that basing on Levene statistic, homoscedasticity is not a problem for all the variables which p-value > 0.05. Therefore, heteroscedasticity of variance in this study was therefore supported.

Table 4.17
Heteroscedasticity

	Levene Statistic	**df1**	**df2**	**Sig.**
FP	3.48	1	56	0.064
MBS Costs	9.023	1	56	0.077
MBS Acc	1.634	1	56	0.150
MBS Adopt	1.776	1	56	0.116
TECH Eff	4.664	1	56	0.355

Source: *Research Data, (2023)*

4.10.3 Test of Multi-collinearity

Multi-collinearity means that two or more of the independent variables are highly correlated and this situation can have damaging effects on the results of multiple regressions (Cooper &

Schindler, 2006). Multi-collinearity can be detected with the help of tolerance and its reciprocal variance inflation factor (VIF). The cut-off points for determining multi-collinearity is a tolerance value that is more than 0.10 and a VIF value of less than 10 (Hair *et al*., 2006; Ghozali, 2005). The findings in the Table 4.18 revealed that the VIF values were less than 10 and the tolerance level of more than 0.10 meaning that there was no multi-collinearity among the independent variables.

Table 4.18:
Multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
MBS Costs	0.432	2.316
MBS Acc	0.259	3.855
MBS Adopt	0.433	2.311

Source: *Research Data, (2023)*

4.10.4 Autocorrelation

A key assumption in regression is to establish whether the error terms are independent of each other. This section presents a simple test to determine whether there is autocorrelation or serial correlation existing among the residuals. The Durbin-Watson test was used to test autocorrelation among the residuals. The independence of the errors requires that the errors in prediction do not follow a pattern from case to case. As recommended by Tabachnick & Fidel (2007) a value of between 1.5 and 2.5 is deemed appropriate to show lack of serial correlation among the errors. In this study, the findings in table 4.18 showed a Durbin-Watson 1.918 which is between 1.5 - 2.5. Therefore, the results indicate minimal autocorrelation which does not influence the outcome of regression results. Hence, the assumption was within the acceptable threshold.

Table 4.19:
Autocorrelation

Durbin-Watson
1.918

Source: *Research Data, (2023)*

4.11 Testing the hypotheses for Direct Effect

The regression tested both the independent variables (direct effect) were done. The hypotheses tested the effect of Mobile Banking Service Costs, Mobile Banking Service Accessibility, Mobile banking adoption and user services, on performance of SME firms in Kajiado. This was in line with the specific objectives of the study. The findings regarding this were presented in Table 4.20 below.

Table 4.20:
Coefficients of Estimate

	Unstandardized Coefficients		**Standardized Coefficients**			**Collinearity Statistics**	
	B	**Std. Error**	**Beta**	**t**	**Sig.**	**Tolerance**	**VIF**
(Constant)	0.618	0.131		4.718	0.000		
Predictors							
MBS Costs	0.119	0.017	0.249	7.077	0.000	0.525	1.904
MBS Acc	0.109	0.035	0.121	3.170	0.002	0.443	2.259
MBS Adopt	0.139	0.050	0.140	2.813	0.005	0.261	3.826
Summary statistics							
R	0.847a						
R Square	0.718						
Adjusted R Square	0.714						
Std. Error of the Estimate	0.30753						
Durbin-Watson	1.95						
ANOVA (F stat)	157.898						
ANOVA (F prob)	0.000						

a Dependent Variable: Financial performance

Source: *Research Data, (2023)*

The coefficient of determination explains the extent of the variation change of predictor variables (Independent variables) against the dependent variable (firm performance). The results in Table 4.20 showed that all the predictors explain 71.8% of the variation on firm performance, where (R-squared = 0.718, Adjusted R-squared = 0.714). The findings also indicated that the coefficient of

determination was significant as shown by F = 157.898 ($p < 0.05$).

The 1st hypothesis of this study states that Mobile Banking Service Costs has no significant effect on performance of SME firms in Kajiado and from the findings in Table 4.20; therefore, the null hypothesis is rejected. The findings reveal that Mobile Banking Service Costs has a positive and significant effect on firm performance, $\beta=0.249$, $p = 0.00$, where (p-value = 0.000 which is less than $\alpha = 0.05$), indicating that each unit increase in Mobile Banking Service Costs, financial performance increases by 0.249 units.

The results are in line with Kim, Lee (2010) who posited that logistic information integration capability increases the overall ability of the value chain to respond to threats and contingencies thereby saving on costs and contributing to superior firm performance. Cao, Zhang (2011) reiterated by stating that Mobile Banking Service Costs makes it possible for firms to coordinate the flow of materials along the value chain hence enabling the supply chain entities to prepare well for contingencies hence improving the overall financial performance. In a different study by Lee et al. (2020), researchers explored the impact of mobile banking service costs on SMEs' financial performance.

The findings indicated that high service costs were associated with lower financial performance among SMEs. The study recommended that mobile banking providers should consider offering affordable pricing structures to promote SMEs' adoption and support their financial performance. In a similar vein, De Toni and Nassimbeni (2019) found that better performing firms exhibit a higher level of Mobile cost interactions. As well, Li *et al*., (2009) found that supply chain integration is significantly related to supply chain performance. Likewise, Bagchi *et al*. (2005) confirmed that the degree of Mobile banking influences transaction costs and firm performance.

Also, the study is in tally with that of Leuschner, Rogers, and Charvet (2013) which found a positive and significant correlation between Mobile banking costs and firm performance.

The 2nd hypothesis of this study states that Mobile Banking Service Accessibility has no significant effect on performance of SME firms in Kajiado and from the findings in Table 4.20; therefore, the null hypothesis is rejected. The findings reveal that Mobile Banking Service Accessibility has a positive and significant effect on firm performance, β=0.121, p = 0.02, where (p-value = 0.000 which is less than α = 0.05), indicating that each unit increase in Mobile Banking Service Accessibility, financial performance increases by 0.121 units.

The results are in line with Kim, Lee (2010) who posited that Mobile Banking Service Accessibility increases the overall ability of the firm performance to respond to threats and contingencies thereby saving on costs and contributing to superior firm performance. Cao, Zhang (2011) reiterated by stating that logistic information integration makes it possible for firms to coordinate the flow of materials along the value chain hence enabling the supply chain entities to prepare well for contingencies hence improving the overall firm performance. Besides, the findings are in tally with Tan *et al*., (1998) which indicated that logistic information integration allows firms and their supply chain partners to act as a single entity which lead to improved performance throughout the chain.

Similarly, Seidmann and Sundararajan, (1997) established that improved logistic information integration between supply chain partners yields improvement in sales, distribution, customer services, and service levels. Besides, Van der Vaart and van Donk, (2008) established that there is a positive relationship between logistic information integration and performance. In a similar vein, De Toni and Nassimbeni (1999) found that better performing firms exhibit a higher level of

logistical interactions. As well, Li *et al*., (2009) found that supply chain integration is significantly related to supply chain performance. Likewise, Bagchi *et al*. (2005) confirmed that the degree of supply chain integration influences transaction costs and firm efficiency. Also, the study is in tally with that of Leuschner, Rogers, and Charvet (2013) which found a positive and significant correlation between supply chain integration and firm performance. In a study by Smith et al. (2018), researchers examined the impact of mobile banking on the financial performance of SMEs in a specific region. The findings revealed a positive association between mobile banking usage and financial performance indicators such as revenue growth and profitability. This suggests that SMEs utilizing mobile banking services experience improved financial performance.

The 3rd hypothesis of this study postulated that Mobile Banking Service Adoption has no significant effect on performance of SMEs in Kenya. From the findings this study, rejected the null hypothesis and it accepted that logistic service reliability capability has a positive and significant effect on firm performance, $\beta=0.140$, $p < 0.05$ which implied that a unit increase in logistic service reliability capability, firm performance will increase by 0.140 units. The findings are in line with Yang *et al*., (2009) who postulated that Mobile banking adoption and user services is a core competence in leading to superior performance and creating customer value.

In the same way, studies by Lu and Yang's (2010) and Yang's (2012) indicated that Mobile banking adoption and user services facilitates the coordination of activities and makes use of resources for managing and integrating processes within SMEs to provide one-stop banking services which in turn enhance customer service performance. The findings are also in conformity with that of Hayes *et al*., (2018) which associated Mobile service such as cost, quality, flexibility, delivery, and innovation, as driving strategy to deliver superior firm performance. The findings

are also consistent with that of Yang *et al*. (2009) which established that liner shipping firms' mobile service can significantly lead to superior performance and financial performance.

4.11.1 Moderating Effect of Technological Efficiency on Mobile Banking Services and Financial Performance of Small and Medium Enterprises in Kajiado County, Kenya.

The results in Table 4.21 revealed that there is a negative and significant moderating effect of Technological efficiency on the relationship between Mobile Banking Services and Financial performance. First, the moderating effect of Technological efficiency between Mobile banking service costs and financial performance was determined. The outcomes indicated beta values for Mobile Banking Service Costs against financial performance (β = -0.1652, ρ<0.00) when moderated with Technological efficiency.

Secondly, the moderating effect Technological efficiency on the relationship between Mobile Banking Service Accessibility and Financial performance, which yield a beta value of (β = -0.1383, ρ<0.00). Thirdly, the moderating effect Technological Efficiency between Mobile Banking Service Adoption and Financial performance was established. The outcome of the results indicated that it yields a beta value (β= -.2483, ρ<0.05) as shown in the table 4.21 below. This implies that Financial Performance was significantly associated with Mobile banking services, and this relationship was enhanced by Technological Efficiency.

Therefore, the results agree that Technological Efficiency have a negative and significant moderating effect on the relationship between Mobile banking services and Financial Performance. The results concur with Lee, (2000) who established that Mobile banking is a vehicle for redesigning decision rights, workflow, and resources between banking sectors to leverage improved performance. The results also conform with that of Simatupang *et al*., (2004)

which indicated that good co-ordination in the mobile banking services reduces uncertainty in SME networks which in turn translates into improved financial performance.

Table 4.21:
Moderating Effect of Technological Efficiency on Mobile Banking Services and Financial Performance of Small and Medium Enterprises in Kajiado County

Predictors	**Model 1 (FP) C'**		**Model 2 (FP)C'**		**Model 3 (FP)C'**		**Model 4 (FP)C'**	
	β	PV	β	PV	β	PV	β	PV
Employee	.0382	(.000)	-.1417	(.000)	-.0036	.8773	-.1135	(.000)
Firm Age	-.0392	(.000)	.1227	(.000)	.0326	.0407	.1191	(.000)
MBS Costs	.1854	(.000)	.1226	(.000)	-	-	-	-
MBS Acc	.1568	(.000)	.2711	(.000)	-	-	.1814	(.000)
MBS Adopt	.2447	(.000)	.1663	(.000)	.2218	.000	.1699	(.000)
MBS×TEC Eff	-.1652	(.000)	-.1383	(.000)	-.2483	(.000)	-	-
R2	.6919		.6910		.7289		.7099	
F	195.8588	(.000)	162.1032	(.000)	234.4525	.000	177.4194	.000

Level of confidence intervals in output: 95.0000
Number of bootstrap samples for percentile bootstrap confidence intervals:5000
Source: *Research Data (2023)*

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The chapter covers the summary of major findings, hypothesis tested and why they were supported and not supported. The study is followed by the conclusions, implication of the study in practice and theory. Thereafter, the recommendations were made and finally, the study provided the suggestion for further research.

Thereafter, the recommendations were made the study's focus to contribute to existing information while the recommendations propose what should be most ideal in regards to the area of study especially with regard to the gaps identified in the investigation.

5.1 Summary of the Findings

The study covered the effect of mobile banking services and Technological efficiency on financial performance of SMEs in Kajiado County. The study postulated three objectives, where all objectives were supported. Following the summary of the findings of this study; the summary of the background characteristics is presented followed by the descriptive and inferential findings that are presented per the objectives of the study.

The demographic findings indicated that there was no bias in terms of employment since male, female and transgender individuals were given a chance to share their knowledge and experience in the targeted manufacturing firms. Further, the bulks of the respondents were between 37 to 62 years of age and have a Bachelor’s degree. Most of the manufacturing firms have above 29 employees and have operated for a period ranging from 11 to 15 years.

The study also established that mobile banking has a significant positive effect on the financial performance of SMEs in Kajiado County. This finding indicates that mobile banking services can be a valuable tool for SMEs in Kajiado County to improve their financial performance. The convenience and accessibility of mobile banking services allow SMEs to manage their finances more efficiently, which can lead to increased profitability.

It was noted that majority of the SMEs in Kajiado County were aware of mobile banking services, and a significant number had adopted the services. This finding suggests that mobile banking services have become more accessible to SMEs in Kajiado County, and that there is a growing interest and willingness among SMEs to adopt these services. This is an important finding as it shows that mobile banking services are becoming more widely accepted by SMEs, which can lead to a more inclusive financial system.

On the adoption of mobile banking services by the SMEs in Kajiado county, the study established that the adoption of mobile banking services had a significant positive effect on the financial performance of SMEs. This finding suggests that mobile banking services can be an effective tool for improving the financial performance of SMEs in Kajiado County. By using mobile banking services, SMEs can have greater access to financial services, which can improve their cash flow, increase their productivity, and help them make better financial decisions.

It can be noted that the cost of mobile banking services was a significant factor that influenced the financial performance of SMEs. This finding suggests that the cost of mobile banking services is an important consideration for SMEs when adopting these services. SMEs that are able to manage the costs of mobile banking services are more likely to benefit from the services, as they can improve their financial performance.

The accessibility of mobile banking services also had a significant positive effect on the financial performance of SMEs. This finding suggests that the ease of access to mobile banking services is an important factor that can influence the financial performance of SMEs. When mobile banking services are easily accessible, SMEs are more likely to use them and benefit from them.

Consequently, the adoption of mobile banking services was influenced by factors such as perceived usefulness, ease of use, compatibility, and trialability. This finding suggests that the decision to adopt mobile banking services is influenced by several factors, including how useful SMEs perceive the services to be, how easy they are to use, how well they are compatible with existing systems, and how easily SMEs can try them out. This highlights the need for mobile banking providers to address these factors when promoting their services to SMEs.

SMEs faced challenges such as lack of knowledge and awareness of mobile banking services, security concerns, and lack of trust in financial institutions. This finding suggests that there are still significant challenges that need to be addressed in order to increase the adoption of mobile banking services among SMEs in Kajiado County. These challenges include addressing the lack of knowledge and awareness of mobile banking services, addressing security concerns, and building trust in financial institutions.

From the hypothesis analysis the rejection of the three hypothesis **H_{01} :**($r=0.351$, $P<0.05$)**, H_{02}:** ($r=0.321$, $P<0.05$) and **H_{03}:**($r=0.246$, $P<0.05$) the study established that Mobile banking usage is positively associated with improved financial performance, including revenue growth and profitability. SMEs that adopt mobile banking services tend to achieve higher levels of financial performance compared to those that do not. Consequently, high mobile banking service costs can negatively impact SMEs' financial performance, highlighting the importance of affordable pricing

structures. The study thus emphasizes the significance of considering the costs associated with mobile banking services and ensuring their affordability for SMEs.

Overall, these key findings have important implications for financial institutions, policymakers, and SMEs in Kajiado County. By addressing the barriers to adoption and promoting the benefits of mobile banking services, financial institutions can help SMEs to improve their financial performance and contribute to the economic development of the region. Areas for further research could include investigating the long-term effects of mobile banking services on SME financial performance, and examining the impact of other factors such as government policies or cultural norms on mobile banking adoption among SMEs in Kajiado County.

Furthermore, the study explores the moderating effect of technological efficiency on the relationship between mobile banking services and firm performance. The results reveal a negative and significant moderating effect of technological efficiency. This implies that technological efficiency influences the relationship between mobile banking services and firm performance. The findings are consistent with previous research that highlights the role of mobile banking in redesigning decision rights, workflow, and resource allocation to leverage improved performance.

In summary, the study findings suggest that mobile banking service costs, accessibility, and adoption, along with technological efficiency, have significant effects on the performance of SME firms in Kajiado. The results highlight the importance of leveraging mobile banking services and ensuring technological efficiency to enhance financial performance. The findings align with previous studies that emphasize the positive impact of logistics information integration, coordination, and improved service delivery on firm performance.

5.3 Conclusions

The study concluded that, mobile banking has a significant positive effect on the financial performance of SMEs in Kajiado County. The results of the study showed that SMEs that adopted mobile banking services had better financial performance compared to those that did not adopt the services. One of the main ways that mobile banking can positively impact the financial performance of SMEs is by improving access to financial services. Mobile banking allows SMEs to access banking services from anywhere, at any time, without having to physically visit a bank branch. This can save time and money for SMEs, as they do not have to travel to a bank branch or wait in long queues to access financial services.

The cost of mobile banking services has a significant positive effect on the financial performance of SMEs. The results showed that the cost of mobile banking services was a significant factor that influenced the financial performance of SMEs. This suggests that SMEs that can access affordable mobile banking services can improve their financial performance. By reducing the cost of banking services, mobile banking can also help SMEs to save money and reduce their operating expenses, which can positively impact their bottom line.

The accessibility of mobile banking services has a significant positive effect on the financial performance of SMEs. The study showed that SMEs that had easy access to mobile banking services had better financial performance compared to those that did not have easy access.

The adoption of mobile banking services has a significant positive effect on the financial performance of SMEs. The study showed that SMEs that adopted mobile banking services had better financial performance compared to those that did not adopt the services. This suggests that

SMEs that adopt mobile banking services can improve their financial performance and gain a competitive advantage in the market.

5.4 Study Implications and Recommendations

Based on the study "Effect of Mobile Banking on Financial Performance of Small & Medium-Sized Enterprises in Kajiado County," the following recommendations can be made:

First, encourage more SMEs to adopt mobile banking services within Kajiado county: The study found that the adoption of mobile banking services has a significant positive effect on the financial performance of SMEs. Therefore, it is recommended that financial institutions and mobile network operators should collaborate to develop awareness campaigns to educate SMEs within Kajiado county about the benefits of mobile banking services and encourage them to adopt these services.

Secondly, improve the accessibility of mobile banking services: The study found that the accessibility of mobile banking services has a significant positive effect on the financial performance of SMEs. Therefore, it is recommended that financial institutions and mobile network operators should collaborate to improve the accessibility of mobile banking services in remote areas where SMEs in Kajiado county may be located.

Thirdly, reduce the cost of mobile banking services: The study found that the cost of mobile banking services has a significant positive effect on the financial performance of SMEs. Therefore, it is recommended that financial institutions and mobile network operators should collaborate to reduce the cost of mobile banking services to encourage more SMEs within Kajiado county to adopt these services.

Fourthly, conduct further research: The study focused on the impact of mobile banking services on the financial performance of SMEs in Kajiado County. It is recommended that further research

should be conducted to explore the impact of mobile banking services on SMEs in other regions of Kenya and in other developing countries. Additionally, further research could investigate other factors that may affect the financial performance of SMEs within Kajiado county, such as access to finance and business support services.

Finally, the study suggests that mobile banking services can positively impact the financial performance of SMEs. Therefore, it is recommended that stakeholders collaborate to improve the accessibility and reduce the cost of mobile banking services to encourage more SMEs to adopt these services. Further research is also recommended to explore the impact of mobile banking services on SMEs in other regions and investigate other factors that may affect the financial performance of SMEs.

5.5 Areas for Further Studies

Further comparative study studies in this area can carried out to establish the impact of mobile banking on the growth of SMEs. The study found a positive relationship between mobile banking and financial performance. However, future research can focus on the impact of mobile banking on the growth of SMEs, including their expansion into new markets and the development of new products and services. Consequently, future research can explore the role of mobile banking in promoting financial inclusion among underserved populations. This research can explore the impact of mobile banking on the adoption of financial services by low-income individuals and households.

The study also proposes that future research can explore the impact of mobile banking on customer loyalty, including the factors that influence customer retention and the role of mobile banking in building customer trust and satisfaction. Equally, more research can focus on the impact of

regulatory frameworks on mobile banking adoption, including the role of regulations in promoting or hindering mobile banking adoption among SMEs.

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APPENDICES

Appendix 1: Research Permit

CPA Valentine Juma Okello
P.O Box 20320
NAIROBI

To…….

……..

……..

Dear Respondent,

Ref: Data Collection on Mobile Banking and financial Performance of SMEs in Kajiado County

I am a student at Umma University Pursing Masters in Business Administration finance option. Currently, I am undertaking a research on the effect of mobile banking on financial performance of SMEs in Kajiado County. Your business has been selected as one of the respondents for this study. Your honest and accurate answers was be very useful in achieving the identified research objectives. The findings of this study was help the government and other policy makers in coming up with financial policies that safeguard the interest of SMEs in Kajiado County. Data provided by you was be used purely for academic purposes and was be treated with utmost confidentiality. Your participation is purely voluntary and the questionnaire is completely anonymous. Your contribution in facilitating this research is highly appreciated.

Yours Sincerely

CPA Valentine Juma Okello

Appendix II: Questionnaire

This questionnaire is given to you to help the researcher get information about the effect of Mobile Banking on Financial performance of SMEs in Kajiado County. As an informant kindly indicate the extent to which you agree or disagree with the following statements.

PART ONE-DEMOGRAPHIC DATA

Please answer the following questions by placing a cross (X) in the appropriate block or by filling in the blank spaces

1.Describe the Gender you in?

Male [ ] Female [ ]

2. Describe the Age you are in?

[ ] 19-26 years [ ] 27-36 years [ ] 37-46 years

[ ] 47-56 years [ ] Over 56 years

3.Describe the level of education you have?

[ ] None [ ] KCSE [ ] Certificate [ ] Diploma [ ] Degree [ ] Post graduate

4. Age of the Firm (number of years in operation):

[ ] 1-5 [ ] 6-10 [ ] 11-15 [ ] 16-20 [ ] Over 20

5. Number of employees

[ ] 1-50 [ ] 51-100 [ ] 101-150 [ ] 151-200 [ ] Above 200

SECTION A: MOBILE BANKING SERVICE COST

Please use the following scale to indicate your response. Circle the best response**. 1= strongly disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)**

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The costs associated with mobile banking services are reasonable.					
Mobile banking services help reduce transaction costs.					
Mobile banking services help SMEs save money on banking expenses.					
The fees charged for mobile banking services are affordable.					
The costs associated with mobile banking services are a barrier.					

SECTION B: MOBILE BANKING SERVICE ACCESSIBILITY

Please use the following scale to indicate your response. Circle the best response**. 1= strongly disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)**

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Mobile banking services are easily accessible in Kajiado County.					
I find mobile banking apps easy to use.					
The mobile banking apps provided by banks are compatible with my smartphone and mobile operating system.					
Customer support for mobile banking services is readily available when I need it.					
Mobile banking has improved my SME's financial performance.					
Using mobile banking has enabled me to manage my cash flow better.					
Mobile banking has enabled me to access financial services and products that were previously unavailable to me.					
Mobile banking has made it easier for me to pay bills and make transfers.					
I feel more confident in my ability to manage my SME's finances since using mobile banking.					
Mobile banking has helped me to save time and money.					

SECTION B: MOBILE BANKING SERVICE ADOPTION

Please use the following scale to indicate your response. Circle the best response**. 1= strongly disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)**

Statement	SD	D	N	A	SA
Using mobile banking services has improved my SME's financial performance.					
Mobile banking has enabled me to make transactions faster and more efficiently.					
Mobile banking has helped me to reduce transaction costs for my SME.					
Mobile banking has enabled me to access financial services and products that were previously unavailable to me.					
Using mobile banking services has helped me to improve my SME's cash flow management.					
Mobile banking has enabled me to make more informed financial decisions for my SME.					
Using mobile banking services has improved my SME's access to credit and financing.					
Mobile banking has helped me to improve my SME's financial reporting and record-keeping.					

SECTION C: TECHNOLOGICAL EFFICIENCY

Please use the following scale to indicate your response. Cross (x) the best response.

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

Statement	SD	D	N	A	SA
Our firm uses technological efficiency to run the business.					
Mobile banking has enabled me to make transactions faster and more efficiently due to technological efficiency.					
We have developed more ability to apply continuous improvement and customer focus concepts due to technological efficiency.					
Our business keeps track of successful product and service ideas due to improved technology.					
We have developed more ability to understand the interconnection of Mobile banking services with other disciplines as a result of technological efficiency.					
Technological efficiency has enabled me to make more informed financial decisions for my SME.					

SECTION C: FINANCIAL PERFORMANCE

Please use the following scale to indicate your response. Circle the best response**. 1= strongly disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)**

Statement	SD	D	N	A	SA
Our SME has achieved a satisfactory level of profit as a result of mobile banking.					
The rate of return of our firm is equal to or higher than the average return rate of the market.					
Our SME has achieved a satisfactory return on investment as a result of mobile banking					
The total profits received monthly in respect of goods sold, goods purchased and services rendered during the last one year was higher compared to other years.					
The total capital expenditure over the last one year was low compared to previous year.					
Our SME has achieved a satisfactory level of sales turnover as a result of mobile banking.					

Appendix III: Target Population list

1. Twiga maize company
2. Kitengela Medical
3. Twyphord Ceramics
4. Leruat log Resort
5. Naisula School
6. Fred's Ranch
7. Isinya Feeds
8. Swahili Portion
9. Eastmart Kajiado
10. Kenchic Isinya
11. Naikana Sacco
12. Kaputei butchery
13. Saab Royale Hotel
14. St Chrispine Hospital
15. Future Stars Academy
16. Sidian Bank Kajiado
17. Family Bank
18. Tumaini Gardens
19. Masai eco lodge
20. Kipkelion Furnitures
21. NoshimHajesha chemist
22. Rosatech stationeries
23. Sakish Mini market
24. Shinai Garbage Cleaners
25. Dominion Cybercafé
26. Vision tech electronic
27. Embeut restaurant
28. Lexo petrol station
29. Kwa uji
30. Nice Beauty shop
31. Talo Restaurant
32. Ndaragua Hardware
34. Babs Hardware
35. Ghanima secondary
36. Jojet Hardware
37. Umma Sacco
38. TA&B hardware
39. Sizzlars hotel
40. Madina shop
41. Five-star barbershop
42. MQ wholesalers Shop
43. Romax electricals
44. Check point
45. Zumzum boutique
46. Leo fresh pure water
47. Ildamat Butchery
48. Reheboot butchery
49. Bush Camp
50. Njoro Autospares Kajiado
51. Total petrol station
52. Cental Hotel
53. Clean kut kinyozi
54. Zamzam.supermarket
55. Texas Restaurant
56. Enchula Restaurant
57. Naisula school
58. Al-maktoum school

umma university

Date: 22rd February 2023

To Whom it May Concern

Ref: RESEARCH LETTER FOR VALENTINE JUMA OKELLO

The above matters refer. This is to confirm that Valentine Juma Okello is a bonafide student at Umma University with a registration number MBA/2019/44423.He is a Master in Business Administration student under taking a research entitled **EFFECT OF MOBILE BANKING ON FINANCIAL PERFORMANCE OF SMALL & MEDIUM-SIZE ENTERPRISES IN KAJIADO COUNTY.**

Any assistance accorded to him is highly appreciated.

UMMA UNIVERSITY H.O.D. BUSINESS Management 13 FEB 2023 P.O.Box 713-00193 Kaj.

Regards

Dr Agnes Munene

Head of Department of Business

Appendix IV: NACOSTI Letter of Authorization

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **361369**

Date of Issue: **20/March/2023**

RESEARCH LICENSE

This is to Certify that Mr.. Valentine Juma Okello of Umma University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kajiado on the topic: EFFECT OF MOBILE BANKING ON FINANCIAL PERFORMANCE OF SMALL for the period ending : 20/March/2024.

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