MOBILE MONEY SERVICES AND PERFORMANCE OF MICRO, SMALL AND MEDIUM ENTERPRISES IN KAJIADO COUNTY IN KENYA: A SURVEY OF KITENGELA SUB COUNTY

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DECLARATION

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

Signature: ……. **Date: …12th/November/2021……**

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This research project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

This project is dedicated to my family and friends for their continued support and encouragement during my studies.

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ABSTRACT

Since introduction of mobile money services in Kenya in 2007, there are more than 110,000 M-Pesa agents, 40 times the number of banks ATMS in Kenya. In the first quarter of 2020 (January to March), there was a total of KES 1,087 billion transacted through mobile payments. Among users of mobile money services in Kenya, there are micro, small, and medium enterprises (MSMEs). MSMEs play a crucial role in the Kenya economy through income generating activities and employment creation. Despite the apparent significance associated with MSMEs and the numerous policy initiatives introduced by respective governments in the developing economies during the past decade to accelerate the growth and survival of MSMEs, the performance of MSMEs has been disappointing. The current study sought to bridge this gap by assessing the relationship between mobile money services and performance of small and medium enterprises in Kitengela, Kajiado County, Kenya. The specific objectives of the study were: establish the relationship between mobile payments, mobile transfer, mobile financial services and mobile commerce and performance of small and medium enterprises in Kitengela, Kajiado County. The study benefited MSMEs' business owners, scholars, and academicians. The study was anchored on Diffusion of innovation theory. The study employed descriptive research design. The target population was 817 formally registered MSMEs in Kitengela Town dealing in trade, services, and manufacturing. The study employed Fisher Model to come up with sample size of 261 who were the business owners or managers/operators. The study utilized primary data which was collected using questionnaires. Quantitative data was presented in frequency tables and figures while quantitative data was presented in prose form. Multiple regression was used to test the relationship between the independent variables and dependent variable. The study established that disbursement and repayment of loans influence mobile money transfer performance. It was also found out that withdraw of money from mobile phone have enhanced the overall performance of mobile financial services. Further, the study found out that checking account balance influenced the performance of mobile commerce among MSMEs. The study concluded that mobile commerce had a statistical significance relationship with the performance of MSMEs in Kitengela, Kajiado County. It was also concluded that salary processing and supplier's payment influenced the performance of mobile money services among MSMEs in Kitengela, Kajiado County. The study therefore recommended that mobile services provider should seek to promote their services to encourage as many businesspeople as possible to make use of mobile money services. Further, the study recommended that the regulator of mobile phone providers should work towards reducing mobile money services charges between different networks.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of variance
ANT	Actor network theory
ATMs	Automated teller machines
B2C	Business to Consumer
C2B	Consumer to business
CBD	Central business district
CBK	Central Bank of Kenya
CDF	Constituency development fund
GDP	Gross Domestic Product
IMF	International Monetary Fund
MM	Mobile Money
MMT	Mobile Money Transfer
MSMEs	Micro, Small and Medium Enterprises
OLS	Ordinary Least Squares
P2P	Person-To-Person
SMS	Short Message Service
SPSS	Statistical Package for Social Science
STOF	Service, Technology, Organization, and Finance
TAM	Technological Acceptance Model
TOE	Technology, organizational and environmental

OPERATIONAL DEFINITION OF TERMS

Financial Institutions	Refers to institution that deal with the provision of financial services.
Internet banking	This is the use of internet by banks to provide all the services that are offered in banks and all other transactions through the bank's website.
Mobile commerce	The buying and selling of goods and services through wireless handheld devices such as smartphones and tablets.
Mobile financial services	Any product or service a bank offers to its customers that the customer accesses via a mobile device.
Mobile payments	Money payment made for a product or service through a portable electronic device such as a tablet or cell phone.
Mobile transfer	Fast, easy, and secure transaction whereby a sender sends money from their bank, credit/debit card or own mobile money account to another mobile money account.
Payment processing	Initiation of payment instructions via internet banking. These payments include payroll, supplier payments, and inter account transfers, among others.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter comprises the background of the study, statement of the problem, the general objective and the specific objectives, research questions, the scope of the study, and the significance of the research.

1.1 Background of the Study

Across the world, the number of registered mobile users in 2019 reached 1.04 billion and close to $2 billion in daily transactions with mobile money services being used across all sectors (GSMA, 2019). Originally a product for a few selected markets, mobile money is now a global phenomenon, recording astonishing growth in emerging markets and reaching a broad range of customers (GSMA, 2019). For the first time in 2019, digital transactions represented the majority of mobile money flows, and more value is circulating in the mobile money system than exiting.

IMF (2018) pointed that in modern digital age, mobile money services are the bridges and roads of the traditional, physical economy. They connect businesses with customers and create markets. For this digital market to function, it is vital that businesses and their customers have a means for transferring money through mobile devices. As in 2018, mobile money service adoption made a significant contribution to global growth. For instance, Asia, East Asia, and Pacific alone added 30 million accounts in 2019, driven primarily by growth in Southeast Asia where new entrants and innovation continue to push boundaries. With government support, in the U.S. and China the adoption of mobile money services in business sector are expected to reach $1 trillion in value by 2023 (Global Index database, 2018).

Despite the significant projection and growth of mobile money services across the globe, Sub-Saharan Africa remained enduring epicenter of mobile money services. The region added over 50 million registered accounts in 2019. This was driven by strong growth in Western Africa (21 million new accounts) and Central Africa (6 million new accounts), as well as steady growth in Eastern Africa (22 million new accounts). The GSMA forecasted that account adoption across

Sub-Saharan Africa will remain strong and that the region will surpass the half billion mark by the end of 2020 (GSMA, 2019).

Across the world, Sub-Saharan Africa is the leading continents that conduct most of its money transaction through mobile money services. The World Bank (2018) indicated that at least 45.6% of the mobile money activity conducted across the world happens within the Africa continent with approximately $26.8 billion in transaction value in 2018 alone while this figure excludes bank operated solutions. In East Africa, the cradle of mobile money, the number of active mobile money accounts exceeded 100 million.

However, the success of mobile money is no longer limited to a few markets and regions. The total number of accounts active monthly has exceeded 261 million, and the GSMA forecasts that by 2025, the number of monthly mobile money customer accounts will surpass 370 million, the level where 90-day accounts were at end of 2019. Kenya has the leading number of users of mobile money services in the East African countries with 17,800,000 registered users, which represents 71.3% of the total number of mobile phone users in the country. Followed by Tanzania, which has 9,200,000 users of mobile money, representing 43.4% of the total number of mobile phone subscribers in the country. Uganda has the third largest number of mobile money users in the East African region with 2,100,000 users representing 8.1% of the total number of mobile phone subscribers. Rwanda and Burundi have 309,127 and 29,000 users of mobile money services representing 8.3% and 2.7% of the total number of mobile phone users in those countries respectively (GSMA, 2017).

Since introduction of mobile money services in Kenya in 2007, there are more than 110,000 M-Pesa agents, 40 times the number of bank ATMS in Kenya (Obadha, Colbourn & Seal, 2020). Central Bank of Kenya (2018) statistics indicated that over 40 million people moved $38.3 billion on Kenya's mobile financial rails with M-pesa having at least 95% of the transactions. In year 2020, there was a total of KES 1,087 billion mobile payment within between January and March (CBK, 2020). This is a clear indication that mobile money services are used across all the sectors that support the country's economy. As such, small businesses are not excluded to this innovation and thus they must embrace mobile money services to enhance their performance.

Among users of mobile money services in Kenya, there are micro, small, and medium enterprises (MSMEs). MSMEs play a crucial role in the Kenyan economy through income generating activities and employment creation. In Kenya, like in other countries across the globe, the number of MSMEs has been growing at a tremendous rate. The number of registered MSMEs in Kenya stands to over 1.6 million. Government reports show that MSMEs are critical drivers of Kenya's economy, contributing over 70% of GDP (RoK, 2014). MSMEs are increasingly seen as engines of economic growth of the country, contributing 70% of GDP and constituting 90% of the private sector. This is because they contribute to sustained creation of employment approximated to be 2.5 million, improve living standards, and ensure social and political stability (Hategа, 2007).

Despite their significance, past statistics indicate that three out of five businesses fail within the first few months of operation (Kenya National Bureau of Statistics, KNBS, 2016). One of the main reasons for this failure is lack of financial inclusion, financial deepening, and lack of cash flow.

To cope with financial challenges, MSME owners have innovatively responded to changing market dynamics by adopting innovations in their firms aimed at maximizing on their returns, minimize costs as well as enhancing their business performance. One of such innovative model that they have adopted is the mobile money services that are easily available from the telecommunication firms such as M-pesa from Safaricom and Airtel money from Airtel, which are major mobile money service providers in the country.

1.1.1 Mobile Money Services

Mobile money services have been defined as electronic money accounts that can be accessed via mobile phone (Zutt, 2016). The mobile money transfer (MMT) service is an aspect of a broader concept emerging in the electronic payment and banking industry referred to as Mobile Money. Even though mobile money has not been well defined in literature, it can be said to include all the various initiatives (long-distance remittance, micro-payments, and informal airtime battering schemes) aimed at bringing financial services to the unbanked, using mobile technology. However, mobile money can be defined as money that can be accessed and used via mobile phone (Jenkins, 2008). Mobile money services offer secure and convenient means for banked and unbanked people to send and receive money with mobile phones at home and abroad, anywhere at any time. It

contains features such as mobile wallet, mobile transfer, airtime transfers and mobile banking. Mobile wallet enables the subscriber to receive, store, send or pay money anywhere any time. Money transfer options means that one can send money from their mobile money account to a different subscriber anywhere anytime, which is similar to airtime transfer, where one can purchase and send airtime to another subscriber within the same network. Mobile banking works closely with banks to provide banking services to subscribers of mobile money.

Mobile money services can be broadly categorized into three groups: m-transfers, m-payments, and m-financial services. M-transfers involve money transfer from one user to another, normally without any accompanying exchange of goods or services (Jenkins, 2008). These are also referred to as person-to-person (P2P) transfers and may be domestic or international (Jenkins, 2008). M-payments involve money exchange between two users with an accompanying exchange of goods or services. M-financial services are mobile money services in which mobile money may be linked to a bank account to provide the user with a whole range of transactions that they would access at a bank branch. Users access financial-related services like insurance and micro-finance among others via their mobile phones (Jenkins, 2008). Money transfer via SMS texting was the first service offered. Using a basic mobile phone, users could electronically send and withdraw funds. The actual exchange of money--the deposit and withdrawal--occurs through a network of agents that essentially act as ATMs.

Mobile money plays an important role in the economy by facilitating access to financial services among MSMEs which contributes to their growth. Mobile money has become an easy, low cost, convenient and secure way of transferring money through person-to-person, person-to-business, and business-to-business transactions. By facilitating financial transactions, mobile money services have enabled MSMEs to overcome the key challenges of limited access to low-cost financial services, liquidity, and cash flow management. MSMEs use mobile money services to make and receive payments, pay taxes, make loan repayments, and pay various bills. This saves time and money and contributes to growth of MSMEs in terms of market share, revenue, and profitability.

In a study conducted in Zimbabwe, Masocha and Dzomonda (2018) stated that benefits provided by mobile money such as versatility, cost saving, time consumption, and user-friendliness are

deemed essential in the adoption of mobile money services. Thus, the more the perceived benefits encapsulated in mobile money services, the more MSMEs are expected to adopt.

In Ghana, Tobbin and Kuwornu (2016) pointed that perceived trust, trialability and perceived risk significantly influenced behavioral intention to use mobile money transfer. As part of financial services, the adoption of mobile money transfer is dependent on consumers' perception on trust and risk.

In Lesotho, Ntlatlapa (2017) pointed that proliferation and use of digital technologies in the various sectors of the modern society, including the financial sector, has resulted in an increased interest from different stakeholders regarding the adoption and use of different digital financial services. One such digital financial solutions is mobile money (M-money), which broadly refers to the distribution of financial services through a mobile device. M-money has been widely touted as a possible solution for bridging the financial inclusion gap in many developing countries such as Lesotho, where only 38 percent of adults have access to formal financial services.

In Tanzania, MSMEs use mobile money services in various ways for business purposes, which include sales transactions, efficiency in purchase of stock, receiving payment, payment of goods and services, savings as well as money transfer that influenced their business growth (Chale & Mbamba, 2015). There is a need for MSMEs to continue using mobile money in their businesses to enhance their businesses and reduce some costs such as cost of travelling, money transfer, as well as time for processing payments. Tumaini (2016) affirmed that mobile money technology has recently spread in developing countries, especially in Tanzania. He added that sales, purchases of stock and paying for services through mobile money services had positive significant influence on the growth of MSMEs.

In Uganda, Banangaki (2018) found that MSMEs have experienced a fast and explosive growth of mobile money services, which comes with associated benefits. These benefits include potential to increase the efficiency of existing payment systems, due to added value to financial service and micro-business enterprises. Lumu (2017) pointed that in Uganda, most of the micro-business enterprises are increasingly deploying the use of mobile payments to enhance the quality of their services and increase growth. Kabanda (2014) indicated that the roll out of mobile money services by the mobile telecommunication companies in recent years, has received over whelming uptake

by users of financial services. these show most of Ugandan commercial banks reporting a decline in profitability and liquidity which are attributed to some extent by the growth in use of mobile money services in business sector. while significantly contributed to growth and performance of MSMEs.

In Kenya, micro-business enterprises have increasingly deployed the use of mobile payments to enhance the quality of their services and increase growth. The pace of transformation in the micro business sector has speeded up with more micro businesses realizing the potential of using the mobile payments in their service delivery (Mbogo, 2010). Additionally, Kendall, Lyon, and Higgins (2012) pointed that Kenyan SME owners use mobile money services to pay utility bills or salaries or suppliers, they are driving higher volumes of both MM adoption and transactions. Ngaruiya (2014) indicated that the inception of mobile phone financial transaction has brought a lot of benefits to MSMEs. It has made money transfer to be available at a low cost compared to the traditional banking system where some transactions would be done within the premises of the bank.

1.1.2 MSMEs in Kitengela

Most MSMEs are now using M-pesa to buy goods and make payments from their suppliers. Person to person (P2P) money transfers, cash in deposits and cash out withdrawals at M-pesa agents, consumer to business (C2B) payments, business to consumer (B2C) payments and international money transfers are a common aspects of mobile money services used by MSMEs, those in Kitengela included. Mobile-phone banking, mobile payments commonly known as “Lipa na M-pesa” and agent banking for instance, are common aspects of these firms. However, the effect this adoption has had on their performance has remained unclear.

1.2 Statement of the Problem

Many governments through different organizations continue to encourage the growth of small businesses as they form the backbone of the economic growth in any country. Compared to large enterprises, MSMEs face many unique challenges such as reluctance by commercial banks to meet their financial needs like payments and transactional services. This is attributed to their financial positions that do not permit them to qualify for financial support such as loans as they possess low

capital base and lack security to secure the loans. MSMEs are often seen to process large numbers of payments and can have a surprising amount of money flowing through them. At the same time, their need for payment and transactional services are not always well served by traditional banks. They do not always find it easy or cost effective to adopt a full-featured package of banking services as a larger business might.

According to Higgin at el, (2012) lack of proper mode of receipts and payments, debt collection procedures and access to finance, makes SMEs to be faced with problems associated with liquidity and working capital management. According to a survey carried out by the Kajiado East Constituency development fund and contained in a document titled Kajiado East Constituency Development Fund (CDF) strategic plan 2018-2022, (2017) pointed that 75% of the SMEs operating in the Kitengela town depend mostly on mobile money services in transaction of their business. The report stated failure of the banks to support and meet the need of the SMEs in the area as the main reason to rely on mobile services offered by the telecommunication firms which enhance their performance. This phenomenon possesses a negative effect on performance of SMEs. The introduction of mobile money services has reconfigured how SMEs conduct their business. This innovation provided an ample and business friendly platform that ease financial transaction among the customer ad business as well as providing saving avenue and loans for unbanked business owners.

Local studies done include Mbogo (2010), Ngaruiya (2014), and Mararo (2018). Despite the contribution of mobile money services in business, no study has been conducted in Kitengela to establish its contribution to MSMEs performance. This study sought to bridge this gap by investigating the relationship between mobile money services and performance of MSMEs in Kitengela, Kajiado County.

1.3 Objectives of the Study

1.3.1 General Objective

The broad objective of this study was to establish the relationship between mobile money services and performance of micro, small, and medium enterprises in Kitengela, Kajiado County.

1.3.2 Specific objectives

i. To establish the relationship between mobile payments and performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County.
ii. To investigate the influence of mobile transfer on performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County.
iii. To determine the influence of mobile financial services on performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County.
iv. To establish influence of mobile commerce on performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County.

1.4 Research Questions

i. What is the relationship between mobile money payments and performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County?
ii. What is the influence of mobile money transfer on performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County?
iii. What is influence of mobile financial services on performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County?
iv. What is the influence of mobile commerce on performance of micro, small, and medium enterprises in Kitengela Sub County, Kajiado County?

1.5 Significance of the Study

The main purpose of the study was to impart inside knowledge of the relationship between mobile money services and MSMEs performance. Since MSMEs in Kenya and many other countries are the main source of employment, economic growth and activities which affect day-to-day functions of a manager, this subject was relevant to students undertaking management and leadership programs at higher education levels that need to acquire skills on how various financing models and financial services affects businesses.

The findings of this study encourage the government to continue in liberalizing network infrastructure and promotion of broadband competition and liberalization in network services and applications. Where the needs exist, and without pre-empting private initiative or inhibiting

competition, the findings of this study also help the government to complement private investment with public financial assistance to expand coverage for under-served groups and remote areas.

The results of this study also present valuable information to mobile phone companies that could develop or augment available products with special focus on MSMEs. The MSMEs operators or owners benefit from knowledge of financial services available through mobile money and how they can use them to positively affect their business. The findings enable MSME operators to know the benefits of using mobile money services and encourage them to increase the usage of the service.

1.6 Scope of the Study

The objective of this study was to establish the relationship between mobile money services and performance of MSMEs in Kitengela Sub County, Kajiado County, Kenya. This study was limited to mobile payments, mobile money transfer, mobile money financial services, and mobile money commerce. This study was undertaken between October 2020 and October 2021 at MSMEs in Kitengela, Kajiado County, targeting 261 MSMEs.

1.7 Chapter Summary

This chapter started by highlighting the global aspects on evolution and adoption of mobile money transfer which require MSMEs to adopt the innovation to enhance their performance. Part one of the chapter is on the study background where the detail concept of mobile money services and the overview of the target organizations have been looked at in details. The chapter also covers statement of the problem, objectives of the study both general and specific ones, study questions, significance of the study and the scope of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The present chapter covered the literature review that are related to the effects of the mobile money services on the performance of the small and medium enterprises. Categorically the chapter deals with the theoretical reviews, empirical review of the study variables, conceptual framework, and existing research gaps.

2.1 Theoretical Literature Review

The study was guided by the various theories which are related to effects of the mobile money services on the performance of MSMEs. It was grounded on Diffusion of Innovation Theory (DIT). Other theories like Technological Acceptance Model (TAM), Technology Organizational and Environmental Framework (TOE) and the Actor Network Theory (ANT) were used to support the discussion of the objectives and empirical literature.

2.1.1 Diffusion of Innovation Theory

The study was premised on the diffusion of innovation theory, which was first coined by Rogers in 1962. This was after Rogers carried out research on innovations. The theory holds that an idea that is related to the product nature and how it is perceived gives the underlying momentum for the innovation initiatives and allows for the diffusions and the spreading of the ideas which is therefore adopted among a given population or the related social structure (Rogers, 1995). The actual result of the diffusion activities is that people are motivated to adopt the new ideas given that people are part of the social structure. The theory further postulates that there are fundamental factors behind the adoption of the new ideas which includes the perception that people have towards the new idea and their collective behavior influences on the diffusion and acceptance of the new innovations (Rogers, 1995).

Li and Atuagene-Gima (2011), who is a key proponent of the theory, states that in its attempt to explain and give descriptions on how new ideas are spread and adopted, the diffusion theory puts across five fundamental factors to explain the basis of this process. The factors are considered to

play a key fundamental role. Complexity, trialability, competitive advantages, observability, and compatibility have been identified as some of the factors that aid the adoption of the theory (Rogers, 1995).

However, the theory has faced criticism from different scholars who hold different opinion on its use. Hager (2006) argued that it does not meet the real practical approach by arguing that the social system innovations does not take place concurrently. He further holds that the process of technological innovations depends on the people's appetite for the innovations and thus does not equally cut across the divide as the proponents of the theory tend to hold (Rogers, 1995). Hager maintains that the theory's focus is on the way the adopters tend to view the aspects of innovations with regard to how that correlates with the factors that are considered favorable, and those that are unfavorable.

The application of the diffusion of innovation theory has been considered significant in understanding and comprehending the changes that do take place in the adoption and the use of mobile money services among MSMEs (Rogers, 1995). There are significant factors that play a key pivotal role in the adoption of mobile technologies. Further the decision to adopt a new technology depends on the personal views of the individuals and the organizational perspective with respect to the use of the mobile money transaction services among the enterprises. MSMEs are likely to remain competitive in the market based on their average performance on the technological capacity (Rogers, 1995).

2.1.2 Technological Acceptance Model (TAM)

The technological acceptance model (TAM) is one of the anchoring theories that have been adopted by the current study. The theory was first coined by Davis in 1989. According to Davis, the theory applies to any human-computer interactions without being specific on the aspects of interactions (Davis, 1989). The theory asserts that perceived usefulness and the perceived ease of use determine the need associated with the technological adoption among the users. The proponents of the theory hold that the key determinants and antecedents of the interactions and behavioral motivations to adopt the new technological is primarily guided by the perceived ease of use of the new technological ideas (Sun, 2006). The theory thus presents the major determinants that motivate the adoption of the new technological ideas (Davis, 1989).

There are several proponents to the theory; Koul and Eydgahi (2018) utilized the TAM theory in the implementations of the driverless car technology. In their own view, they believe that the theory would still remain dominant even with the evolution of the new technologies across the world. They postulate that the theory has successfully been adopted by the early users. However, the theory has been criticized by other scholars. Kim, Kang and Moon (2015) criticized the theory on the grounds that it is premised on the original fundamental three relationships that are perceived to affect the behavioral patterns among the adopters as being the perceived ease of use, perceived usefulness and perceived value that determines the adopters' behavioral intensions. The critics hold that there are other factors that affect the individual behavioral intensions like the capacity to the new technological uptake which the theory failed to highlight.

The application of the TAM theory has been considered significant to this study taking into consideration the view that technological attitudes have been significant in influencing the use of mobile technology among the MSMEs in Kenya (Sun, 2006). Zang (2008) holds that there are psychological perspectives that are perceived in the mobile communications which relates to people's perceptions, attitudes, and expectations, and further determines the perceived characteristics that determines the choice of communication channels among MSMEs (Sun, 2006). The theory was also significant to the study since it points to the other external factors outside the business environment that also effects on the adoption and use of the mobile technologies among the small and medium enterprises.

2.1.3 Technology, Organization and Environment (TOE) Framework

The TOE model has been used together with the TAM one in this study in a complementary manner. The TOE model was first developed by in 1990 (Fleischer, 1990). According to Tornatzky & Fleischer, TOE was developed to reinforce the adaptation of innovations. The other proponents of the theory, Awa and Liu (2016), also allude that TOE presents the three major aspects of organizations that are critical towards the implementation of the technology in an organization set up. They hold that the technological aspects of the organizations relate to both the internal and the external factors that affect the organization and that affects the perceived usefulness of the technological adoptions (Fleischer, 1990). These factors include the compatibility, the pilot tests, and the complexity within the learning curve of the organization.

Ismail (2016), a proponent of the theory, holds that the organizational readiness to adopt new technology depends on the characteristics of its resources. He identified some of this organizational readiness to include the finical readiness, the culture of the organization, and the technological readiness of the organization (Fleischer, 1990). He alludes that these factors are critical and responsible for developing the organization strategy that will support the adoption and the implementation of the new technological approaches (Harfoushi, 2016). However, the theory has also received several criticisms on its applicability and implementations in relation to technology adoption. Harfoushi (2016) argues that the theory has delved so much on the external factors including the ICT infrastructures and ICT human resource readiness and failed to mention on the critical capacity building initiatives that are critical to the successful implementation of the new technology. The critics challenge the proponents of the theory for failing to mention the need for the human resource trainings and related empowerments that are critical success factors towards the successful implementation of the technological innovations (Harfoushi, 2016).

The application of the TEO model has been considered significant to the study since the theory identifies that external support systems that will be of help to the MSMEs in accepting the use of mobile money services for the success of the business (Harfoushi, 2016). The need to identify the readiness among the trade partners will also ease the use and the utilization of the mobile money services among the MSMEs which is a critical factor for their success and expansions. The theory also is relevant since it points of the need for the top management support of the implementation of the new mobile money services among the small and medium enterprises.

2.1.4 Actor Network Theory (ANT)

The study was also premised on the actor network theory (ANT), which was first coined by Latour and Mauguin in 1992. The theory attempts to identify the relationship between the humans and the surrounding social organizations and attempt to distinguish their behaviors towards the natural objects and technological aspects of these objects (Latour, 1981). The theory adopts the passion of anti-essentialists and therefore rejects there being any difference between the human and non-humans. The theory therefore holds that both the technical and the social determinism of the technological implementations and adoption are susceptible to certain inherent flaws and therefore proposes a different social –technical account to be used instead (Latour, 1981).

The proponents of the theory -- Callon and Latour 1981, Latour 1986, and Law and Callon 1988 -- assert that both the social technical positions are not purely advantaged in their implementations and applications and argues that both are considered in an equal measure (Latour, 1981). Therefore the theory deals with the social technical divide by attempting to explain that there are no technological innovations that are purely social and those that are purely technical (Latour, 1981). The theory therefore posits that the computer technological applications are heterogeneous in their applications (Wambari, 2009). The theory has identified the use of programming languages and database management software that are most often used in the supermarkets as being heterogeneous in nature. However, the theory has been criticized by other scholars with contrary opinion on its key tenets. Latour (1988) asserts that consideration of the systems as not being social or technical in nature is a simplistic way of viewing technological innovations and proposes that there should be a more complex way of viewing the two. He argues that computer related systems remain to be complex and have taken the official role with regard to the local, national and the global organizations (Wambari, 2009).

The theory is relevant to the study since the adoption of the mobile money services among MSMEs is a complex system that involves both the technological aspects which is considered as being technical in nature and the human related aspects like the attitude of the users to seamlessly adopt the technology and use it for their own good (Wambari, 2009). The MSMEs therefore need to navigate through both the technical and social factors for successful implementations.

2.2 Empirical Literature Review

2.2.1 Mobile Money Payments and Performance of MSMEs

There are several research papers that have documented the use of mobile money payments on the performance of MSMEs. Studies state that the concept of mobile payments refers to the various mobile application methods through which users can make money transactions through business to business or business to customer modules (Fanta, 2016). They reveal that the use of mobile phone payment methods has resulted in the reduced-price variations in the business market significantly, therefore reducing the overall costs of doing business (Batista, 2020). Mobile payment methods involve all the transactions that deal with the withdrawals, the processes of

making deposits and applications for loans through utilizations of the mobile phone services (Fanta, 2016). Several studies have been done both internationally, regionally, and locally.

Tat (2018) assessed the opportunities and challenges of the mobile payment services in Sweden. The main objective of the study was to broaden the knowledge and the understanding about the ways mobile payment service providers address the opportunities and challenges of mobile payment services. In order to investigate the problem, the study explored factors stimulating and hindering the introduction of mobile payments using perspectives of different types of service providers which included the banks, independent providers, direct operator billing providers, retailers, and public transport companies and also to seeks to explain the importance of these factors for each type of provider (Tat, 2018). The primary data for the study was collected using the interview method where more than 40 industry representatives in six countries were contacted. The Service, Technology, Organization, and Finance (STOF) model was used as a theoretical research framework. The study findings revealed that the organization domain is the key domain, which affects all other domains and has an impact on the general viability of the business model (Tat, 2018).

Bangens and Soderberg (2011) studied Mobile money payments among the Micro business enterprises in Uganda. The study focused on the relationship between mobile payments and MBEs market performance. The study employed the use of data that was collected from the retail businesses situated in Kampala where the population of the MBEs in Nakawa Sub County was 10.6% of the 194 micro business establishments of those in Kampala Town. The study revealed that revealed that the use of the mobile payment has been effectively adopted by the MBEs in Uganda (Ban, 2011).

Ngaruiya (2014) did a study on the effects of the mobile payment transactions on the financial performance of MSMEs in Nakuru central business district (Ngaruiya, 2014). The study revealed that the inception of mobile phone payment transaction has brought a lot of benefits to MSMEs in Kenya. It has made money transfer to be available at a low cost compared to those traditional banking systems where some transactions are done within the premises of the bank. The aim of this study was to find out the effect of mobile money transactions on financial performance of MSMEs in Nakuru town central business district (CBD). The study made the use of the descriptive

research design, where it sampled 120 out of 640 businesses with the use of the purposive sampling technique. The data collection for the study was done using the questionnaire method as the main data collection instrument. The results of the study revealed that mobile money transactions have a significant effect on the sales revenue (Ngaruiya, 2014).

Mbogo (2017) analyzed the impact of mobile payments on the success and growth of micro-business, a case of M-pesa in Kenya. The study aimed at investigating the success factors attributable to the use of mobile payments by micro-business operators, based on a survey conducted through administration of questionnaires. The data was collected from a sample of 409 micro business entrepreneurs in Nairobi, Kenya. The study made use of the TAM model, which it extended to include other factors to help in predicting the success and growth in micro-businesses (Mbogo, 2017). Analyses of the data reveal that convenience of the money payments technology plus its accessibility, cost, support, and security factors are related to the behavioral intention to use and actual usage of the mobile payment services by the micro businesses to enhance their success and growth. The study also revealed that the pace of transformation in the micro business sector has speeded up with more micro businesses realizing the potential of using the mobile payments in their service delivery (Mbogo, 2017).

Simiyu and Oloko (2015) studied mobile money transfers and the growth of small and medium sized enterprises in Kenya with focus to Kisumu city, Kenya. The Study population consisted of randomly selected SME owners or managers in Kisumu City and the unit of analyses was the MSMEs in Kisumu City. The sampling frame was the list of businesses registered by the Kisumu Municipal Council. The number of uses to which Mobile Money Transfer (MMT) can be put keeps increasing with time. However, it is not clear how Mobile Money Transfer use influences the growth of MSMEs. The study established that mobile money had made a significant contribution to the SME sector. Majority of the traders rely on it as opposed to the formal banking sector for their day-to-day transactions. Thus, this study achieved its objectives and obtained detailed information arising from the use of mobile money services by MSMEs. In respect to the conceptual framework, mobile money transactional costs, convenience and financial accessibility have all been shown to affect MSMEs growth through the service leading to increased

enrolment in mobile money services, increased financial transactions resulting in increased sales and therefore perceivable contribution to business growth.

2.2.2 Mobile Money Transfers and Performance of MSMEs

Mobile money transfer refers to the approaches and methods that allow the users of the mobile money services to transfer funds through their mobile phone through the text messaging. The use of the mobile money transfer has gained a tremendous phenomenon growth (Fanta, 2016). The efficiency and affordability associated with the use of the mobile money transfer is a significant financial breakthrough that every person requires. The use of the mobile transfers has been regarded as the most efficient way of carrying out transaction and has been adopted by vast majority of people in businesses (Batista, 2020). The existence of the mobile phone coverage through provisions of the mobile transfer services have promoted the consumptions of the mobile transfers' services which has made the services to be reliable and effective. With the increase in the uptake of these mobile money transfer services, majority of the MSMEs have enrolled and are utilizing these services in their trading activities (Batista, 2020). Several studies have been done both locally, regionally, and internationally.

Talom and Tengeh (2020) conducted a study on the Impact of Mobile Money on the Financial Performance of the MSMEs in Douala, Cameroon. The research method that was adopted for this was a qualitative/descriptive method. The information collected was summarized to leave space for interpretations and discussions. And through the study it was imperative that the objectives of the study should not in any way be overlooked. The overall objective of the research was to investigate the impact of mobile money services on Small and Medium Enterprises (MSMEs). The sample for the research comprises of MSMEs in Limbe, Blantyre, Malawi. The choice for MSMEs in Limbe was arrived it was reasonable for the budget of the researcher. This is a municipality in the heart of Blantyre. This research was not conducted to compare the mobile operators as to which are most respondents subscribed to, so the collected information was not sort in any way to render the research favorable to one network than the other. Through the study some concerns were found that made for most of the recommendations and conclusions that were addressed to both parties involved in the study like that of convenience, reliability of the services and some security concerns.

Mutinda (2018) analyzed the effect of mobile phone-based money transfers on the financial performance of small and medium enterprises in Nairobi County. The study adopted descriptive survey method. A target population of more than 50,000 formally registered MSMEs was used and total sample size of 460 respondents was picked as representative giving a provision of 20% over and above the desired sample size in the event of non-response on some of the respondents in the sample size. The desired sample size was derived using Mugenda and Mugenda (2003) recommendation. Stratified sampling was one of the probability techniques used in order to ensure that various types of MSMEs were included in the survey. Data was collected using self–administered questionnaires and interview guide. The collected data was analyzed using Statistical package for Social Scientist software. The results of the study were analyzed using descriptive and inferential statistics and the results were presented using figures and tables. The findings of the study revealed that there is a positive correlation between MSMEs financial performance and business growth, efficiency in service delivery, access to information and convenience and reliability. Development of mobile money transfer services influences the development of market; mobile money transfer services enhance efficiency in service delivery in business; access to information in mobile money transfer services depend on the environment and mobile money transfer services are convenient and reliable.

Ngaruiya, Bosire and Kamau (2017) studied the effect of mobile money transactions on financial performance of small and medium enterprises in Nakuru Central Business District. The study employed descriptive research design. The study sampled 120 out of 640 businesses using purposive sampling technique. Questionnaire was used as data collection instrument. The results of the study indicated that mobile money transactions have a significant effect on sales revenue.

Marulanda (2018) assessed the mobile conditional transfers on the performance of business in Colombia. The study was conducted among the government owned business institutions where a total of 58 business institutions were investigated. The study findings revealed that the inclusion of financial mobile money transfers has served to cushion the operation of the business enterprises and promoted the flow of business which contributed to the growth of the Colombia GDP. The study also revealed that the mobile money transfer services have led to the infrastructure

development due to the numerous business startups that were mushrooming due to the accessibility of finances (Marulanda, 2018).

Talom and Tengeh (2020) analyzed the Impact of Mobile Money on the Financial Performance of the MSMEs in Douala, Cameroon. This paper implemented a mixed research paradigm with data collected through the administration of a survey questionnaire and from one-on-one in-depth interviews. A sample of 285 MSMEs responded to the survey, while 12 owners/managing directors were purposively selected to participate in the personal interviews. Version 25 of the Statistical Package for the Social Sciences (SPSS) software was used to analyses the quantitative data, while the qualitative data was analyzed along themes. The results were, after that, triangulated for credibility reasons. The concluding findings indicated that the mobile money payment and receipt services contributed of the order of 73% of the total variance in the turnover of the MSMEs in Douala after they had begun to use the technology.

Laura (2014) assessed the impact of the mobile money transfers and usage on the microenterprises in Zambia, revealing that mobile money transfer systems have spread rapidly across the world in the last decade. Also provided that the developing countries are also powered by the informal economies that traditionally have had very limited access to the information technologies, mobile transfer system infrastructure has the potential to transform the way microenterprises conduct business (Laura, 2014). The study employed an instrumental variable strategy with the use of the mobile operator as the instrument to address the selection bias in adoption of the mobile money transfer services which are made available to everyone. The study established an evidence of positive net marginal benefits for the microenterprises using the mobile money, the study established an increase in profit which ranged between 36% and 74% increase in profits. The study findings also helped to fill the gaps in the nascent microenterprise and the mobile money literature and also attempted to offer guidance to the public and the private policy makers regarding the specific market segment (Laura, 2014).

Wadada (2015) investigated the significance of the mobile money transfers facility on the business performance of the mobile money agents in Kikuubo business area in Uganda. Specifically, the study sought to establish on the effect of the background characteristics, to find out the effect of number of lines owned by agents, period spent in mobile money, effect of volumes of transactions

and effect of family size of the mobile money agent on the business performance of mobile money business of traders in Kikuubo trading area (Wadada, 2015). The study adopted a descriptive research design which was aimed at the collection of the data and the tabulation of frequencies on research variables to reveal who, what, when, where or how much. A simple random sampling was used to select 112 respondents from the total population who participated in the study (Wadada, 2015). With the aid of Stata 15.0 computer software, data analysis was also performed at three different levels namely univariate and bivariate and multiple regression, where the univariate analysis was with the aid of descriptive statistics and of frequency counts and percentage. Bivariate analysis was also undertaken with the aid of ANOVA and Chi-square to test the nature of relationship between the variables and finally OLS. Results revealed that except for family size, the volume of transactions, number of mobile money lines, number of customers and period spent in business, there was a weak but positive statistically significant correlation with the business performance using spearman's correlation. With the training, there is need to set goals and apply high impact marketing skills to attract customers of different socioeconomic background (Wadada, 2015).

Oloko (2015) studied mobile money transfers and the growth of the small and medium sized enterprises in Kenya. The study achieved its objectives and obtained the detailed information arising from the use of mobile money services by the small and medium enterprises. In respect to the conceptual framework, mobile money transactional costs, convenience and financial accessibility have all been shown to affect MSMEs growth through the service, leading to the increased enrolment in mobile money services, increased financial transactions resulting in increased sales and therefore perceivable contribution to business growth (Oloko, 2015). The target population for the study were all the registered MSMEs and individual users operating within the Kisumu municipality (Oloko, 2015). There was a total of 13,350 legally registered large, medium and small business enterprises in Kisumu city. Of these, 9,120 were classified as MSMEs, 4,030 Medium Enterprises and 200 classified as large enterprises (Oloko, 2015). These businesses are clustered under different categories: Transport, Communication, Financial Services, Industrial Plants, Service Contractors and Technical & Professional Services, among others. The study revealed that the Mobile Money Transfer (MMT) has marked a new frontier in the mobile phone technology with an ever-increasing number of micro businesses using it in their transactions to

enhance performance of their business entities. Further the study established that mobile money had made a significant contribution to the small and medium enterprises sector where majority of the traders depends on it as opposed to the formal banking sector for their day-to-day transactions (Oloko, 2015).

Cherono (2018) assessed the relationship between mobile money transfers and the business performance; a case of the Kenya power adoption of the Mpesa in Kenya. The general objective of the study was to evaluate the relationship between mobile money transfer and performance of Kenya Power Company (Cherono, 2018). The specific objectives of the study were to investigate level of adoption of mobile money transfer in Kenya Power, to establish impact of mobile money transfer in business performance of Kenya Power, and to establish the challenges face by Kenya Power as a result of adopting mobile money transfer. The study used descriptive analytical approach, which reflects the social phenomenon to be studied. The population of the study was employees of Kenya Power, head office (Cherono, 2018). The study considered all the departments since MMT is used in all the departments. Stratified random sampling was used to select 115 respondents. The study revealed that the Mobile money transfer allows the customers to buy token easily, ensures the timely provision of services to customers, and enables clients to get a mini statement of their transactions with Kenya Power. It has led to economic growth and promoted empowerment of employees. Further, the study the study revealed that Kenya Power has faced challenges in MMT implementation which include lack of customer trust and limited ability to partner with large corporations (Cherono, 2018).

2.2.3 Mobile Financial Services and Performance of the MSMEs

The concept of the mobile financial services concerns the use of the mobile technology in enhancing the flow of money services among the traders in the small and medium enterprises. The introduction of the mobile financial services has contributed towards the reduction in the price variations among the markets (Batista, 2020). The mobile financial services which involve the use of the asset accruals and the premium services, among others, have contributed towards the expansion and growth of MSMEs in Kenya and across the world (Fanta, 2016).

Abdil (2011) studied the relationship between the mobile financial innovations and the performance of the MSMEs in Sweden. The study addressed the major questions such as the

advantages and the disadvantages of the existing mobile financial models used towards trying to evaluate the SME performance (Abdil, 2011). The study also identified the characteristics of a comprehensive model for measuring SME performance with acknowledgement of the firm's mobile financial innovation activities and how the firm's mobile financial innovation activities can be enhanced in relation to the firm's external environment. The study also tried to address those questions using a conceptual analysis, as well as empirical investigation utilizing a case study approach. The study revealed that there are challenges that the business model must incorporate which involved the non-mobile financial input parameters, such as the firm size and age, in the performance evaluation of the mobile financial models (Abdil, 2011).

Madila (2016) analyzed the effectiveness of the mobile money financial applications on the development of the small and medium enterprises in Tanzania. The main objective of the study was to determine the effectiveness of mobile money in supporting the growth of MSMEs in Tanzania (Madila, 2016). The study was carried out in Moshi, Kilimanjaro region in Tanzania. Specifically, the study intended to determine the qualities of mobile financial services which drive the SMEs to use mobile money and the values it adds to its users of these services. A total of 38 SME's owners were randomly selected from different parts of Moshi Urban as a study sample. The primary data were collected through interview using semi structured questionnaires followed by focus group discussion (Madila, 2016). The secondary data were collected from papers and other documents related to SME's and mobile financial services. The data were analyzed by using Statistical Package for Social Science (SPSS). More than 70% of respondents agree that the use of mobile money has played great role in development of their SME's. Furthermore, the study found that majority SME's who are using mobile money are wholesales, followed by the small retail shops (Madila, 2016). And the factor that influences the adoption of mobile money in SMEs among other are cost of serving, and ease of use. Despite the significances there were some challenges associated with the mobile financial services, thus the study recommends that the cost of using mobile financial services should be reduced to attract more SMEs to use the mobile money also to reflect the living standard of many people. Therefore, by so doing, the increase the competitive advantage with the financial institutions. Moreover, the government should introduce the mobile money policy in order to regulate the mobile money operations and smooth its operations (Madila, 2016).

Masocha and Dzomonda (2018) conducted a study on adoption of Mobile Money Services and the performance of small and medium enterprises in Zimbabwe. This contribution used the quantitative research method with a descriptive research design. This study targeted 160 MSMEs participated in the survey and data was collected through the use of self-administered questionnaire in a survey. Participants in the study were selected owner and managers of MSMEs in the rural places in Zimbabwe sampled using the convenience sampling technique. The data was collected between September-November 2017. Data analysis included descriptive statistics, exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation modelling (SEM). SEM was used to test hypotheses and the results indicated that benefits of mobile money and challenges in traditional financial services influenced firm adoption of mobile money services. Conclusively, the study established that subsequent adoption of mobile money services has an influence on the performance of MSMEs.

Iravonga (2018) evaluated the effects of the Mobile financial services on the financial performance of the small scale and medium enterprises in Kakamega County, Kenya. This study sought to establish how mobile banking has therefore affected the financial performance of MSMEs. The research was conducted as an exploratory research. The target population of study for the research comprised of the MSMEs that provided the financial services within the Kakamega County. The study used random sampling technique (Iravonga, 2018). A sample size of 373 MSMEs was used for the purposes of the study (Iravonga, 2018). The findings revealed that MSMEs used mobile financial services to send and receive money, check account balance, knowing when to deposit or withdrawal from their mobile accounts. The results also revealed that there was positive relationship between financial performance of MSMEs and accessibility (R=0.704), Efficiency (R=0.607) and convenience (R=0.524). However, there was negative relationship between cost of mobile financial services and financial performance of MSMEs (R=-0.660). The study concluded that mobile financial services had significant effect on the financial performance of MSMEs in Kakamega County as it significantly accounted up to 65.2% (R square=0.652) variation in financial performance (Iravonga, 2018).

Karimi (2016) assessed the impact of the financial services and communications on the performance of small and medium enterprises in the selected units in Kenya; the study was

conducted from the month of November 2014 - January 2015 and in conclusion definitions of the terms are stated. An explanatory research design was also used. The target of the study was 4380 business units within Nairobi County, out of which 129 MSMEs were sampled (Karimi, 2016). The Primary data was sourced through the use of a self-administered, semi structured questionnaire. The data was analyzed through the use of both descriptive (mean and standard deviation) as well as inferential (correlation and regression) analysis. The study found out that all the three independent variables have a significant influence on SME performance, with operational costs affecting SME performance negatively while efficiency of business operations and marketing and sales affect it positively (Karimi, 2016). The independent variables explain a significant 18.42% of the changes in SME performance in Nairobi County, with a good fit for the model as were indicated by an F-value of 8.888 reliable up to 97.5% level (Karimi, 2016).

Nyaga (2017) studied the impact of mobile money services on the performance of small and medium enterprises in an urban town in Kenya. The objectives of this study are; to investigate current awareness and uptake of various mobile money services, to determine if mobile money services uptake has any impact on MSMEs growth through increased sales or savings and loan accessibility, establish if mobile money service qualities of low cost, convenience and accessibility result in increased MSMEs performance and establish if mobile money services are considered efficient and reliable by MSMEs in Naivasha Town. The study found that mobile money has made a significant contribution to the SME sector. Majority of the traders rely on it as opposed to the formal banking sector for their day-to-day transactions. Secondly, it is evident that all the respondents in this study had a clear understanding of the basic functions of mobile money services. Mobile money services have a positive impact on sales. Efficiency and reliability contribute more to mobile money utility and MSMEs growth. It is worth noting that majority of the respondents had reservations on the convenience and cost of the service as a result of problems associated with the functionality of the service.

2.2.4 Mobile Commerce Services and Performance of the MSMEs

The concept of the mobile commerce services relates to the use of the mobile money services to aid in the money related traction in business exchange (Fanta, 2016). Although not much literature is available relevant to the use of the mobile commerce services, the initial empirical evidence that

are available points to the advantages that are associated with the use of the mobile commerce services. Studies have revealed that the introduction of the M-pesa services in Kenya has significantly led to reduced cost of transactions since there are several money transfer platforms that are competitive and thus maintains the market equilibriums (Batista, 2020). Apparently there has been a significant increase in receiving of remittance through the mobile money platforms a condition that is reported to be contributing towards the financial inclusions among most traders in the country (Batista, 2020).

Okolo and Obidigbo (2017) conducted a study on boosting small and medium enterprises performance in Nigeria through mobile commerce. Ordinary least square regression was employed to measure the extent to which the small and medium enterprises were influenced. The results revealed that small and medium enterprises in Nigeria have not sufficiently adopted m-commerce in doing business. In order to achieve the cashless economy campaign by the Central Bank of Nigeria (CBN), adopting m-commerce for small and medium enterprises is inevitable. The study recommends that Nigerian microfinance banks should develop mobile site and provide banking services to small and medium enterprises since they are directly involved with them.

Chau and Deng (2018) surveyed critical determinants for mobile commerce adoption in Vietnamese MSMEs: a conceptual framework. The proposed framework is developed from a comprehensive review of the related literature on organizational m-commerce adoption research. Within this proposed framework, the current patterns of m-commerce adoption in Vietnamese MSMEs can be analyzed, the critical determinants for m-commerce adoption in Vietnamese MSMEs can be identified, and specific suggestions for improving the m-commerce adoption in Vietnamese MSMEs can be discussed. The proposed framework contributes to better understanding of the m-commerce adoption in MSMEs, particularly in the context of developing countries.

Khaskheli, Jun and Bhuiyan (2017) studied M-commerce and mobile apps: opportunities for MSMEs in developing countries. The current research paper is a review of current concepts in M-commerce and Mobile Applications. In the paper, M-commerce is defined as a part of e-commerce. The conclusion suggests that M-commerce depends significantly on e-commerce technologies. Technology adoption is becoming more affordable as well as a necessity to survive

in today's ultra-competitive business environment. Only brick and mortar or businesses without presence on the internet would be at a big disadvantage and may even close down sooner than later. Flexibility characteristic of SME business makes it easier to make a decision on a large scale, such as new technology adoption, modifying or even revamping an existing business process to meet market demands and avail existing or potential opportunities. M-Commerce, therefore, holds great benefits for MSMEs to grow their revenues greatly by being available at the fingertips of millions of potential buyers around the world

Rana and Nripendra (2019) investigated the exploring the barriers of m-commerce adoption in MSMEs in the UK: Developing a framework using ISM. The study used an Interpretive Structural Modelling (ISM) and MICMAC approach for guiding and helping managers of MSMEs. Data was collected from an expert participant group each of whom extensive knowledge of m-commerce (Nripendra, 2019). The study had established that in the modern business community, mobile commerce (m-commerce) is changing the way the business is conducted using the Internet. However, the prominence of m-commerce among MSMEs in the UK is still considered to be greatly minimal. The main purpose of the study was to try and evaluate the existing literature and to extend the research surrounding the barriers that prevent the adoption of m-commerce amongst MSMEs (Nripendra, 2019). The findings of the study represented the unstable nature of variables in the context of their impact on each other, their relationships, and themselves. The listed factors in the proposed framework and the interrelationships between them highlighted the multidimensional element of m-commerce adoption prevention. The observation proves criticality of analyzing data as a collective entity rather than viewing the barriers in isolation (Nripendra, 2019). The findings also indicated ‘perceived risk’ being a key barrier that demonstrates how personal opinions of the concept of adoption can have a great significance on the outcome and whether other variables will come into effect. Further the findings highlight the unstable nature of variables in the context of their impact on each other, their relationships, and themselves. It proves the importance of analyzing data as a collective entity rather than viewing the barriers in isolation (Nripendra, 2019).

Muhammad (2011) did a study on the (Muhammad, 2011)Mobile commerce or better known as M-commerce is a fairly new phenomenon in the wake of the second technology wave from the

famous E-commerce (electronic commerce) in the 21st century. Therefore, as the Internet started to proliferate in many parts of the world, the mobile phone penetration in terms of voice communication started to grow rapidly. This simultaneous promoted the rapid growth that has caused a new phenomenon of convergence of Internet computing and mobile communication where M-commerce has its root (Muhammad, 2011). M-commerce has the potential to enhance the work-life within the employed mobile phone users in Bangladesh. The purpose of this study was to examine whether awareness and knowledge, convenience of Mobile devices and WAP/GPRS enabled handsets, pricing and cost, security and privacy, rich and fast information, and perceived usefulness have any influence on the adoption of M-commerce among employed Mobile phone users in two major cities in Bangladesh-Dhaka and Chittagong. Survey method was used to collect data (Muhammad, 2011). A total of 110 questionnaires were distributed. Of 110 questionnaires, 100 were completed in full. Ten questionnaires were rejected as they were not fully answered. The respondents consisted of various age groups and levels of education the findings suggest that pricing and cost, rich and fast information, and security and privacy are significant predictors of the adoption of M-commerce. Self-efficacy is found to be a moderating factor for the adoption of M-commerce services (Muhammad, 2011).

Frank and Robertson (2019) asserted that often, the financially excluded by the traditional banking system, MSMEs in many developing countries have found mobile money services a sustainable alternative. Despite its potential in propelling inclusive growth, the use and adoption of mobile money by MSMEs has generally been low in developing countries, and one of the reasons has been limited data that supported its impact on financial performance. The study implemented a mixed research paradigm with data collected through the administration of a survey questionnaire and from one-on-one in-depth interviews (Robertson, 2019). A sample of 285 MSMEs responded to the survey, while 12 owners/managing directors were purposively selected to participate in the personal interviews. Version 25 of the Statistical Package for the Social Sciences (SPSS) software was used to analyses the quantitative data, while the qualitative data was analyzed along themes (Robertson, 2019). The results were, after that, triangulated for credibility reasons. The concluding findings indicated that the mobile money payment and receipt services contributed of the order of 73% of the total variance in the turnover of the MSMEs in Douala after they had begun to use the technology. By confirming the positive relationship between the use of mobile money services and

the financial performance of businesses, it is hoped that all the relevant stakeholders will see this as a possible solution to the financial challenges that MSMEs face in developing economies (Robertson, 2019).

Khaskheli, Jun and Bhuiyan (2017) surveyed M-commerce and mobile apps: opportunities for MSMEs in developing countries. The conclusion suggests that M-commerce depends significantly on e-commerce technologies. Technology adoption is becoming more affordable as well as a necessity to survive in today's ultra-competitive business environment. Only brick and mortar or businesses without presence on the internet would be at a big disadvantage and may even close down sooner than later. Flexibility characteristic of SME business makes it easier to make a decision on a large scale, such as new technology adoption, modifying or even revamping an existing business process to meet market demands and avail existing or potential opportunities. M-Commerce, therefore, holds great benefits for MSMEs to grow their revenues greatly by being available at the fingertips of millions of potential buyers around the world.

Obey and Masocha (2018) studied the adoption of mobile commerce services and the performance of the small and medium enterprises in Zimbabwe. The study focused on investigating the drivers of the adoption of mobile money services and the subsequent performance of MSMEs in Zimbabwe. This contribution used the quantitative research method with a descriptive research design. 160 MSMEs participated in the survey and data was collected using self-administered questionnaire in a survey. Participants in the study were selected owner/ managers of MSMEs in the rural places in Zimbabwe sampled using the convenience sampling technique (Mosocha, 2018). The data was collected between September-November 2017. Data analysis included descriptive statistics, exploratory factor analysis (EFA), confirmatory factor analysis (CFA,) and structural equation modelling (SEM). SEM was used to test hypotheses and the results indicated that benefits of mobile money and challenges in traditional financial services influenced firm adoption of mobile money services. Conclusively, the study established that subsequent adoption of mobile money services has an influence on the performance of MSMEs (Mosocha, 2018).

Nyaga (2013) assessed mobile commerce services on the performance of MSMEs in the urban towns in Kenya. The study investigated on the current awareness and uptake of various mobile money services among the SME in Kenya, and also investigated whether the mobile money

services uptake had any impact on MSMEs growth through increased sales, savings and the loan accessibility (Nyaga, 2013). Mobile money service qualities of low cost, convenience, and accessibility on the performance of the MSMEs. The study was an exploratory in nature and therefore the collected data was analyzed using the Correlation Coefficient to measure how the variables are related to each other in accordance with the conceptual framework (Nyaga, 2013). The study revealed that the mobile money has made a positive contribution towards the performance of the SME sector since majority of the traders rely on it as opposed to the formal banking sector for their day-to-day transactions (Nyaga, 2013).

2.3 Summary of Research Gaps

Table 1: Summary of Research Gaps

Study	Focus of the Study	Methodology	Main Findings	Knowledge Gap	Focus of the Proposed Study
Tat (2018)	Opportunities and challenges of the mobile payment services in Sweden.	The study adopted a case study approach where data was collected using interview method.	Findings revealed that the organization domain is the key domain and was key in viability of business model.	The study did not interrogate on the reality as to whether mobile payment services affect business performance	This study relied on the information that was given by the respondents and further look at more indicators that were not studied by studies carryout out so far thesis.
Bangens and Soderberg (2011	Mobile money payments among the Micro business enterprises in Uganda	Data was collected using questionnaire to 194 businesses. Cross sectional descriptive survey design was employed in the study.	Findings of the study revealed mobile payment has been effectively adopted by MBEs.	This study investigated Mobile money payments as dependent variable.	The current study investigated the effect of Mobile money payments to performance of MSMEs and independent variable.
Mbogo (2010)	Mobile Payments on the Success and Growth of Micro-Business: The Case of M-	The study adopted descriptive survey research design.	Thus, the study found most MSMEs have realized the potential of using the mobile	The study investigates mobile payments in MSMEs without clearly indicating the	The current study clearly indicated the construct to be used to measure the mobile payment and how

	Pesa in Kenya.	The study used structured questionnaires.	payments in their service delivery.	construct used to conduct the study.	it affects MSMEs performance.
Wadada (2015)	Mobile money transfers facility on the business performance of the mobile money agents in Kikuubo business area in Uganda.	The study adopted descriptive survey research design. Simple Random Sampling.	The findings of the study revealed that a weak but positive statistically significant correlation with the business performance using spearman's correlation.	The study investigates how mobile money transfer influence mobile money agents' performance without indicating how the same influence MSMEs performance.	The current study indicated how mobile money transfer influence MSMEs performance which is crucial sector in any country development
Oloko (2015 (2017)	Influence of mobile money transfers and the growth of the small and medium sized enterprises in Kenya.	The study adopted a descriptive survey design. A questionnaire was used to gather primary data.	The study found out MSMEs owners are using MMT to enhance performance of their business entities.	The study investigates how investigate MMT as independent variable without specifically indicating the constructs used	The current study investigated how MMT influence performance of MSMEs with specifically indicating the parameters
Madila (2016)	effectiveness of the mobile money financial applications on the development of the small and medium enterprises in Tanzania	Data was collected by structured questionnaires and interview guide. The study applied quantitative and qualitative research.	The study established a positive correlation between mobile financial services and performance of MSMEs.	The study concentrated more on the Wholesalers leaving out the other medium retail shops.	The current study targeted respondents in all sectors be it big or small.
Iravonga (2018)	Mobile financial services on the financial performance	The study employed random sampling technique	The findings revealed that MSMEs used mobile financial	The study was conducted in to measure the financial performance	The current study focused on all MSMEs in the sector and show the relationship

	of the small scale and medium enterprises in Kakamega County	Questionnaires were used to collect data.	services to send, receive money, check account balance, knowing when to deposit or withdrawal from their mobile accounts.	aspects without measuring general performance such as market share.	between the variables more so in Kitengela.
Obey and Masocha (2018)	adoption of mobile commerce services and the performance of the small and medium enterprises in Zimbabwe	Structured questionnaires were used to collect data. Convenience sampling technique	The study established that subsequent adoption of mobile money services has an influence on the performance of MSMEs.	The study was conducted in a small number of respondents which may not present in the entire population in the organization.	The study adopted Fisher Model to come up with manageable sample size that will be representative of the entire population.

2.4 Conceptual Framework

A conceptual framework is a written or virtual product that explains, either in narrative or in graphically form, the main things to be studied, the key elements being variables, concepts and the presumed relationships among them. A conceptual framework is structured from a set of broad theories and ideas that help a researcher in properly identifying the problem they are looking at, frame their research questions and find suitable literature. Therefore, in regards to this framework, the independent variables are mobile payments, mobile transfer, mobile financial services and mobile commerce while dependent variable is performance of MSMEs.

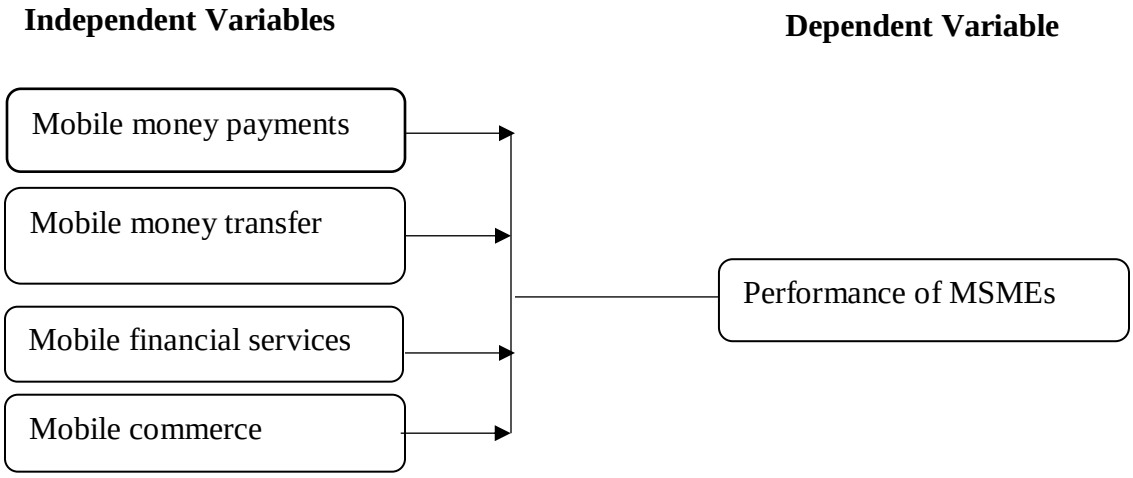

Figure 1: Conceptual Framework

2.5 Operationalization of Variables

Table 2 Operationalization of Variables

Variable	Indicators	Measurement Scale	Method of Data Collection	Tools of Analysis
Mobile money payments	• Salary processing • Pay utility bills • Supplier payments • Value chain payments • Point-of-sale payment	Likert	Administering Questionnaires	Multiple regression Analysis Frequencies and percentages Correlation analysis
Mobile money transfer	• P2P transfers • Disbursement and repayment of loans • Cash transfers • Buying airtime • Buy business goods	Likert	Administering Questionnaires	Multiple regression Analysis Frequencies and percentages Correlation analysis
Mobile financial services	• Make deposit • Withdrawal funds from bank • Sending money	Likert	Administering Questionnaires	Multiple regression Analysis Frequencies and percentages Correlation analysis

Mobile commerce	• Withdraw money from mobile phone • Access bank loans • Airtime top-ups • Checking account balance • Savings • Insurance premiums remittances • Loan applications	Likert	Administering Questionnaires	Multiple regression Analysis Frequencies and percentages Correlation analysis
Performance of MSMEs	• Sales turnover • Market share • Revenue generation • Profitability • Customer satisfaction	Likert	Administering Questionnaires	Multiple regression Analysis Frequencies and percentages Correlation analysis

2.6 Chapter Summary

This chapter presented the review of related literature on relationship between employee empowerment practices and employee productivity. The chapter is structured into three major parts. These sections are theoretical literature review where four relevant theories which were analyzed, which includes Diffusion of innovation theory, technological acceptance model (TAM), Technology, organizational and environmental framework (TOE) and the Actor network theory (ANT). Part two provides an empirical review of the study's independent variables which are Mobile payments, Mobile transfer, mobile commerce, and Mobile financial services. Further the chapter presents conceptual framework, operationalization of variables and chapter summary respectively.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The methodology that the researcher used in carrying out the study is presented in this chapter. The data sources, type, population targeted, and methods used in sampling and selection of sample size and the techniques used are described. The collection and analyzing of data are also described in terms of the data collection instruments, pilot study, data presentation and ethical considerations.

3.1 Research Design

Research design is an overall strategy deployed by a researcher in order to integrate the different components of a study into a coherent and logical flow. An adequate research design ensures that the research problem is precisely addressed. In a nutshell, a study design denotes how data shall be collected, measured, and analyzed.

In this study, a descriptive survey research design was adopted. Kothari (2008) noted that deploying a descriptive survey enables a researcher to respond to the 'what' question. On the other hand, McNeil (2018) asserts that although descriptive research design inclines, majorly, towards qualitative techniques, quantifiable data is viable as well. Ideally so, a descriptive survey comprises of interviews with an audience of interest on a specific topic.

Given that the researcher, herein, sought to generalize the research outcomes to a larger population, this research design best fits the purpose. Meanwhile, this study sought to establish the impact of mobile money services on the performance of MSMEs; the descriptive design allowed the researcher to gather qualitative data which was later quantitatively analyzed using descriptive and inferential statistics.

3.2 Target Population

Target population, according to Ngechu (2004), is a well-defined or set of people, services, elements, events, group of things or households that are being investigated. This definition ensures that population of interest is homogeneous. Population studies are more representative because

everyone has equal chance to be included in the final sample that is drawn according to Mugenda and Mugenda (1999).

The target population of this study was the proprietors of the MSMEs in Kitengela dealing in both trade and services. According to Kajiado East Constituency development fund (2018), there are 817 formally registered MSMEs in Kitengela Town dealing in trade, services, and manufacturing.

3.3 Sample and Sampling Design

The sampling frame for any probability sample is a whole list of entire cases in the population from which sample is derived (Cooper, 2003). The sample frame clearly defined as informal traders in this study are all MSMEs operating in Kitengela town.

In order to come up with a representative sample of the target population for this study, the researcher used the Modified Fisher Model since the population is less than 10,000 (Fisher, 1998). The formula is as follows:

Equation 1: $n = \frac{Z^2 * p * q}{e^2}$

Where: n =refer to the desired sample size when the entire survey population is greater than 10,000.

Z =the standard normal deviation usually set at 1.96 which corresponds to the 95% confidence level.

p=Population of the target population estimated to have a particular characteristic, 50% is normally used because it is the recommended measure if there is lack of reasonable estimate.

q =1.0 – p

e =degree of accuracy desired in this context set at 0.03.

The sample size was obtained by substituting in the above formula as indicated below:

$n = \frac{Z^2 * p * q}{e^2} = \frac{(1.96)\ \ (0.5)(0.5)}{(0.05)^2} = 384$

Given that the population of interest is 817 (population size N=817), the corrected sample size was obtained as illustrated mathematically using Modified Fisher Model as below:

Equation 3: $nf = \frac{n}{1+\frac{(n-1)}{N}} = 384/\ [1+ (384/817)]$

n=261

Thus, the sample size of this study was 261 respondents who were the business owners or managers/operators.

3.4 Data Collection Procedure

The primary data was collected through employing a questionnaire. The feelings, motivations, attitudes, accomplishments, and experiences of individuals are inquired through questionnaires, and that's why it is appropriate for the collection of information (Mellenbergh, 2008). The study's questionnaire captured the objectives of the study and the researcher also ensured that the participants were not manipulated as stated by Franker, (2006).

Questionnaires are less costly and consume less time and that is why they were preferred in collection of the data as per Franker (2006). The questionnaires were divided into two parts, the first part contained demographic information and the second part addressed specific objectives of the study and the main objective of the study. The targeted respondents were given questionnaires which were distributed with the help of three other assistants who were engaged by the researcher. The 'drop & pick later' method was used in administering the questionnaires. The questionnaire adopted a Likert scale questions ranging from 1 to 5 in the 5-point Likert scale, to measure the level of the respondent agreement to specific constructs used to measure the independent variables and dependent variable adopted in this study (Kiess & Bloomquist, 2008).

3.5 Pilot Testing

In research, a pilot test is a small preliminary study used to test a proposed research study before a full-scale performance. The pilot test may also be used to estimate costs and necessary sample size of the greater study. Cooper and Schindler (2003) indicated that a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample.

Twenty-six (26) business owners were selected to fill in the questionnaire for the pilot test. The rule of thumb is that 10% of the sample should constitute the pilot test (Cooper & Schilder, 2003). The selected pilot test was within the recommendation.

The pilot testing group was selected through simple random sampling technique. The pilot was conducted within Kitengela town as well. However, those who participated in the pilot study were excluded from the final study. However, the information obtained was used to improve the quality of the questionnaire.

3.5.1 Validity

The research results' inference meaningfulness and accuracy are termed as validity as defined by Mugenda and Mugenda (2003). The questionnaires validity is used to ascertain the main reasons for conducting the study. The questionnaires validity was ascertained using both face and content validity of the study. The representativeness of the sample population is concerned with content validity. The knowledge and skills in the large domain are represented by the items covered by the knowledge and skills as stated by Gillham (2008). To ensure the data instrument is valid, the research supervisor critiqued the questionnaire to ensure validity and capturing of the relevant constructs of the study under the variables studied in this research.

3.5.2 Reliability

The replicability of research findings and the degree to which the findings recur under similar conditions is referred to as reliability of data instrument (Lewis & Ritchie, 2003). The reliability of a study is viewed to minimize faults and bias in a study (Yin, 2003). The repetition of the results of the study is the main concern of reliability. The rule of thumb is that a Cronbach's alpha of 0.70 and above is good, 0.80 and above is better, and 0.90 and above is best and reflects a high level of internal consistency (Fowler, 2000; Sekaran, 2003).

The research instrument's reliability was tested through the Cronbach Alpha.

3.6 Data Analysis and Presentation

The Statistical Packages for Social Scientists (SPSS Version 24.0) was used to code and enter the quantitative data. Descriptive statistics were used in analyzing the data. The use of percentages (frequencies) that are absolute and relative and central tendency and dispersion (mean and standard deviation respectively) measurements were involved in descriptive statistics.

Tables and graphs were used to present the quantitative data while prose was used to present the explanations. The study also used inferential statistics to establish relationship between mobile money services and performance of small and medium enterprises. Further, to establish the strength of the relationship between the independent and dependent variables the researcher used multiple regressions.

The regression equation is:

$$Y = \beta_0 + \beta_1 Mp_1 + \beta_2 Mt_2 + \beta_3 Mf_3 + \beta_4 Mc_4 + \varepsilon$$

Where: Y is the dependent variable (Performance of MSMEs),

β_0 is the regression coefficient

β_1, β_2, β_3 and β_4 are the slopes of the regression equations,

X_1 is Mobile payment

X_2 is Mobile transfer,

X_3 is Mobile financial services,

X_4 is Mobile commerce,

ε is an error term normally assumed to be 0.

3.7 Ethical Considerations

While conducting the study, the researcher ensured that all research ethics were observed. Participation in the study was voluntary. Privacy and confidentiality were observed. The objectives of the study were explained to the respondents with an assurance that the data provided was for academic purposes only.

3.8 Chapter Summary

This chapter has tackled the research design and methodology in its entirety. The purpose of choosing this type of design has been explained in detail. The target population has been identified as 817 MSMEs in Kitengela, Kajiado County. The sample size is 261 MSMEs owner which was reached by using Modified Fisher Model. Questionnaire was used to collect primary data. The pilot study was conducted on 10% of the potential study respondents. Data was coded and entered

into SPSS (24) and both descriptive and inferential statistics was utilized. Confidentiality and informed consent were core in administering this study on the grounds of ethical consideration.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

4.1 Introduction

This chapter presents data analysis, presentation, and interpretation of the study findings on the relationship between mobile money services and performance of MSMEs in Kitengela, Kajiado County. Therefore, this chapter is specifically structured into data analysis, interpretation, and presentation of the research findings.

4.1.1 Study Response Rate

The study targeted a total of 261 formally registered MSMEs in Kitengela Town dealing in trade, services, and manufacturing. However, out of the 261 targeted targeted MSMEs, the researcher was only able to obtain complete data from 203 of them, representing a response rate of 78%. The response rate of 78% was deemed sufficient for the purpose of data analysis as Mugenda and Mugenda (2003) notes that a response rate of 50% is adequate for analysis and reporting, 60% is good and a response rate of 70% and above is excellent.

Table 3 Study Response Rate

Response	Frequency	Percentage (%)
Filled in questionnaires	203	78
Unreturned questionnaires	58	22
Total	**261**	**100**

4.2 Reliability Results

The research instrument's reliability was tested through the Cronbach Alpha. The rule of thumb is that a Cronbach's alpha of 0.70 and above is good, 0.80 and above is better, and 0.90 and above is best and reflects a high level of internal consistency (Sekaran, 2003). This was the general case in this pilot study where all the predictor variables and the response variable had alpha values of 0.70 and above as indicated in table 3. This was the general outcome in this pilot study where all the

predictor variables and the response variables had alpha values of 0.70 and above as indicated in table 4. All the variables used in this study were found to be reliable since their Cronbach's alpha value exceeded 0.70

Table 4 Reliability Results

Variable	No. of Respondents	No. of Items	Cronbach's Alpha	Verdict
Mobile payments	26	4	0.748	Reliable
Mobile transfer	26	5	0.711	Reliable
Mobile financial services	26	5	0.749	Reliable
Mobile commerce	26	5	0.752	Reliable
Overall			**0.74**	

4.2 Respondents Demographic Information

The study sought to investigate demographic information of the respondents in terms of their gender, marital status, number of employees in their organizations as well as usage of mobile money services at their business premises.

4.2.1 Gender of the Respondents

The study sought to establish the gender of the respondents who participated in the study. According to the study results that were obtained, it was found out that a slight majority 52% of the respondents were male while 48% were females. The study results suggest that most of the MSMEs operators in Kitengela town, Kajiado County are male though their female counterparts are well represented as well.

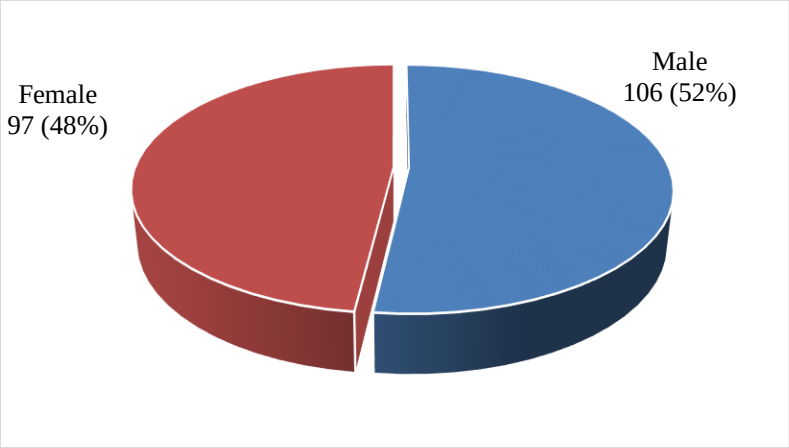

Figure 2: Gender of the Respondents

4.2.2 Respondents Marital Status

The study further sought to establish the marital status of those operating registered MSMEs in Kitengela Town, dealing in trade, services, and manufacturing. According to the study results that were obtained, it was found out that majority of the respondents operating business in Kitengela town were married (52%), 25% were single, 15% were separated while 8% were divorced. The study results suggest that most of MSMEs operators in Kitengela town Kajiado county have families that assist them in running the day-to-day affairs of their small businesses.

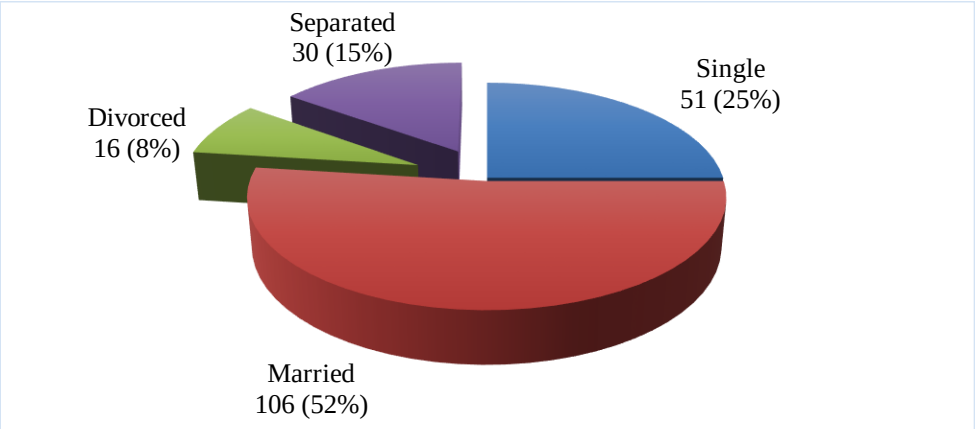

Figure 3: Respondents Marital Status

4.2.3 Business License/Permit

Respondents were further requested to indicate whether they had a varied business license/permit that authorised them to carry-out their business operations within Kitengela town. The study results that were obtained indicated that, 85% of the respondents had valid business license/permit while 15 didn't have. The study results indicated that despite the high number of MSMEs operating in Kitengela town legally as they held varied business license/permit, there is still some section of MSMEs traders still operating illegally by not having an authorizing business permit/licence in Kitengela town.

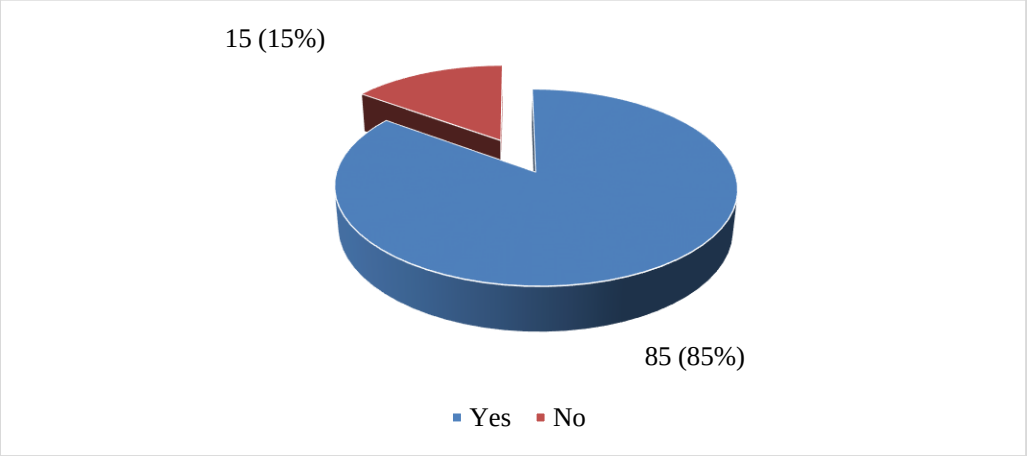

Figure 4: Business License/Permit

4.2.4 Number of Employees Engaged

The study also sought to find out the number of employees that the participating MSMEs operating in Kitengela town had engaged. According to the study results, it was found out that majority of MSMEs (59%) had between 1-9 employees, 31% had between 10-50 employees while those who indicated that they had above 50 employees were only 10%. This indicate that most of the MSMEs in Kitengela town are micro businesses, given the few numbers of employees that are involved in the day to day running of the business affairs.

Table 5: Number of Employees Engaged

	Frequency	Percentage
Between 1-9 Employees	120	59
Between 10-50 Employees	63	31
Above 50 Employees	20	10
Total	**203**	**100**

4.2.5 Mobile Money Services Usage

Respondents were further requested to indicate whether their business enterprises used mobile money services. In accordance with the study findings that were obtained, it was established that 94% of the respondents indicated that they used mobile money services while only 6% indicated that they didn't use mobile money services at their business enterprises.

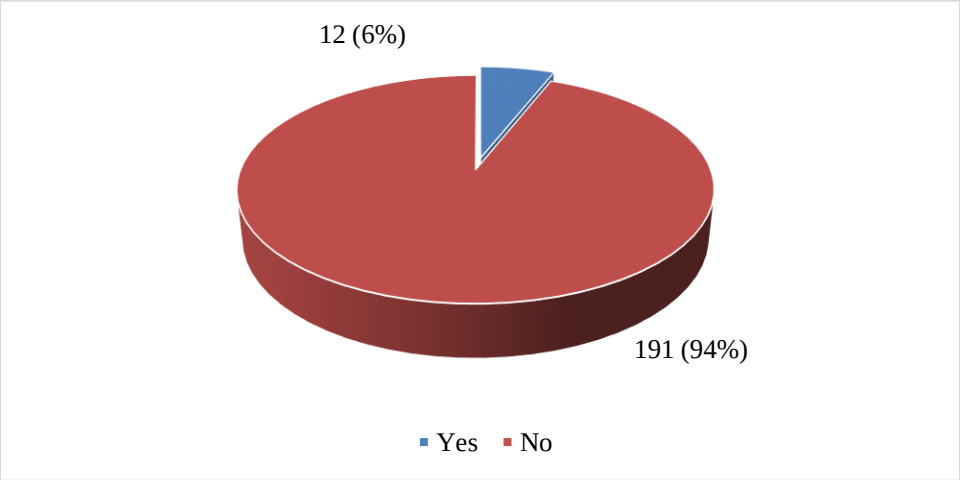

Figure 5: Mobile Money Services Usage

4.3 Mobile Money Transfer and Performance of MSMEs

Respondents were requested by the researcher to indicate their level of agreement in regard to the influence of mobile money transfer on performance of MSMEs. According to the study results that were obtained, it was found out that to a great extent, disbursement and repayment of loans through mobile money transfer influence the performance of MSMEs as indicated by the mean score of 3.96. These findings concur with those of Arnold (2017) that business have adopted mobile

services see it as an efficient way of collecting dues, and banks use it as a good avenue way to mobilize deposits, disburse loans and receive loan repayments. Respondents also agreed to a large extent that cash transfers influence MSMEs performance as indicated by the mean score of 3.86. The findings are consistent with those of Cook and McKay (2017) who observed that an increasing number of business people do not necessarily need to physically visit a financial institution to deposit money, receive a loan, make a payment or transfer funds since mobile money services has provided a platform to access financial services easily.

In addition, respondents to a large extent agreed that P2P transfers has influenced performance of MSMEs as shown by the mean score of 3.72. The findings agreed with those of Kiprono (2018) that mobile money platforms were largely used for person-to-person (P2P) cash transfers, they are now increasingly being used to purchase of goods, processing of instant short-term loans as well as making payments for government services. Respondents further moderately agreed that buying business goods and buying airtime activities have greatly enhanced performance of MSMEs as depicted by the mean scores of 3.61 and 3.51 respectively.

A study that was conducted by Oromo (2015) pointed that mobile money services have been a significant driver of change in the way businesses function, supplementing bank services such as money transaction and deposit, among others.

Table 6: Mobile Money Transfer and Performance of MSMEs

Statement	Mean	STDev
P2P transfers	3.72	0.16
Disbursement and repayment of loans	3.96	1.21
Cash transfers	3.86	1.15
Buying airtime	3.51	1.42
Buy business goods	3.61	1.16

4.3.1 Model Summary for Mobile Money Transfer and Performance of MSMEs

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.748	0.559	0.557	0.26195

a. Dependent variable: Mobile money transfer

b. Predictors: (Constant), P2P transfers, disbursement and repayment of loans, cash transfers, buying airtime and buy business goods

The study investigated the influence of mobile money transfer on the performance of MSMEs. The study established that mobile money transfers explains 55.9% of performance of MSMEs. Table 7 indicates that R=0.748, has a strong positive correlation, as well as R^2 0.559. This means that other mobile money transfer parameters not included in the model are responsible for 44.1 percent of the differences in performance of MSMEs.

4.3.2 ANOVA for Mobile Money Transfer and Performance of MSMEs

Table 8: ANOVA for Mobile Money Transfer

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.474	1	17.474	254.658	.000
	Residual	13.792	201	.069		
	Total	31.267	202			

a. Dependent Variable: Mobile Money Payments

b. Predictors: (Constant), Value chain payments, Supplier payments, Pay utility bills, Salary processing

The researcher looked at the relationship between mobile money transfer and the performance of MSMEs. Using F-Test Tables, a critical value of 2.46 was found. To test for importance, the F-calculated must be greater than the critical value. The study F calculated (254.658) is higher than the F-critical value (2.46), thus the model is significant to predict performance of MSMEs. Likewise, the model had a Significance p=0.000 which is much less than 0.05. Thus, we can conclude that there was linear relationship between mobile money transfer and performance of

MSMEs. Based on the output, mobile money transfer therefore can be used to explain performance of MSMEs in Kenya.

4.3.4. Coefficients Correlation for Mobile Money Transfer and Performance of MSMEs

Considering the coefficients of the variables, regression equation can be drawn as shown as:

$Y = \beta_0 + \beta_1 X_1 + €$

Y=1.052+0.319+€

The β was also statistically significant (β = 0.748-Standardized Coefficients), t=15.958, p < 0.00). The hypothesis that mobile money transfer influence performance of MSMEs was therefore confirmed.

Table 9: Coefficients Correlation for Mobile Money Transfer and Performance of MSMEs

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.052	0.082		12.83	.000
	Mobile Money Transfer	0.319	0.020	0.748	15.958	.000

Table 9 shows an increase in performance of MSMEs by 0.319 due to the marginal increase in mobile money transfer while holding other factors constant. The t-statistic associated with this relationship shows that the increase is significant.

The study found an absolute t-statistic of 15.958 while 0.000 was the corresponding p-value. Because the absolute value of t-statistic (15.958) was greater than 1.646 (critical value of t-statistic at 5 percent significance level), the alternative hypothesis was rejected. A similar inference is also made by observing the p-value found to be 0.000 which is less than 0.05, the chosen significance level of the study. Hence, the study finds that there is significant relationship between mobile money transfer and Performance of MSMEs.

4.4 Mobile Financial Services and Performance of MSMEs

The study requested the respondents to indicate their level of agreement on the statement relating to influence of mobile financial services on performance of MSMEs. From the findings, respondents to a very large extent agreed that sending money influenced the overall performance of MSMEs as indicated by the mean score of 3.588. The findings conform to Mararo (2018) that mobile money enable MSMEs to collect receivables straight from customers and make direct payments to suppliers using their cell phone and without having to close or leave their premises for hours. Respondents to a very great extent further agreed that withdraw of money from mobile phone have enhanced the overall performance of mobile financial services as indicated by the mean score of 3.667. According to Ishengoma, (2017) processing of loan proceeds, withdrawals, and depositing of funds are also done without any challenges experienced.

Further, respondents to a large extent agreed that withdrawal of funds from bank and making bank deposit have enhanced the performance of mobile financial services as shown by the mean score of 3.569 and 3.420 respectively. Opare (2018) argued that mobile banking also saves them time on queuing and visiting the bank premise thus concentrating on their businesses and that micro business operators can make withdrawals within their business premise and consequently use the same to pay suppliers and utility bills.

Lastly, respondents to a moderate extent agreed that access to bank loans enhanced the performance of mobile financial services as illustrated by the mean score of 3.312. The findings agree with Njabu (2016) that in developing countries such as Ghana, Tanzania and Kenya, credit systems have been developed by MNOs which are based upon transactional histories of mobile money, which make it possible to grant microloans to MSMEs.

Table 10: Mobile Financial Services and Performance of MSMEs

Statement	Mean	STDev
Make deposit	3.420	0.214
Withdrawal funds from bank	3.569	0.188
Sending money	3.588	0.219
Withdraw money from mobile phone	3.667	0.143
Access bank loans	3.312	0.0241

4.4.1 Model Summary for Mobile Financial Services and Performance of MSMEs

The study investigated the contribution of mobile financial services on the performance of MSMEs in Kitengela, Kajiado County. From the study results that were obtained, it was found out that mobile financial services contribute to around 50.5% of the overall performance of MSMEs in Kitengela, Kajiado County. This is as indicated by R=0.683, indicating a strong positive correlation and R^2 =0.505. This means that other mobile money payment parameters not included in the model are responsible for 49.5 percent of the differences in performance of MSMEs.

Table 11: Model Summary Mobile Financial Services

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711[a]	.505	.503	1.00645

a. Dependent variable: Mobile financial services

b. Predictors: (Constant), Buy business goods, make deposit, withdrawal funds from bank, sending money, withdraw money from mobile phone and access bank loans

4.4.2 ANOVA Analysis for Mobile Financial Services and Performance of MSMEs

The research tested the linearity between mobile financial services and performance of MSMEs in Kitengela, Kajiado County. Using F-Test Tables, a critical value of 2.46 was found. To test for importance, the F-calculated must be greater than the critical value. The study F calculated (205.317) is higher than the F-critical value (2.46), thus the model is significant to predict performance of MSMEs.

Likewise, the model had a Significance p=0.000 which is much less than 0.05. Thus, we can conclude that there was linear relationship between mobile financial services and performance of MSMEs. Based on the output, mobile financial services therefore can be used to explain performance of MSMEs in Kenya.

Table 12: ANOVA for Mobile Financial Services

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	207.974	1	207.974	205.317	.000
	Residual	203.602	201	1.013		
	Total	411.576	202			

4.3.2 Coefficients Correlation for Mobile Financial Services and Performance of MSMEs

Considering the coefficients of the variables, regression equation can be drawn as shown as:

$Y = \beta_0 + \beta_1 X_1 + €$

Y=1.727+(-1.057) +€

The β was also statistically significant (β 0.711 Standardized Coefficients), t=14.329, p < 0.00). The hypothesis that mobile financial services influence performance of MSMEs was therefore confirmed.

Table 13 shows an increase in performance of MSMEs by 0.344 due to the marginal increase in mobile financial services while holding other factors constant. The t-statistic associated with this relationship shows that the increase is significant. The study found an absolute t-statistic of 15.958 while 0.000 was the corresponding p-value. Because the absolute value of t-statistic (14.329) was greater than 1.646 (critical value of t-statistic at 5 percent significance level), the alternative hypothesis was rejected. A similar inference is also made by observing the p-value found to be 0.000 which is less than 0.05, the chosen significance level of the study.

Therefore, the study concluded that there is significant relationship between mobile financial services and Performance of MSMEs.

Table 13: Coefficients Correlation for Mobile Financial Services

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.057	.344		-3.069	.002
	Mobile Financial Services	1.727	.121	.711	14.329	.000

4.5 Mobile Commerce and Performance of MSMEs

The study sought to establish the effect of mobile commerce on the financial performance of MSMEs. The study results that were obtained indicated that respondents to a very great extent agreed that checking account balance influenced the performance of MSMEs as shown by the mean score of 4.054. The finding of this study conforms to Mutio (2019) that more than half of the respondents stated that mobile banking helped them in sending money, saving/depositing money, withdrawing money from mobile bank account, receiving money, checking account balance with the bank and paying bills. In addition, respondents to a very great extent agreed that airtime top-ups and loan applications services enhanced the overall performance of MSMEs as shown by the mean score of 3.929 and 3.911 respectively. This is consistent with a study conducted by Mutua (2014), which discovered that micro entrepreneurs may use M-banking credit loans to innovate, increase efficiency, expand into new markets, and create millions of jobs.

Further, respondents to a large extent also agreed that saving services influenced the performance of mobile commerce among MSMEs as shown by the mean score of 3.661. The results of the study were in line with Makee (2017) that customers using mobile money services get the advantages of saving money easily, for example, having the capacity to save and borrowing is a cost-proficient and secure way to majority of the small business owners.

Lastly, respondents to a moderate extent agreed that insurance premiums remittances services influenced the performance of mobile commerce among MSMEs as indicated by the mean score of 3.542. The findings are in accordance with Donovan (2015) that access and use of more

sophisticated financial services through mobile money services insurance prove more beneficial even to micro enterprises.

Table 14: Mobile Commerce and Performance of MSMEs

Statement	Mean	STDev
Checking account balance	4.054	0.182
Airtime top-ups	3.929	0.828
Savings	3.661	0.149
Insurance premiums remittances	3.542	0.016
Loan applications	3.911	0.112

4.5.1 Model Summary for Mobile Commerce and Performance of MSMEs

The study investigated the contribution of mobile commerce on the performance of MSMEs in Kitengela, Kajiado County. From the study results, it was established that mobile commerce contributes 52.7% to the performance of MSMEs in Kitengela, Kajiado County. This is as indicated by R=0.514, thus indicating a strong positive correlation and R^2 =0.453.

Table 15: Model summary for Mobile Commerce

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726	0.527	0.514	0.61651

4.5.2 ANOVA Results for Mobile Commerce

ANOVA analysis was carried out in order to try and test the significance of the model. From the study findings, the Sig-Value=0.0016 which is less than 0.05. The significance results therefore indicates that the model is statistically significance in predicting the relationship between mobile commerce and performance of MSMEs in Kitengela, Kajiado County. The F critical at 5% level of significance was 61.38298. Since F calculated is greater than the F critical (value = 61.383), this shows that the overall model was significant.

Table 16: ANOVA for Mobile Commerce

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.577	1	0.577	61.383	0.0016
	Residual	0.517	202	0.0094		
	Total	1.094	203			

4.5.3 Coefficients Correlation for Mobile Commerce

The coefficient correlation results that were obtained indicated that β was statistically significant (β = 0.235, t=2.546, p < 0.05). Therefore, the hypothesis that mobile money influences the performance of MSMEs in Kitengela, Kajiado County was therefore confirmed because there was a statistically significant.

Table 1: Coefficients Correlation for Mobile Commerce

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.548	0.261		2.102	0.037
Mobile Commerce	0.235	0.092	0.231	2.546	0.012

4.6 Mobile Money Payments and Performance of MSMEs

The study sought to establish the effect of mobile money payment on the financial performance of MSMEs. The study results that were obtained indicated that respondents to a very great extent agreed that paying utility bills enhanced the performance of among MSMEs as indicated by the mean score of 3.70. This is consistent with a study conducted by Keynes (2017), which proved that mobile banking technology enables people to access financial services more conveniently, pay bills less expensively, and manage their money more efficiently. This means that micro entrepreneurs in the study area are able to devote their full attention to their operations due to the limited movement required to obtain banking services for bill payment.

In addition, respondents agreed to a very great extent that salary processing influenced the performance of mobile money services among MSMEs as indicated by the mean score of 3.62. according to UNCTAD (2017) from a small business viewpoint, mobile money transactions enable money transfers as well as merchant, bill, and salary payments. Further respondents agreed that to a great extent that supplier payments and value chain payments the performance of mobile money services among MSMEs as indicated by the mean scores of 3.44 and 3.34 respectively. This is in line with Keizers (2017) that mobile money enhance inclusion of unbanked and enable them MSEs to access the cash flow needed quickly and making payment to suppliers.

Table 18: Mobile Money Payments and Performance of MSMEs

Statement	Mean	STDev
Salary processing	3.62	1.37
Pay utility bills	3.70	1.31
Supplier payments	3.44	1.41
Value chain payments	3.34	1.36

4.6.1 Model Summary for Mobile Money Payment

The study investigated the contribution of mobile money payment on the performance of MSMEs in Kitengela, Kajiado County. The study results established that mobile money payment contributes up to 48.8% to the performance of MSMEs in Kitengela, Kajiado County. Table 19 reveals that R=0. 699, has a strong positive correlation, as well as R^2 0.488. This means that other mobile money payment parameters not included in the model are responsible for 51.2 percent of the differences in performance of MSMEs.

Table 2: Model Summary for Mobile Money Payment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.699	.488	.486	.76001

a. Dependent Variable: Mobile Money Transfer

b. Predictors: (Constant), Salary processing, Pay utility bills, Supplier payments and Value chain payments

4.6.2 ANOVA Analysis for Mobile Money Payment

In this study, the research tested the linearity between mobile money payment and performance of MSMEs in Kitengela, Kajiado County. Using F-Test Tables, a critical value of 2.46 was found. To test for importance, the F-calculated must be greater than the critical value. The study F calculated (191.918) is higher than the F-critical value (2.46), thus the model is significant to predict performance of MSMEs. Likewise, the model had a Significance p=0.000 which is much less than 0.05. Thus, we can conclude that there was linear relationship between mobile money payment and performance of MSMEs. Based on the output, mobile money payment therefore can be used to explain performance of MSMEs in Kenya.

Table 20: ANOVA for Mobile Money Payment

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	110.855	1	110.855	191.918	.000
	Residual	116.101	201	.578		
	Total	226.956	202			

4.6.3 Coefficients Correlation for Mobile Money Payment and Performance of MSMEs

Considering the coefficients of the variables, regression equation can be drawn as shown as:

$Y = \beta_0 + \beta_1 X_1 + €$

Y=1.343+.208+€

The β was also statistically significant (β = 0.699-Standardized Coefficients), t=13.853, p < 0.00). The hypothesis that mobile money payment influence performance of MSMEs was therefore confirmed. Table 21 shows an increase in performance of MSMEs by 0.208 due to the marginal increase in mobile money payment while holding other factors constant. The t-statistic associated with this relationship shows that the increase is significant.

The study found an absolute t-statistic of 13.853 while 0.000 was the corresponding p-value. Because the absolute value of t-statistic (13.853) was greater than 1.646 (critical value of t-statistic at 5 percent significance level), the alternative hypothesis was rejected. A similar inference is also

made by observing the p-value found to be 0.000 which is less than 0.05, the chosen significance level of the study. Therefore, the researcher concluded that there is significant relationship between mobile money payment and Performance of MSMEs.

Table 21: Coefficients Correlation for Customer Order Cycle

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.208	.280		.743	.458
	Mobile Money payment	1.343	.097	.699	13.853	.000

4.7 Aspects of MSMEs Performance

Respondents were requested to provide their level of agreement in regard to the following statement on the various aspects of MSMEs performance. According to the study results that were obtained, it was found out that respondents agreed to a very great extent that using mobile money services had enhanced their customers' satisfaction as indicated by the mean score of 3.962. The study was in line with Abong'o (2016) that there are positive results obtained from mobile money services in service quality such as customer satisfaction, less processing cost, profitability, and customer loyalty in most businesses.

Likewise, respondents agreed that to a very great extent also agreed that using mobile money services had also increased their sales turnover as shown by the mean score of 3.915. According to findings by Donner and Escobari (2010) established that mobile phones have helped SMEs to become more productive and to improve their sales thereby improving their financial performance. Result by Wambari (2009) found a similar result that the adoption of mobile banking had enabled MSMEs to increase their sales thereby leading to improved financial performance. Respondents to a large extent further indicated that using mobile money services had increased their revenue generation as well as their profitability as illustrated by the mean scores of 3.861 and 3.832 respectively. In a study conducted by Ngaruiya, B. (2014) pointed that after the adoption of mobile money financial transactions, majority of the MSMEs have reported an increased sales revenue.

Lastly, respondents to a moderate extent agreed that using mobile money services had increased their market share as indicated by the mean score of 2.944. the findings conform to Jensen (2017) mobile financial transactions provide SMEs with a means through which they can reduce their operating costs as well as increase their ability to extend their business networks thus enabling them to increase their performance.

Table 22: Aspects of MSMEs Performance

Statement	Mean	STDev
Sales turnover	3.915	0.832
Market share	2.944	0.723
Revenue generation	3.861	1.151
Profitability	3.832	0.851
Customer satisfaction	3.962	1.206

4.8 Inferential Analysis

To compute the correlation between dependent variable and the independent variables the study conducted inferential analysis which involved Karl Pearson's coefficient of correlation, regression analysis, model summary and a multiple regression analysis.

4.8.1 Pearson's Coefficient of Correlation

To show the correlation between the study variables, the study used the Karl Pearson's coefficient of correlation (r). From the findings, it was clear that there was a positive correlation between mobile money payment and performance of MSMEs as shown by a correlation figure of 0.576. It was also established that there was a positive correlation between mobile money transfer and performance of MSMEs as indicated by the correlation figure of 0.666.

Further, it was established that there existed a positive correlation between mobile financial services and performance of MSMEs as depicted by the correlation value of 0.529. Lastly, it was found out that a positive correlation between mobile commerce and performance of MSMEs existed as indicated by the correlation value of 0.579. Therefore, based on the correlation results obtained above, it is very clear that a positive correlation existed between all the independent and dependent variables.

Table 23: Coefficient of Correlation

		Performance of MSMEs	Mobile Money Payment	Mobile Money Transfer	Mobile Financial Servic	Mobile Commerce
Performance of MSMEs	Pearson Correlation	1				
Mobile Money Payment	Sig. (2-tailed)					
	Pearson Correlation	0.576	1			
Mobile Money Transfer	Sig. (2-tailed)	0.002				
	Pearson Correlation	0.666	0.193	1		
Mobile Financial Service	Sig. (2-tailed)	0.001	0.004			
	Pearson Correlation	0.529	0.248	0.225	1	
Mobile Commerce	Sig. (2-tailed)	0.003	0.01	0.0043		
	Pearson Correlation	0.579	0.128	0.420	0.181	1
	Sig. (2-tailed)	0.012	0.001	1	0.001	

4.8.2 Regression Analysis

Further the researcher conducted a multiple regression analysis so as to establish the relationship between mobile money services and performance of MSMEs in Kitengela town. The main purpose of multiple regressions is to show the link between several independent or predictor variables and a dependent or criterion variable. The researcher applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Table 24: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	**std. Error**	**Beta**	**t**	**Sig.**
(Constant)	1.308	0.342		1.623	3.57-02
Mobile Money Payment	0.558	0.310	0.172	4.342	2.76-02
Mobile Money Transfer	0.731	0.156	0.210	3.532	2.85-02
Mobile Financial Services	0.785	0.322	0.067	3.542	2.02-02
Mobile Commerce	0.620	0.245	0.148	3.458	2.49-02

As per the SPSS results in the table above, the following multiple regression equation was generated:

$(Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon)$

$Y= 1.308+ 0.558X_1+ 0.785X_2+ 0.620X_3+0.731X_4$

The regression equation above established that taking all factors into account (mobile money payment, mobile money transfer, mobile financial services, and mobile commerce) constant at zero, performance of MSMEs will be 1.308. The findings presented also shows that taking all other independent variables at zero, a unit increase in mobile money payment will lead to a 0.558 increase in performance of MSMEs; a unit increase in mobile money transfer will lead to a 0.731 increase in performance of MSMEs; a unit increase in mobile financial services will lead to a 0.785 increase in performance of MSMEs and a unit increase in mobile commerce will lead to a 0.620 increase in performance of MSMEs.

This infers that mobile financial services contribute most towards performance of MSMEs followed by mobile money transfer then mobile commerce while mobile money payment contributed little towards performance of MSMEs. This notwithstanding, all the variables were significant as their P-values were less than 0.05.

4.8.4 Model Summary

Coefficient of determination (R^2) explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (performance of MSMEs) that is explained by all the four independent variables (mobile money payment, mobile money transfer, mobile financial services, and mobile commerce). The four independent variables that were studied, explain only 81.9% of the performance of MSMEs in Kitengela town as represented by the adjusted R^2=0.819.

This therefore means that there are other factors not studied in this research that contribute 18.1% of the performance of MSMEs in Kitengela town. Therefore, further research should be conducted to investigate the other (18.9%) mobile money services which tend to influence the performance of MSMEs in Kitengela town.

Table 25: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.905[a]	.819	.815	.24427

4.8.5 ANOVA

The analysis of variance (ANOVA), as shown in Table 26 demonstrates the regression model's relevance. The significance of the variance explained by the regression model is determined using ANOVA in this model. The analysis of variance's F-statistic is 224.176 with a p-value of 0.000. The p-value is less than 0.05, indicating that the parameters of the model predictors are not jointly equal to zero in a significant way. This indicates that at least one of the model's predictors has a significant parameter, implying that the model's predictors (mobile money services variables) have a cumulative effect on the performance of MSMEs in Kenya.

Table 26: Model Summary

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.505	4	13.376	224.176	.000
	Residual	11.814	198	.060		
	Total	65.320	202			

4.10 Summary of Chapter

This chapter provides data analysis, presentation and interpretation of the study findings, and limitations of the study on the relationship between mobile money services and performance of MSMEs in Kitengela, Kajiado County.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the summary, conclusion and recommendations drawn on the relationship between mobile money services and performance of MSMEs in Kitengela, Kajiado County. The chapter is, therefore, structured into summary of the research findings, conclusion, and recommendations for the study.

5.2 Summary of Research Findings

The objectives of this study were to investigate the relationship between mobile money services i.e., mobile money transfer, mobile financial services, mobile commerce, and mobile money payments on the on performance of MSMEs in Kitengela town.

5.2.1 Mobile Money Transfer and Performance of MSMEs

The first study objective sought to examine the relationship between mobile money transfer and the performance of MSMEs in Kitengela town. According to the study results that were obtained, it was established that disbursement and repayment of loans influence performance of MSMEs to a very large extent. In addition, it was found out that cash transfers also influence MSMEs performance to a very large extent. The study also revealed that mobile money transfer influence around 43.7% of the performance of MSMEs in Kitengela town. Mobile money transfer had a significance value of 0.00497, which is less than 0.05, hence, it was clear that there was linear relationship between mobile money transfer and the performance of MSMEs in Kitengela, Kajiado County. The results also indicated that the overall influence of mobile money transfer on performance of MSMEs in Kitengela, Kajiado County was significant ($F = 43.256$, $p < 0.05$).

5.2.2 Mobile Money Financial Services and Performance of MSMEs

The second study objective sought to examine the relationship between mobile money financial services and the performance of MSMEs in Kitengela town. According to the study results that

were obtained, it was established that sending money influenced the overall performance of MSMEs to a very large extent. Also, withdraw of money from mobile phone have enhanced the overall performance of MSMEs to a very large extent. The study results also established that mobile financial services influence around 46.7% of the overall performance of MSMEs in Kitengela, Kajiado County. Mobile financial services had a value Sig=0.014 which is less than 0.05 which is a clear indication that there was linear relationship between mobile financial services and performance of MSMEs in Kitengela, Kajiado County. The study results obtained indicated that β was statistically significant ($\beta = 0.367$, $t=2.233$, $p < 0.05$).

5.2.3 Mobile Money Commerce and Performance of MSMEs

The third objective sought to examine the the relationship between mobile money commerce and the performance of MSMEs in Kitengela town. According to the study results that were obtained, it was established that checking account balance influenced the performance of mobile commerce among MSMEs. In addition, airtime top-ups and loan applications services enhanced the overall performance of mobile commerce among MSMEs. Further, it was observed that mobile commerce influence around 52.7% of the performance of MSMEs in Kitengela, Kajiado County. Mobile commerce had a Sig-Value=0.0016 which is less than 0.05, hence, indicated that there was a statistical significance relationship between mobile commerce and performance of MSMEs in Kitengela, Kajiado County.

5.2.4 Mobile Money Payments and Performance of MSMEs

The fourth objective sought to examine relationship between mobile money payments and the performance of MSMEs in Kitengela town. According to the study results that were obtained, it was established that paying utility bills influenced the performance of mobile money services among MSMEs in Kitengela town. Also, it was established that salary processing and supplier's payment influenced the performance of mobile money services among MSMEs in Kitengela town. In addition, it was found out that mobile money payment influenced around 45.3% of the performance of MSMEs in Kitengela, Kajiado County. Mobile money payment had a significance value of 0.0026 which is much less than 0.05 thus there was linear relationship between mobile money payment customer and performance of MSMEs in Kitengela, Kajiado County.

5.3 Conclusion

The study sought to investigate the relationship between mobile money services i.e., mobile money transfer, mobile financial services, mobile commerce, and mobile money payments on the on performance of MSMEs in Kitengela town. Based on the findings the study made the following conclusion.

On the objective on the relationship between mobile money transfer and the performance of MSMEs in Kitengela town, the study concluded that disbursement and repayment of loans influence mobile money transfer performance to a very large extent. The study also concluded that cash transfers influence mobile money transfer performance also to a very large extent. It was also concluded that there was linear relationship between mobile money transfer and the performance of MSMEs in Kitengela, Kajiado County.

On the objective on the relationship between mobile money financial and the performance of MSMEs in Kitengela town, it was concluded that sending money influenced the overall performance of mobile financial services to a very large extent. Also, it was concluded that withdraw of money from mobile phone have enhanced the overall performance of mobile financial services to a very large extent. It was also concluded that there was linear relationship between mobile financial services and performance of MSMEs in Kitengela, Kajiado County.

On the objective on the relationship between mobile money commerce and the performance of MSMEs in Kitengela town, it was concluded that checking account balance influenced the performance of mobile commerce among MSMEs in Kitengela, Kajiado County. It was also concluded that airtime top-ups and loan applications services enhanced the overall performance of mobile commerce among MSMEs in Kitengela, Kajiado County. It was further concluded that mobile commerce had a statistical significance relationship with the performance of MSMEs in Kitengela, Kajiado County.

On the objective on the relationship between mobile money payments and the performance of MSMEs in Kitengela town, it was concluded that paying utility bills influenced the performance of mobile money services among MSMEs in Kitengela, Kajiado County. It was also concluded that salary processing and supplier's payment influenced the performance of mobile money

services among MSMEs in Kitengela, Kajiado County. The study further concluded that there was linear relationship between mobile money payment customer and performance of MSMEs in Kitengela, Kajiado County.

5.4 Recommendations

Based on the study findings, the study recommends the following.

The study recommends that that the mobile services provider should seek to promote their services so as to encourage as many businesspersons as possible to make use of mobile money services. This can be done through consistent advertisements that will serve as a constant reminder of the importance of mobile money services to the operations of their business. On the other hand, MSMEs should take advantage of the increase in use of mobile money services to form collaborations with mobile phone services providers and provide flexible mobile money services to MSMEs.

The study also recommends that MSMEs should adopt mobile money services in their businesses as this has been shown to serve as an instrument of growth in business. The use of mobile money services has been shown to have many potential benefits including shielding the traders from theft as a result of having so much cash at hand. MSMEs is a large and growing sector that employs a large number of our population, and the use of mobile money services aids in achieving both immediate and long-term goals.

The study further recommends that the regulator of mobile phone providers should work towards reducing mobile money services charges between different networks. They need to consider having a uniform platform for mobile money services irrespective of the network the client is using. The current charges paid by MSMEs across the networks are too high and discourage them from transacting across networks. The uniform platform can enable them to transact freely thus increase sales.

Lastly, the study recommends that mobile money service providers should identify platforms capable of minimal delays and fast responses to increase adoption rates across the country. Of particular interest are systems that minimize the risk of losing money, such as providing a method to confirm the business identity one has registered on their systems, verification using business

name as opposed to the business mobile number and a faster method of cancelling a faulty transaction when it arises.

5.5 Limitations of the Study

The researcher encountered several limitations during the study. Some respondents were hesitant to participate in the study for fear of disclosing sensitive information about their business operations. To mitigate against this, the researcher assured them that the study was for academic purposes only and an introduction letter from the university was provided to proof the same. The researcher also assured them that all the information that was to be provided was to be kept confidential.

The COVID-19 pandemic also created a very difficult environment for conducting research as contact minimization and movement restriction was experienced. The researcher ensured strict observation of the safety guidelines provided by the Ministry of Health to avoid infections or risk of spreading the virus while conducting the study.

5.6 Areas of Further study

This study investigated the relationship between mobile money services and performance of MSMEs in Kitengela, Kajiado County.The study suggests that further research be done on challenges affecting mobile money services within the organization. A similar study should be conducted in different sector to establish whether the relationship between mobile money services and performance of MSMEs is common across the sectors. Since the variables in this study accounted for only 66.4% of the performance of MSMEs, another study should be carried out to establish the other factors that accounts for the remaining 33.6% of MSMEs performance.

REFERENCES

Abdil. S. (2011). *The relationship between the mobile financial innovations and the performance of the MSMEs in Sweden*- 1(3): 273-288.

Abong'o, M. O. (2016). *Service Quality and Competiveness in Mobile Money Firms* (Doctoral dissertation, University of Nairobi).

Arnold, M. (2017). European banks to launch block-chain trade finance platform. *Financial Times*.

Ban, S. (2011). *The mobile money payments among the Micro business enterprises in Uganda*, Doctoral dissertation, Kampala University.

Banangaki, N. (2018). Mobile money services and market performance of micro business enterprises a case study of Nakawa Municipality.

Batista, C. a. (2020). *Adopting Mobile Money: Evidence from an Experiment in Rural Africa.*" AEA Papers and Proceedings, 110: 594-98.

Chale, P., & Mbamba, U. (2015). The role of mobile money services on growth of small and medium enterprises in Tanzania: Evidence from Kinondoni district in Dares-Salaam region. *Business Management Review*, *17*(1).

Chau, N. T., & Deng, H. (2018). Critical determinants for mobile commerce adoption in Vietnamese MSMEs: a conceptual framework. *Procedia computer science*, *138*(2) 433-440.

Cherono. (2018). *The relationship between the Mobile money transfers and the business performance*- 1(3): 273-288.

Cook, W., & McKay, C. (2017). Banking in the M-PESA age: lessons from Kenya. *Work. Pap. Washington, DC CGAP*.

Davis. (1989). *Perceived usefulness, Perceived ease of Use, and User Acceptance of Information Technology*. MIS Quarterly, 319-340.

Fanta, A. B. (2016). *The role of mobile money in financial inclusion in the SADC region. Evidence using Fin Scope surveys*. Policy Research Paper No. 03/2016.

Fisher, L. D. (1998). Self-designing clinical trials. *Statistics in medicine*, *17*(14): 1551-1562.

Fleischer, T. &. (1990*). Information And Management. A critial Review of the Technology Accepance Model*, 191-204.

Harfoushi. (2016). Technological innovation and small firms: a taxonomy", *International Small Business Journal, 9, 3.*

Iravonga. (2018). *effects of the Mobile financial services on the financial performance of the small scale and medium enterprises in Kakamega County*; Kenya- 1(3):273-288.

Kabanda, D. K. (2014). The impact of mobile money services on the performance of the commercial banking sector in Uganda; A case study of MTN mobile money.

Karimi. (2016). *the impact of the financial services and communications on the performance of small and medium enterprises in the selected units in Kenya*. Unpublished Thesis UON

Keizers, B. W. G. (2017). *Determinants of cash holdings for Dutch SME's* (Bachelor's thesis, University of Twente).

Kendall, J., Lyon, B., & Higgins, D. (2012). Mobile money usage patterns of Kenyan small and medium enterprises. *Available at SSRN 2116481*.

Khaskheli, A., Jun, Y., & Bhuiyan, M. A. (2017). M-commerce and mobile apps: opportunities for MSMEs in developing countries. *Marketing*, *2*(2).

Khaskheli, A., Jun, Y., & Bhuiyan, M. A. (2017). M-commerce and mobile apps: opportunities for MSMEs in developing countries. *Marketing*, *2*(2).

Kiprono, G. (2018). *Effect of Mobile Money Innovations on the Financial Performance of Commercial Banks in Kenya*, Unpublished Doctoral dissertation, University of Nairobi.

Latour, C. A. (1981). The Digital Provide: Information (Technology), Market Performance and Welfare in the South Indian Fisheries Sector. *Quarterly Journal of Economics, 122, 879 – 924.*

Laura. (2014). *Impact of the Mobile money transfers and usage on the microenterprises in Zambia*- 1(3), 273-288.

Li, H., & Atuagene-Gima, K. (2011). Product innovation strategy and the performance of new technology ventures in China. *Academy of Management Journal*, 44(6): 1123-1134

Lumu, E. (2017). *Mobile money services and market performance of micro*. Doctoral dissertation, Uganda Technology and Management University.

Madila. (2016). Effectiveness of the Mobile money financial applications on the development of the medium and small enterprises in Tanzania- 1(3):273-288.

Mararo, M. W. (2018). *Influence of mobile money services on the growth of SME in Nakuru Town Kenya* (Doctoral dissertation, JKUAT).

Mararo, M. W. (2018). *Influence of mobile money services on the growth of SME in Nakuru Town Kenya* (Doctoral dissertation, JKUAT).

Marulanda. (2015). *Mobile Conditional Transfers on the performance of the business in Columbia*- 1(3): 273-288.

Masocha, R., & Dzomonda, O. (2018). Adoption of Mobile Money Services and the performance of small and medium enterprises in Zimbabwe. *Academy of Accounting and Financial Studies Journal*, *22*(3), 1-11.

Masocha, R., & Dzomonda, O. (2018). Adoption of Mobile Money Services and the performance of small and medium enterprises in Zimbabwe. *Academy of Accounting and Financial Studies Journal*.

Mbogo, M. (2010). The impact of mobile payments on the success and growth of micro-business: The case of M-Pesa in Kenya. *Journal of Language, Technology & Entrepreneurship in Africa*, *2*(1): 182-203.

Mbogo. (2010). Impact of the Mobile Payments on the success and the Growth of the Micro-Business-The case of M-pesa in Kenya. 1(3): 273-288.

Mosocha, O. a. (2018). Adoption of mobile commerce services and the performance of the small and medium enterprises in Zimbabwe. *European Journal of Business and Management, 3(7), 59-77.*

Muhammad. (2011). Adoption of Mobile Commerce Service among Employed Mobile Phone Users in Bangladesh: Self-efficacy as A Moderator. 320-333.

Mutinda, A. N. (2018). *The effect of mobile phone based money transfers on the financial performance of small and medium enterprises in Nairobi County, Kenya* (Doctoral dissertation, University of Nairobi).

Mutio, F. M. (2019). *Influence of Mobile Banking Services on Performance of Micro Businesses in the Informal Sector in Kenya: A Case Study of Jua Kali Artisans in Nairobi County* (Doctoral dissertation, United States International University-Africa).

Ngaruiya, B. (2014). *Effects of mobile money transactions on financial performance of small and medium enterprises in Nakuru central business district* (Doctoral dissertation, Egerton University).

Ngaruiya, B. (2014). *Effects of mobile money transactions on financial performance of small and medium enterprises in Nakuru Central Business District* (Doctoral dissertation, Egerton University).

Ngaruiya, B., Bosire, M., & Kamau, S. (2017). Effect of mobile money transactions on financial performance of small and medium enterprises in Nakuru Central Business District. *Research Journal of Finance and Accounting*, *5*(12), 53-58.

Ngaruya. (2014). *the effects of the Mobile payments transactions on the financial performance of the small and Medium enterprises in Nakuru Central business District.* MBA Project research paper. UON/2014.

Njabu, I. T. (2016). *The impact of the Mobile Money Services on the Growth of Micro, Small and Medium Enterprises in Nkasi District Council* (Doctoral dissertation, Master's Thesis, Mzumbe University, Nkasi, Tanzania.

Nripendra, R. a. (2019). *exploring the barriers of m-commerce adoption in MSMEs in the UK*- 1(3), 273-288.

Ntlatlapa, M. J. (2017). *The determinants of mobile money adoption and usage: the case of Lesotho* (Doctoral dissertation, University of the Free State).

Nyaga. (2013). *mobile commerce services on the performance of the small and medium enterprises in the urban town in Kenya*.

Obadha, M., Colbourn, T., & Seal, A. (2020). Mobile money use and social health insurance enrolment among rural dwellers outside the formal employment sector: Evidence from Kenya. *The International journal of health planning and management*, *35*(1): 66-80.

Okolo, V. C., & Obidigbo, C. (2014). Boosting small and medium enterprises performance in Nigeria through mobile commerce. *European Journal of Business and Management*, *6*(9), 134-141.

Oloko. (2015). *Mobile Money transfers and the growth of the small and medium sized enterprises in Kenya*- 1(3):273-288.

Opare, E. A. (2018). The advantages and disadvantages of Mobile Money on the profitability of the Ghanaian banking industry. *Texila International Journal of Management*, *4*(2), 1-8.

Oromo, M. A. (2015). *The relationship between mobile money and loans issued by commercial banks in Kenya*, Unpublished MSC project, University of Nairobi.

Robertson, F. a. (2019). *Impact of Mobile commerce on the Financial Performance of the MSMEs in Douala, Cameroon*-320-333.

Rogers. (1995).*Diffusion of Innovations: Modifications of aModel for Telecommunications.* Springer Berlin Heidelberg, 25-38. .

Simiyu, C. N., & Oloko, M. (2015). Mobile money transfer and the growth of small and medium sized enterprises in Kenya: a case of Kisumu city, Kenya. *International Journal of Economics, Commerce and Management*, *3*(5), 1056-1065.

Söderberg, B. a. (2011). *Mobile Money Payments among the Micro business enterprises in Uganda*. 1(3), 273-288.

Sun. (2006). Causal Relationships Between Perceived Enjoyment and Perceived ease of Use: An Alternative Approach. *Journal of The Association for Information Systems.*

Talom, F. S. G., & Tengeh, R. K. (2020). The Impact of Mobile Money on the Financial Performance of the MSMEs in Douala, Cameroon. Sustainability, 12(1), 183.

Talom, F. S. G., & Tengeh, R. K. (2020). The Impact of Mobile Money on the Financial Performance of the MSMEs in Douala, Cameroon. *Sustainability*, *12*(1), 183.

Tat. (2018). *the opportunities and challenges of the mobile payment services in Sweden* 267890//2018.

Tobbin, P., & Kuwornu, J. K. (2011). Adoption of mobile money transfer technology: structural equation modeling approach. *European Journal of Business and Management*, *3*(7), 59-77.

Tumaini, I. N. (2016). *The Impact of mobile money services on the growth of micro, small and medium enterprises in Nkasi district council* (Doctoral dissertation, Mzumbe University).

UNCTAD. (2017). Mobile Money for Business Development in the East African Community: A Comparative Study of Existing Platforms and Regulations.

Wadada. (2015). *The significance of the Mobile Money Transfer facilities on the business performance of the mobile money agents in Kukuubo business area in Uganda*.

Wambari. (2009). M*obile Banking In Developing Countries-A Case Study on Kenya. Information Technology*, University of Applied Sciences.

APPENDICES

Appendix 1: Introductory Letter

Dear Respondent,

This is a research leading to the award of Master's in Management and Leadership. The purpose of this study is to determine the effect of mobile money services on performance of small and medium enterprises in Kenya with focus on Kitengela, Kajiado County.

The study specifically focuses on whether mobile money services influence performance of small and medium enterprises in Kenya.

Kindly, provide your opinion on each of the issues as objectively as possible. Please trust that the information you provide will be treated with utmost confidentiality it deserves and this study is strictly for academic purposes only.

In each section of the questionnaire, you are provided on how you can give your opinion. Please be assured that all your information will be treated as **strictly confidential** and will be combined with all other responses to form an overall picture.

Yours truly

Mbithi George Mutiso (Researcher)

Appendix II: Questionnaire

This questionnaire aims at collecting information and data for academic use by the researcher. Your kind participation will go a long way in providing useful information required to complete this research. The information provided will be treated in confidence. You need not indicate your name. Please answer the questions precisely and objectively; the information will be treated with confidentially.

SECTION A: Social Demographic Characteristics

1. Sex

   Male ( ) Female ( )

2. Marital Status

   Single ( ) Married ( )

   Divorced ( ) Separated ( )

3. Name of your business ----------

4. What position do you hold in the organization (optional) ----------?

5. Do you have a business license/permit? Yes { } No { }

6. How many employees do you have in the business? (Full time and Part time basis including directors and owners)

   1-9 [ ] 10-49 [ ] 50 and above [ ]

7. Does your business enterprise use mobile money services?

   Yes [ ] No [ ]

SECTION B: Mobile Money Services and Performance of MSMEs

Part A: Mobile Money Payments

8. Kindly indicate the extent to which the following aspects of mobile money payments influence performance of MSMEs. Use a scale of 1-5, where (1- Not at all, 2-small extent, 3-moderate extent, 4-large extent and 5- very large extent).

Statement	**1**	**2**	**3**	**4**	**5**
Salary processing					
Pay utility bills					
Supplier payments					
Value chain payments					

Part B: Mobile Money Transfer

Please indicate the extent to which the following aspects of mobile money transfer influence performance of MSMEs. Use a scale of 1-5, where (1-to a very low extent, 2-lew extent, 3-moderate extent, 4-great extent and 5- very large extent)

Statement	**1**	**2**	**3**	**4**	**5**
P2P transfers					
Disbursement and repayment of loans					
Cash transfers					
Buying airtime					
Buy business goods					

Part C: Mobile Financial Services

Please indicate the extent to which the following aspects of mobile financial services influence performance of MSMEs. Use a scale of 1-5, where (1- Not at all, 2-small extent, 3-moderate extent, 4-large extent and 5- very large extent)

Statement	**1**	**2**	**3**	**4**	**5**
Make deposit					
Withdrawal funds from bank					
Sending money					

Withdraw money from mobile phone					
Access bank loans					

Part D: Mobile commerce

9. Please indicate the extent to which the following aspects of mobile commerce influence performance of MSMEs. Use a scale of 1-5, where (1- Not at all, 2-small extent, 3-moderate extent, 4-large extent and 5- very large extent)

Statement	**1**	**2**	**3**	**4**	**5**
Checking account balance					
Airtime top-ups					
Savings					
Insurance premiums remittances					
Loan applications					

Part E: Performance of MSMEs

10. Kindly indicate the extent to which MSMEs performance has improved since adoption and use of mobile money services. Use to a very low extent, 2-low extent, 3-moderate extent, 4-great extent and 5-very great extent.

Statement	**1**	**2**	**3**	**4**	**5**
Sales turnover					
Market share					
Revenue generation					
Profitability					
Customer satisfaction					

THANK YOU FOR YOUR TIME AND PARTICIPATION

Appendix III: Category of MSMEs Operating in Kitengela Town

Category	**Number**	**Percentage**
Manufacturing sector	178	22
Construction sector	218	27
Transport & communication	63	8
Processing Sector	150	18
Services Sector	132	16
Others	76	9
Total	**817**	**100**

Source: Researcher, 2021