

**FACTORS INFLUENCING USE OF MOBILE BANKING AMONG SMALL AND
MEDIUM ENTERPRISES IN NAKURU CENTRAL BUSINESS DISTRICT**

BEATRICE KONES

**A Research Project Submitted to Business School in Partial Fulfillment of the Requirement
for the Award of Masters of Business Administration Degree of
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DECLARATION

This research project is my original work and has not been submitted for any award of Diploma or Degree in any institution.

Signature Date

BEATRICE C. KONES

GMB/NE/0981/9/10

APPROVAL

This research project has been submitted with our approval as the university supervisors.

Signature..... Date

Dr. Maina Waiganjo

Lecturer, School of Business

Kabarak University

Signature..... Date

MR. Kirui Kibet

Lecturer, School of Business

Kabarak University

DEDICATION

This work is dedicated to my beloved parents David and Christine Kones, my Brothers Festus, Peter, Simon and Patrick and my beloved daughter Patricia Chepkemai who have given me support during my studies in Kabarak. Thank you for being there for me dad and mum you shall always be treasured

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God bless you all

ABSTRACT

Micro-business enterprises in the developing world are increasingly deploying 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. However, there are only a handful of studies on the application of mobile banking for success and growth of small and medium enterprises. This study sought to investigate the factors influencing the use of mobile banking by Small and Medium Enterprises (SME's) in Nakuru Central Business District. More specifically, the study sought to achieve the following objectives; to assess the extent which Trust and Security, Cost, convenience (ease of use and usefulness) and ICT Knowledge and Skills influence the use of mobile banking in Nakuru CBD. The study is based on a cross-sectional survey conducted through administration of questionnaires. The data was collected from a sample of 206 SME's in Nakuru CBD, Kenya. Both descriptive statistics (demographic characteristics) and inferential statistics (correlation and regression analysis) were used in analyzing data with the help of Statistical Package for Social Sciences (SPSS) version 16.0 and findings are presented mainly in form of tables. The findings show that trust and security, perceived cost, perceived convenience and ICT knowledge and skills had a positive significance (with all having positive correlation coefficients of 0.439, 0.814, 0.814 and 0.370 respectively) on use of mobile banking. The results show that all the factors can explain 88.0% of variance on use of mobile banking. The study concludes that security was one of the key factors when it came to use of mobile banking, followed by usefulness and trust. It is recommended that further research on how training SME's on mobile banking would likely lead to understanding and using new technology in their business.

Keywords: Mobile banking, Small and Medium Enterprises (SME's), Cost, Trust and Security, ICT knowledge and skills and Convenience

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LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|----------|---|
| AML | Anti-Money Laundering |
| ATM | Automated Teller Machine |
| CBD | Central Business District |
| CCK | Communication Commission of Kenya |
| CEO | Chief Executive Officer |
| CGAP | Consultative Group to Assist the Poor |
| DRC | Democratic Republic of Congo |
| EFT | Electronic Funds Transfer |
| ICT | Information and Communication Technology |
| KCB | Kenya Commercial Bank |
| KYC | Know Your Customer |
| OECD | Organization for Economic Cooperation and Development |
| POS | Point Of Sale |
| SIM card | Subscriber Information Module Card |
| SMEs | Small and Medium Enterprises |
| SMS | Short Message Sending |
| TAM | Technology Acceptance Model |
| TAM2 | Extended Technology Acceptance Model |

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Small and Medium Enterprises (SMEs) play a major role in developing and developed economies in job creation and diversification of economic activities. The SME sector is the sector in which most of the world's poor people are working (Stern, 2002). It has an important role to play in economic development, poverty reduction and employment creation in developing economies (Hallberg, 2000). The sectors' growth rate largely exceeds the average economic growth of national economies in many countries and contributes significantly to employment creation. Governments and donors alike have recognized the important role of the SME sector for overall development and as a result, many government policies are geared toward supporting SME sector growth through a variety of programs that range from tax incentives to technical assistance, regulatory provisions to policy interventions, training and other types of business development services (O'Shea & Stevens, 1998).

The Kenyan government recognizes that the entrepreneur in the community is a primary contributor and mobilizer of resources to develop the economy, a provider of employment for others and a stabilizing factor in society. SMEs act as providers of locally demanded goods and have the ability to develop and use appropriate technology. Innovation is therefore a crucial part of the entrepreneurial process (Gibb, 1988).

With the continuously emerging wave of information driven economy, the SME sector in Kenya has inevitably found itself unable to resist technological indulgence. The need for convenient ways of accessing financial resources beyond the conventional norms has seen the recurrent expansion and modernization of business patterns. Recent advancement in mobile and wireless technologies has freed consumers from the spatial and temporal constraints of traditional commerce (Balasubramanian, Peterson & Jarvenpaa, 2002).

In 2007 Kenya pioneered the mobile banking business with the introduction of M-Pesa, the mobile money-transfer service that revolutionized banking. Mobile banking services offer efficiency and are time and cost saving for people who have to travel long distances to access a physical bank branch. The introduction of new mobile banking platforms has extended the

benefits of mobile banking to more Kenyans (Mulupi, 2011). M-banking enables the micro-business operators to transact payments directly with their customers and suppliers through a mobile phone in the palm of their hands without necessarily going through a bank (Anuradi, Tyagi & Raddi, 2009) and without having to leave their business premises. These features bring considerable convenience to business operations. It is also easy for the micro business operators to control their mobile phone accounts as they can access their accounts any time.

This study begins by first looking at the factors that account for the mobile payments adoption among the micro business operators and secondly at the level of actual usage of the mobile payments by the micro business operators. The research applies the Technology Acceptance Model (TAM) to get a better understanding of the micro business entrepreneurs' behavior of using the mobile payment technology to influence the micro business success and growth. The factors that enhance the behavioral intention to use the mobile payment technology and the actual usage of this new technology by micro businesses are highlighted.

1.2 Statement of the Problem

Giovanni and Mario (2003), found that ICT is able to offer enterprises a wide range of possibilities for improving their competitiveness such as providing mechanisms for getting access to new market opportunities and specialized information services. According to Loudon and Loudon (2007), wireless mobile services are used in purchasing transactions as well as transmitting messages. This represents a fraction of total e-commerce transactions. According to OECD (2010), ICT is able to improve information and knowledge management inside the firm irrespective of size and increase the speed and reliability of transactions for both business-to-business and business-to-consumer transactions. Mobile banking has been known as one of those business processes that are time-saving, secure, convenient and cheap. However, all these factors of m-banking should be of interest to SME's as they address their primary bottom line which is profit. Studies have shown that the rate at which m-banking is adopted and used is still low and it is not known the variables that influence m-banking usage in Kenya.

To investigate this problem, there are questions that need answers: what are the factors influencing the use of mobile banking by SME's? Do SME's perceive risk and cost differently? Do they have sufficient knowledge about mobile banking service providers, services and

products to trust them? This study sought to evaluate these factors influencing of m-banking use by SME's in Nakuru CBD.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of the study is to assess the factors determining the use of mobile banking effects among small and medium enterprises in Nakuru CBD

1.3.2 Specific Objectives:

The specific objectives are:

- i. To assess the extent which trust and security influence use of m-banking by SME's.
- ii. To assess the extent which cost influence use of m-banking by SME's
- iii. To assess the extent which convenience (ease of use and usefulness) influence use of m-banking by SME's.
- iv. To assess the extent which user ICT knowledge and skills influence use of m-banking by SME's.

1.4 Research Hypotheses

H₀₁: Trust and Security has no significant influence on use of mobile banking by SME's in Nakuru CBD.

H₀₂: Perceived Cost has no significant influence on use of mobile banking by SME's in Nakuru CBD.

H₀₃: Convenience (ease of use and usefulness) has no significant influence on use of mobile banking by SME's in Nakuru CBD.

H₀₄: ICT Knowledge and Skills has no significant influence on use of mobile banking by SME's in Nakuru CBD.

1.5 Significance of the Study

The research was prompted by the fact that m-banking is growing very fast in Kenya and many entrepreneurs have to cope with the new technology. Firstly, the research will be of great benefit

to banks and other companies that are yet to incorporate mobile financial services in their transactions. Secondly, SME entrepreneurs will use the findings of the study to learn on the many avenues and platforms that mobile banking affords them. Thirdly, the findings can be used by mobile operators to improve or expand their services in a way geared to economic empowerment to all involved.

1.6 Scope of the Study

The research was conducted in Nakuru CBD; Kenya key persons targeted were business owners between May and September 2013. The study addressed the factors influencing the use of mobile banking by Small and Medium Enterprises in Nakuru Central Business District. The business owners of selected businesses of Lams Building, Highway Towers, Uchumi Business Centre, Shoppers Paradise, Sokoni Plaza, Biashara Centre, Sigma Building, Prestige Plaza, Masters Plaza and Gituamba shopping Malls.

1.7 Limitations of the Study

The study was limited to the selected business entrepreneurs in the different shopping malls under study and willing to answer the questionnaires. It was also difficult to know how honest the respondents were in their responses. To mitigate this, validity and reliability of the research instrument to see that they met the required standard.

1.8. Definition of Terms

Mobile Banking. A channel where the customer interacts with a bank via a mobile device such as a mobile phone or personal digital assistant. (Barnes & Corbitt 2003, p. 275; Scornavacca & Barnes 2004, p. 520). This study adopted this definition.

Risk The probability of something happening in the future- good or bad; the likelihood of an occurrence of an event and the associated loss by the event or loss caused by the event (Featherman & Pavlou, 2003).

Security A potential loss due to fraud or a hacker compromising the security of a mobile banking user. In a similar study, Luarn and Lin (2005) used the

construct ‘perceived credibility’, which is defined as the extent to which a person believes that using mobile banking will have no security or privacy threats. For this study, (Luarn and Lin’s 2005) definition was adopted.

Perceived cost The extent to which a person believes that using mobile banking will cost money (Luarn & Lin 2005). The cost may include the transactional cost in the form of bank charges, mobile network charges for sending communication traffic including SMS or data and mobile device cost.

Perceived Trust In a study by Kim, Chung & Lee, (2010), trust was defined as a feeling of security and willingness to depend on someone or something. This study agrees with this approach which involves security of transferring money on a wireless platform without it getting lost.

Perceived Value The overall assessment on the product or service utility (benefits and sacrifices) determined by customer’s perceptions of what is received and what is given (Zeithaml, 2004). This study therefore adopts Zeithmal’s definition and seeks to establish the viability of value to the use of mobile banking.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

M-banking is a distribution channel strategy used for delivering financial services without relying on bank branches. This strategy may complement an existing bank branch network for giving customers a broader range of channels through which they can access financial services, branchless banking can also be used as a separate channel strategy that entirely forgoes bank branches. Branchless banking comprises the Use of exclusive or nonexclusive third-party outlets, such as post offices and small retailers, that act as agents for financial services providers and that enable customers to perform functions that require their physical presence, such as cash handling and customer due diligence for account opening. Offer of basic cash deposit and withdrawal services in addition to transactional or payment services so that customers can use these banking services on a regular basis available during normal business hours and without needing to go to bank branches at all, if that is what they choose is the way to go (Ivatury, & Mas, 2008, April).

2.2 Theoretical Literature

Technology adoption Model (Davis, 1985, 1989) has been the foundation of many technology adoption and diffusion research and it is rooted in the Theory of reasoned Action. TAM, has strong theoretical bases, proven empirical supports and applicability to wide range of Information Systems innovation, therefore, it has been adopted as an underpinning theory for the research. According to TAM, the two important independent variables of actual use of technology are perceived ease of use, defined as “the degree to which a person believes that using a particular system would be free of effort” and perceived usefulness, defined as “the degree to which a person believes that using a particular system would enhance his or her performance”.

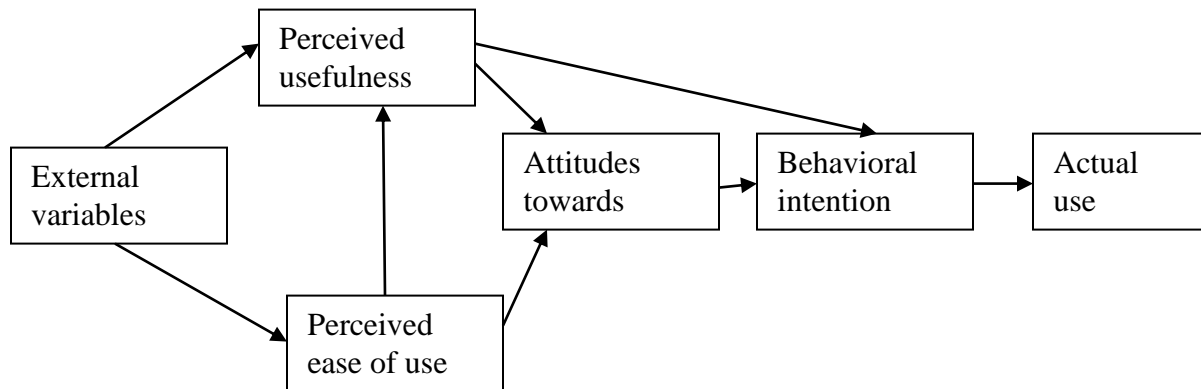


Figure 2.1: The Technology Acceptance Model (Davis, 1985)

2.2.1 Mobile Banking

Mobile banking refers to provision and availment of banking and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information.

According to Vaidya (2011), the earliest mobile banking services were offered over SMS, a service known as SMS banking. With the introduction of the first primitive smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers. Mobile banking relies on the three elements namely an electronic stored-value account (M- wallet) linked to each users' mobile phone; a mobile application that allows users to manage their accounts and undertake transactions and a network of retails where users can deposit and withdraw money from their accounts. This kind of banking does not require one to have a bank account.

Global mobile banking subscribers have doubled in each of the past three years, with strong growth predicted as far out as 2015. The telecommunications industry worldwide has scrambled to bring what is available to networked computers to mobile devices (Schofield & Kubin 2002).

Mobile is the only channel available today that provides immediate banking services, and usage

of the mobile phone is high across all demographic and socioeconomic levels. Mobile technology is driving both advanced services for sophisticated users and access to banking services for a large population without current access to banks or desktop applications. (Vanscoy 2010). It is seen as the quickest way of transferring and receiving money today without having to go and queue at the bank counter to be served and it can be done anytime and anywhere. This means that people can work all round the clock. Services offered on mobile phones include the following; account balances and mini statements, transfer of funds and transactions and password administration among other new revolutions.

According to Howard & Maili (2008), trust and fidelity from banking under the mattress to resting on the mobile phone is emerging fast. People have realized that traditional banking methods have proved insecure, inadequate, costly and inaccessible in many emerging markets as compared to mobile banking which is more reliable, less costly, accessible and almost adequate. Success of mobile transactions is based on the ease of use, the low cost of services, 24/7 access in all locations and the high levels of security. All this can dramatically improve users' quality of life. Money can be transferred quickly and easily without the hustle of lengthy post office queues. Electricity meters can be topped up at the user's convenience and funds can be transferred to allow the needy to pay doctors' fees or purchase medicines. There are countless examples, all of which point to the imaginative use made of mobile transactions and the intrinsically high level of demand from lower-income families for financial services.

They further continue to say that Mobile financial transactions can be transformational – they can be a significant tool in alleviating poverty. However, their potential was not just be defined by market-based outcomes but through carefully constructed policy regimes – regimes that allow effective competition and synergies to be created between the telecommunications sector and the banking sector. Critically, the policy outcomes must focus on delivering benefits to consumers of both mobile and banking services, rather than focusing on protecting existing banking and telecom service providers.

2.2.2 Models of Mobile Banking

The advent of the Internet has revolutionized the way the financial services industry conducts business, empowering organizations with new business models and new ways to offer 24-hour

accessibility to their customer.

According to a study by financial consultancy Celent, over the last few years, the mobile and wireless market has been one of the fastest growing markets in the world and it is still growing at a rapid pace. According to the GSM Association and Ovum, the number of mobile subscribers exceeded 2 billion in September 2005, and now exceeds 2.5 billion.

Mobile devices, especially smart phones, are the most promising way to reach the masses and to create “stickiness” among current customers, due to their ability to provide services anytime, anywhere, high rate of penetration and potential to grow. According to Gartner, shipment of smart phones is growing fast, and should top 20 million units (of over 800 million sold) in 2006 alone.

In Pakistan ATM banking has taken off by two interlinked switches. Many banks also offer limited banking services like balance enquiry, mini-statement among others over mobile phone and restricted fund-transfer over internet. In Brazil, private and state-owned banks deliver financial services through retail agents including small supermarkets and pharmacies, post offices, and lottery kiosks (Kumar et al. 2006).

In Southern Africa, South Africa dominates with high penetration of 40 million mobile subscribers (www.vodacom.co.za and www.mtn.co.za), mostly pre-paid. MTN Banking of South Africa is joint venture between Standard Bank and MTN Mobile offering the Mobile Money account that gives customer access to limited banking facilities, using Wap enabled cell phone. The use of cellphone banking enables the bank, as part of self-service banking, to provide convenient, safe and cost effective services to their customers (Standard Bank, 2010).

WIZZIT is a cell phone-based banking facility provider operating as a division of South African Bank of Athens. It does not require users to have a prior bank account and is compatible with early generation cell phones popular in low-income communities. In addition to being able to conduct cell phone-to-cell phone transactions, WIZZIT account holders are issued Maestro debit cards that can be used at any ATM or retailer. WIZZIT charges per-transaction fees but does not charge a monthly fee nor require a minimum balance. There are no transaction limitations-the service is purely pay-as-you-go. (<http://www.nextbillion.net/activitycapsule/wizzit>)

In Philippine, Globe Telecom's G-Cash service is an e-money account tied to a mobile phone subscriber information module (SIM card). The account can be loaded and unloaded by depositing or withdrawing cash at a wide range of retail agents and the mobile operator's own dealers. Customers can store cash (in the form of e-money), send funds from person to person, pay bills and make loan repayments, and purchase goods at shops using the e-money value in their G-Cash accounts. (Lyman et al., 2006)

Müller-Falcke (2001) finds that Indian manufacturing SMEs enterprises that use more advanced forms of ICTs have on average higher labor productivity and a higher growth rate. In a survey of 59 electric and electronic manufacturing Indian SMEs mainly employing less than 50 people, Lal (1996) observed higher profit margins, skill intensity and export and import intensities for firms using IT. There is also some evidence that export performance of SMEs is related to ICT adoption (Lal 1999, Nassimbeni 2001). However it is not the investment in the technology alone but the combination with other technologies and especially relevant skills that make ICT work.

2.2.3 Service providers in Kenya

The transformational M-banking is available by mobile phone service providers as Part of their value added services. The M-banking services in Kenya are available to mobile phone users of the two major mobile services Providers namely Safaricom and Airtel. Others which are upcoming are Orange and Yu. Safaricom's service is branded "**M-pesa**", Airtel's service goes by the "**Zap**", Oranges' service is called "**Iko-Pesa**" and that of Yu is "**Yu-Cash**" (CBK, 2010).

Payment providers are intermediaries which settle financial claims between certain types and scope of transaction counter-parties. Secondary characteristics of payment services include the kinds of transactions they support, the ease of use of their payment instruments and the costs, risks and speed associated with settlement arrangements. The value of the payment service depends on the way a provider combines these features (World Bank 2005). Kenya has been at the forefront of the mobile banking revolution. Following a pilot in 2005, Safaricom and Vodafone launched M-Pesa, a mobile-based payment service targeting the unbanked, pre-pay mobile subscribers in March 2007 (Mas & Radcliffe, 2010).

2.3 Empirical Literature

There are several models existing that have been used to investigate adoption of technology.

Several studies focusing on adoption of mobile services have their roots in Technology Acceptance Model (TAM) originally proposed by Davies in 1986. The model is originally designed to predict user’s acceptance of Information Technology and usage in an organizational context. TAM focuses on the attitude explanations of intention to use a specific technology or service; it has become a widely applied model for user acceptance and usage. There are a number of meta-analyses on the TAM that have demonstrated that it is a valid, robust and powerful model for predicting user acceptance (Bertrand & Bouchard, 2008).

The Extended Technology Acceptance Model (TAM2) (Vankatesh & Davis, 2000) was adopted. This model helped identify variables considered in the conceptual framework as it has incorporated the integral roles of perceived risk, trust and perceived cost into innovative technology adoption.

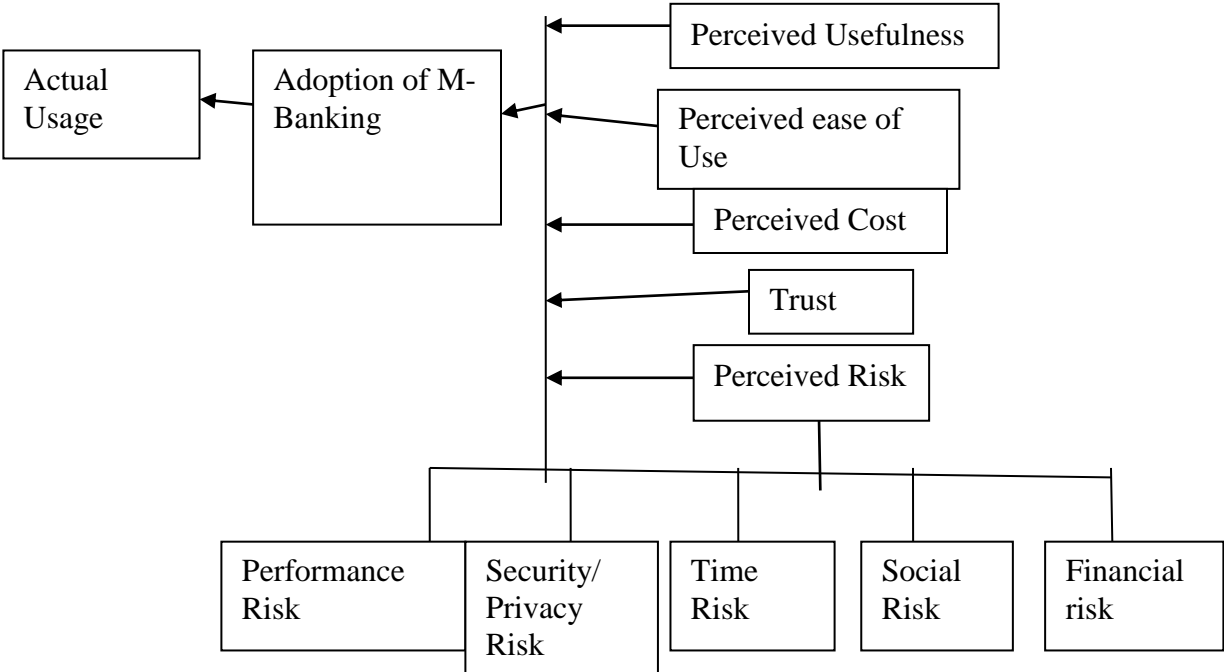


Figure 2.2: Research Model based on TAM2

2.3.1 Mobile banking environment security

Consumers also think of the risks they undergo if they adopt the new banking through mobile services; especially due to the rising number of hackings and identity theft that has invaded the e-commerce sector. Many people feel like they have exposed themselves to the possible theft and

misuse of their bank accounts in the event that hackers get access to their secret codes or from friends and relatives who are likely to access their mobile phones (Yeow, et.al, 2008).

The consumer may feel at risk and exposed to insecurity and uncertainty that makes him or her anxious about adopting mobile services such that they end up not enjoying the benefits derived from the mobile banking (Poon,2008). According to Featherman & Pavlou's(2003), definition of perceived risk in electronic service context is that, a bank customer's expectation of potential loss in the pursuit of a desired outcome of using mobile banking.

Porteous (2006) asserts that mobile banking has the potential to be transformational owing to various facts. First, it uses existing mobile communications infrastructure that already reaches un-banked persons. Secondly, new players such as mobile phone industry may drive Operators, it with different target markets from traditional banks that are able to harness the power of new distribution networks for cash transactions. These include mobile service providers, who extend the reach beyond the conventional tellers or ATM networks of banks. In addition it may be Cheaper than conventional banking, if the offering is competitive enough.

The differences between the schemes can also be described in terms of the broader system the characteristics which may be less transparent to consumers. The systems vary in terms of their technical platform; who manages the money float and settlement mechanisms; who manages the interaction with a customer and how; and whose brand is used to market the product. These broader characteristics fall into the following categories: open or closed systems, interoperability, identity of the deposit holder, tariff structures for consumers, regulatory compliance and mechanisms for deposit making, transfers and cash withdrawal (Porteous,2006).

According to Porteous (2006), Regulatory compliance means that there is a variety of ways to comply with both knows your customer (KYC) and anti-money laundering (AML) regulations. For example, AML tools are applied only when transactions exceed specific limits in terms of both frequency and amount. The migration from mobile customer to mobile bank customer offers significant potential to reduce the costly information asymmetries between customer and bank, as mobile operators of payments schemes hold useful information about customers' usage patterns. Tariff structures for consumers are customers charged account fees or fees per transaction. The user experience of the various mobile systems depends on how well specific

products correspond to customer needs in different countries.

According to Loudon & Loudon (2007,p.g 413), wireless mobile services are starting to be used for purchasing goods and services as well as transmitting messages. Although this represents a fraction of total e-commerce transactions, revenue has been steadily growing. In 2006, there was an estimated 175 million cell phone users in the United States and over two billion wireless and mobile subscribers worldwide.

2.3.2 Effect of m-banking Per-Transaction Costs

The reason perceived cost is included in the framework is because it plays an important role for SMEs in determining adoption of ICT in their business. The costs of the service is considered as one of the most imperative factors in the decision making process. This is because it determines the customer's ability to use the service depending on availability of the specified amount and their set budget. Perceived cost is the perceived quantifiable costs of acquisition and use of technology (Koenig-Lewis, Palmer, & Moll,2010). Referring to Luarn & Lin's, (2005) definition, perceived financial cost is "the extent to which a person believes that using mobile banking was cost money."

The SMEs was less likely to adopt ICT when its initial set-up cost is high. Poon & Swatman (1996) and Reynolds (1994) stated that small businesses often have difficulty in obtaining financial resources. Any new technology like ICT may be considered too expensive to many SMEs because of their lack of financial resources (Poon & Swatman, 1999). Tidd (1997) expressed that SMEs face specific problems in the formulation of their innovation strategies due to their limited resources and range of technological competencies.

Mobile phones provide technological services that reduce costs; increase income and increases reach-ability and mobility. They can help to extend social and business networks and they clearly substitute for journeys and, for brokers, traders and other business intermediaries (Donner 2005, Hughes & Lonie 2007). According to Ivatury, (2006), mobile banking systems are providing good money transfer and payment services to early users. However, there was need to be better marketing and training involved to help consumers understand what the systems are capable of, as well as, improved policy measures to ensure that the benefits of mobile banking is evenly distributed across all banking and consumer sectors.

With the mobile phone, every consumer has his/her own branch.” We as Equity do not need to continue building more branches the way we used to do. The huge cost that goes with brick and mortar has substantially been reduced”, said CEO Equity Bank at the time they launched M-kesho.(Mwangi,2007). According to the CEO, the introduction of mobile banking products has made their customers more knowledgeable. Above all, it has enabled the bank penetrate a niche market in very remote areas.

The Equity CEO says mobile banking is the way to go, given its affordability and convenience. Thus, mobile banking is one thing that was lead to high reduction in costs of delivering banking services in Kenyan banks and organizations and can result to great profitability (Wahome P. Daily Nation, Wednesday, September 3 2008). According to Duncombe & Heeks (2001), survey on US SMEs found that 90 % of the survey, SMEs lack of finance and skills are the main constraints for organization to utilize ICT. Some of them cannot afford to buy a computer or make efficient use of it in the short or even medium period.

2.3.3 Effect of mobile banking on efficiency and consumer convenience

The Kenya government recognizes the role-played by the mobile phones, and associated technologies in the economic growth and development (session paper, 2005). Therefore, together with other stakeholders and development partners, Kenyan government has encouraged the development of communication infrastructure such as communication commission of Kenya (CCK), which is regulating the mobile service providers, fixed line service providers, and other stakeholders in provision of the service industry (Research-ICT-Africa, 2004). At the same time, the government has recognized with concern the growth of micro-enterprises as the foundation blocks of development and industrialization.

Mobile telephony adoption is on the rise and the related technological innovations have dramatically enhanced the capabilities of the mobile phones (Salzaman et al 2001). About two billion people worldwide are using a mobile phone. As the number of mobile phones, increase there has been a pervasive impact on people's lives (ITU,2006). Mobile phones adoption and use has a positive and significant impact on economic growth, and this impact may be twice as large in developing countries as in developed countries (ITU, 2005, Salzaman et al 2001).

In Africa, particularly it has been said that, “People in Africa use mobile phones very differently.

Most strikingly is the accessibility of mobile as the overall impact of mobile extends well beyond what might be suggested by the number of subscriptions alone."(ITU, 2005).In Kenya there has been a sporadic mobile phone subscription by the rural and urban populations. The number of mobile subscribers in Kenya has risen to 8 million subscribers from 6.5 million subscribers in June 2006, from the country's two operators Safaricom and Airtel against 293,400 fixed lines (ITU, 2007).

This increased accessibility to mobile phones have introduced changes in most sectors of the economy and particularly the urban informal sector consequently Jua Kali Business (SMEs) changing their business and operation environment, thereby creating an impact on Kenya's fastest growing sector and employer.

2.3.4 Effect of ICT knowledge on adoption of mobile banking

According to MacGregor et al (1996), small business tends to avoid ICT into their business, if it is seen as complex to use. This is not surprising because SMEs always lack of skills amongst workforce to use ICT (Spectrum, 1997). Paul & Pascale (2003) study reveals that the ICT adoption in SME depends on the CEO/owner being the ICT decision-maker. Their findings clearly indicated that ICT adoption is positively related to firm size.

The ability of manager or owner in ICT's knowledge or skills is definitely increasing the opportunity of ICT use amongst SMEs. Reynolds (1994) found that small business owner/managers are unlikely to adopt technologies that are more sophisticated if they are not familiar with the basic ones. This is because of the limited number of employees with lack of technical knowledge. This lack of knowledge-based employees might hinder or prevent technology adoption if the owner believes that this technology can only be employed using specialist staff.

Studies by Sarvenaz Mehravani & Haghghinasab (2011) revealed that Training and awareness reduce consumer resistance and increased cooperation and adoption of new processes. Most SMEs perceive the barriers of implementing IT into their business operations as expensive, risky, complex procedure, lack of technical expatriate, and customer services (Yeung et al., 2003; Chong et. al., 2001; Pires & Aisbett, 2001).

According to Soh et al. (1997) if SMEs adopt the ICT, the potential commercial functions that could be performed include, marketing themselves both locally and globally, gathering business information and consumer feedback, providing customer support and conducting electronic transactions. On the other hand, if ICT implementation were successful, it would have severe repercussions on small businesses with their limited resources.

2.3.5 Perceived Value of M-Banking

Perceived value of mobile banking service in this study mean the customers' overall perception of its benefits and sacrifices needed to use it. Zeithaml's (1988), definition of perceived value is "the overall assessment on the product or service utility determined by customer's perceptions of what is received and what is given. In services, it involves the comparison of what one is getting that is benefits and what he has to give up in terms of sacrifices in order to receive the service (Choi, Cho, Lee, Lee, & Kim, 2004).

The benefits include the value desired by the customer while sacrifices include monetary and non-monetary considerations (Thaler, 1985). Sacrifice factors denote what the customer is expected to part with or forego, in exchange for obtaining the service. These may include cost and risk associated with the use of a particular service; in this study, mobile banking services usage.

Ease of use is enhanced by the use of simple technology and applications that are easy to operate; such that little technical knowledge is required in using the system. Low effort expectancy can be said to be a benefit factor in the adoption of new technology and thus an important factor in explaining the usage of mobile banking. Benefits e-commerce to SMEs includes lower administrative cost (Quayle, 2002), increased internal efficiency (MacGregor et al. 1998; Hawkins & Prencipe, 2000), improved relationship with business partners (Poon & Swatman, 1997), improve competitiveness (Fraser et al. 2000); improve quality of information (Kaplan & Sawhney, 2000). Mehrrens. Et al (2001) ranked perceived benefits as main factors for small firms' Internet adoption. M-banking provides benefits to SMEs like 24/7 access to bank account, fund transfer and bill payment. M-banking also widens scope of financing from both local and global players (UNCTAD, 2001). Therefore; we can conclude that perceived benefits is one of the main factors for e-banking adoption by small firms.

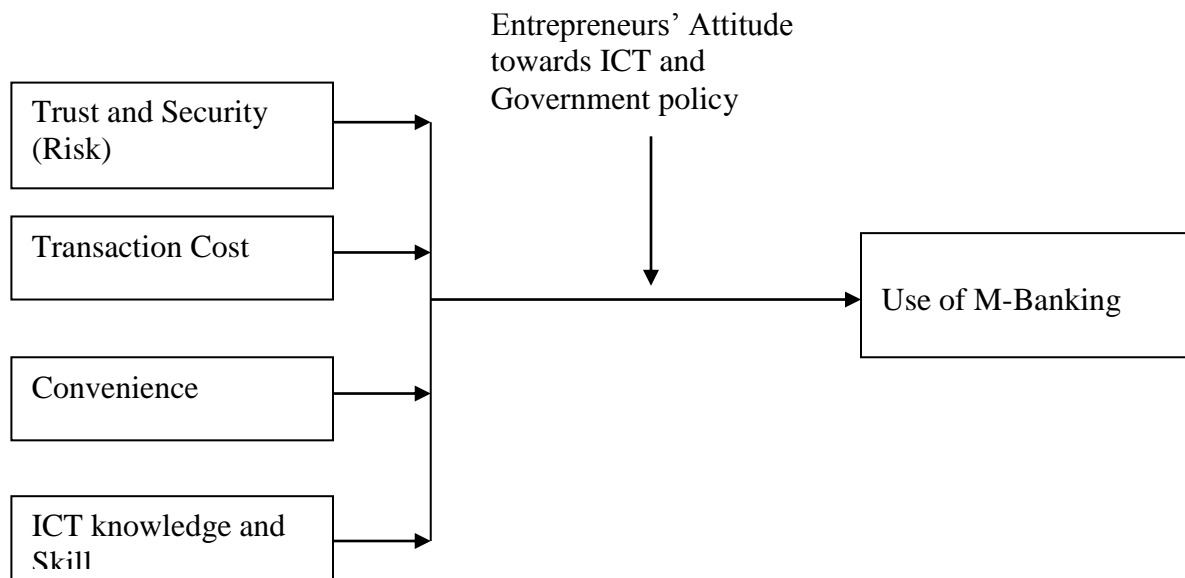
According to a study by Lymer et al (1997) it stresses that ICT implementation in the organization which includes SMEs has the potential to reduce costs and increase productivity level. According to them small firms might find cost-effectiveness as a motivating factor to use Internet-commerce for improving communication with trading partners and consumers. Lauder & Westall (1997) have given their experts opinion that ICT impacts include cheaper and faster communications, better customer and supplier relations, more effective and efficient marketing, product and service development and better access to information and training. (Barua, 1995) study found a positive impact on ICT usage in business and it is able to increase business performance.

2.4 Research Gaps

Study by Mbogo, (1998) on The Impact of Mobile Payments on the Success and Growth of Micro-Business: The Case of M-Pesa in Kenya, found out that mobile payment user considers the technology to be convenient, well supported and that perceived advantages was influence the behavior to use the technology. Previous studies have explored convenience as one of the factors that contributes to the use of mobile payments (Pousttchi, 2004). Another study by Henry & Stephen (2011) looked at Understanding the Drivers of Information and Communication Technologies (ICT's) adoption by Kenyan Small and medium enterprises (SME's). The studies of previous researchers have looked into various areas of mobile banking mostly M-Pesa mobile technology adoption, this study seeks to bridge this gap by researching the Factors influencing the use of Mobile Banking among Small and Medium Enterprises in Nakuru Central Business District.

2.5 Conceptual Framework

The Conceptual framework upon which this study is authored was developed from theoretical and empirical work done in this area in different developed and developing countries, particularly on m-banking and other ICT innovation perspective. The model examines the factors that would possibly affect the m-banking usage.



Independent Variables

Intervening Variable

Dependent Variable

Figure 2.3: The Conceptual framework

Source: Researcher 2013

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the method that was used for the study. The main areas include: research design, population and sample, population description, data collection methods, research procedures and data analysis and methods.

3.2 Research Design

A research design is a plan for collecting and utilizing data so that desired information can be obtained with sufficient precision (Heron, 1998). This research adopted a cross-sectional survey approach. This is an approach where information on a population is gathered at a single point in time which is the case for this study.

3.3 Target Population

The target population comprised of SME shop managers/owners from 10 shopping malls with a population of 427 entrepreneurs. The shop owners/managers are in a unique position in that as owners/managers they are the ones who carry out day to day transactions of the business. They were thus likely to give detailed information on the extent of usage of mobile banking in the transactions they make daily.

Table 3.1: Population Distribution

| Building | No. of stalls |
|------------------------|----------------------|
| Lams Building | 24 |
| Highway Towers | 84 |
| Uchumi Business Centre | 46 |
| Shoppers Paradise | 64 |
| Sokoni Plaza | 60 |
| Biashara Centre | 60 |
| Sigma Building | 45 |
| Prestige plaza | 14 |
| Masters Plaza | 15 |
| Gituamba | 15 |
| TOTAL | 427 |

Source Researcher 2013

3.4 Sampling Design and Procedure

A sample of 206 out of a target population of 427 entrepreneurs was selected using simple random sampling technique. The researcher used simple random sampling to select the respondents. This design allows the population to have an equal chance of being selected in the different strata. These were selected to ensure that the sampling size had characteristic representation of the population using the formulae developed by Mugenda & Mugenda (2003). The formula to find the sample size is

$$n = \frac{N}{1+(N \cdot e^2)}$$

Where:

N = Number of People n= sample size

e = Tolerance at desired level of confidence, probability level of $\alpha = 0.05$

How the formula is used is as shown below:

$$n = 427 / (1 + (427 \cdot 0.05 \cdot 0.05)) \quad n = 206$$

The distribution of the sample across the SME's was done using the formula

$$\frac{\text{Number of individuals in the Stalls} \times \text{The sample size}}{\text{Total Population}}$$

Table 3.2: Population and sample Distribution

| Building | No. of stalls | Population | Sample | Percentage |
|------------------------|----------------------|-------------------|---------------|-------------------|
| Lams Building | 24 | 24 | 12 | 5% |
| Highway Towers | 84 | 84 | 40 | 19% |
| Uchumi Business Centre | 46 | 46 | 22 | 10% |
| Shoppers Paradise | 64 | 64 | 31 | 15% |
| Sokoni Plaza | 60 | 60 | 30 | 14% |
| Biashara Centre | 60 | 60 | 30 | 14% |
| Sigma Building | 45 | 45 | 22 | 11% |
| Prestige plaza | 14 | 14 | 6 | 2% |
| Masters Plaza | 15 | 15 | 7 | 3% |
| Gituamba | 15 | 15 | 7 | 3% |
| TOTAL | 427 | 427 | 206 | 100% |

Source: Researcher 2013

3.5 Data Collection Instrument and Procedure

The study used a questionnaire, which was divided into five sections or parts. Part A captures data on the respondents demographic characteristics; Part B, was collect data on trust and security is collected while Part C, gathers data on transaction costs and Part D, gathers data on convenience (ease of use and usefulness) of using mobile banking. Lastly, Part E, collects data on ICT knowledge and skills used in new banking methods.

According to Cooper & Emory (2008), the questionnaire is conveniently used because it is cheaper and quicker to administer, it is above researcher's effect and variability, and is highly convenient for the respondents as they could fill them during free times or when workloads are manageable. The instruments incorporated Likert scales to measure perception, attitude, values and behavior.

3.6 Validity and Reliability

Reliability is the degree of consistency with which a tool measures a variable. Construct validity testifies how well the results obtained from the use of the measure fit the theories around which the test is designed. Convergent validity is established when the scores obtained by two different instruments measuring the same concept are highly correlated (Cavana, Delahaye, and Sekaran, 2001). The relevance of the content that was used in the questionnaire in relationship to objectives of the study was assessed using a cross-bridge matrix where by items in the questionnaire checked against the objectives to ensure adequate content coverage.

3.7 Data Analysis and Presentation

The study used Multiple regressions to evaluate the contribution of the independent variables to the dependent variable which included chi square, correlation and ANOVA. Inferential statistics were used to establish the nature of relationship between the independent variables and the dependent variables.

3.8 Ethical Issues

The study observed ethics in its research which include issues of disclosure, understanding, voluntariness and consent. The potential respondents were informed and explained to how the information gathered was important in mobile banking practices in Kenya to foster development.

CHAPTER FOUR
DATA ANALYSIS, DISCUSSION AND PRESENTATION

4.1 Introduction

This chapter presents findings of the study. Both descriptive and inferential outputs are presented in this chapter.

4.2 Demographic Characteristics of the Respondents

This section outlines the findings on the demographic data of the sample, which includes the age, gender, education level, possession of a mobile phone and bank account, subscribed to mobile banking, use of m-banking and reason that prevent use of m-banking.

Table 4.1.1: AGE

| | Frequency | Percent |
|--------------|------------------|----------------|
| 18-25years | 72 | 37.5% |
| 26-35years | 54 | 28.13% |
| 36-45years | 58 | 30.21% |
| Over46years | 8 | 4.17% |
| Total | 192 | 100.0% |

The highest percentage of respondents in Table 4.1.1 were between the ages of 18 and 25 years (37.5%), the second largest age group was between 36 and 45 years (30.21%), followed by between 26 and 35 years (28.13%), and the least group was over 46 years (4.17%). This shows that the youth between ages 18 and 35 in this kind of set up are the SME entrepreneurs and represented by 65.65%. Respondents' age helped to establish the age bracket of entrepreneurs in the SME business and therefore the propensity to adopt to mobile banking technology. This was useful in finding out whether the myth that the youth adopt new technologies faster than older people is applicable in this sector. The age factor also shows that the respondents are mature and have their own opinions when it comes to selecting and accepting m-banking technology for financial services, however the greater part of their adult experience has been in the age of the internet, mobile communications and globalization.

Table 4.1.2: GENDER

| | Frequency | Percent |
|--------------|------------------|----------------|
| Male | 81 | 42.19% |
| Female | 111 | 57.81% |
| Total | 192 | 100.0% |

Respondents were asked to indicate their gender to establish whether there is any particular gender that may have invested more in SME business in Nakuru CBD. The Table 4.1.2 shows a fairly even split between male and female respondents, with females showing a slightly dominant percentage (57.81%) and males represented by 42.19%.

Table 4.1.3: EDUCATION

| | Frequency | Percent |
|----------------------|------------------|----------------|
| Primary | 26 | 13.54% |
| Secondary | 28 | 14.58% |
| Technical/Vocational | 54 | 42.19% |
| University/College | 81 | 28.13% |
| No formal education | 3 | 1.56% |
| Total | 192 | 100.0% |

Out of these respondents, 84.90% were either university or college graduates, had a vocational certificate or some high school education. A high percentage of the respondents (42.19%) were graduates either from the university or college; followed by those with technical and vocational education by 28.13%; the third group secondary graduates with 14.58% then those with a primary certificate(13.54%) and lastly those with no formal education with 1.56% representation as shown in Table 4.1.3.

Table 4.1.4: Bank Account and Posses a Mobile Phone

| Bank Account | | Frequency | Percent |
|------------------------------|--------------|------------------|----------------|
| | Yes | 146 | 76.04% |
| | No | 46 | 23.96% |
| | Total | 192 | 100.0% |
| Posses a Mobile Phone | | Frequency | Percent |
| | Yes | 192 | 100% |
| | Total | 192 | 100.0% |

To determine whether the respondents were in possession of a mobile phone and bank account, the respondents were requested to indicate whether they currently possess a mobile phone and bank account. On the mobile phone question, approximately 100% of the respondents had a mobile phone. Regarding bank accounts as in Table 4.1.4, 76.04% of the respondents had a bank account, with the remaining 23.96% of the respondents having no bank account.

To the question, “Do you have a mobile device?” all respondents responded “yes”. This proves the fact that mobile devices nowadays are not a commodity but a necessity and that there is a huge market for mobile banking services provided that the banks cultivate a trustworthy and secure environment to utilize the opportunity.

Table 4.1.5: Reason prevent use of m-banking

| | Frequency | Percent |
|-----------------------------|------------------|----------------|
| Fear transaction not secure | 21 | 4.7% |
| Can get along without | 9 | 10.94% |
| Prefer mail statements | 9 | 4.69% |
| Not convinced of benefits | 14 | 7.29% |
| Not comfortable learning it | 3 | 1.56% |
| None | 136 | 70.83% |
| Total | 192 | 100.0% |

To determine the reason that prevented some respondents from using mobile banking, one

question was asked and the respondents were requested to indicate one of the reasons. Majority of the respondents (70.83%) said that nothing prevented them from using m-banking meaning that they were willing to use the mobile banking technology.

Table4.1.6: Subscribed to mobile banking

| | Frequency | Percent |
|-----|------------------|----------------|
| Yes | 4 | 2.08% |
| No | 188 | 97.92% |

To determine whether the respondents were currently using a mobile banking service, the respondents were asked to indicate whether they currently use or are not subscribed to mobile banking. Two categories of answer options were available for the respondent to choose the applicable answer. The results in Table 4.1.6 showed that 97.92% of the respondents used mobile banking services with 2.08% currently not subscribed to mobile banking service but interested.

Table4.1.7: Often use m-banking

| | Frequency | Percent |
|--------------|------------------|----------------|
| Daily | 34 | 17.71% |
| Once a week | 9 | 4.69% |
| Once a month | 28 | 14.58% |
| Other | 121 | 63.02% |
| Total | 192 | 100.0% |

This study sought to establish respondents’ view of m-banking among users as well as non-users with and without bank accounts. A series of questions were asked to respondents and results of those who answered in the affirmative were recorded and analyzed. A higher number of the unbanked cohort than any other cohort responded in the affirmative. This can be deciphered to mean that they have appositve attitude towards m-banking and therefore can easily be tapped into utilizing the facility. Non- users of M-banking but who have traditional bank accounts had moderately receptive attitudes towards M-banking.

4.3 Descriptive Statistics

The basic features of the data in this study were developed using descriptive statistics. Simple

summaries of the likert scale results and chi-square tests per objective are presented in this subsection. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data.

4.3.1 Perceived Trust and Security and Use of M-banking

This study sought to establish the relationship between trust and security and use of mobile banking and the findings are as shown in Table 4.2. Trust is an extremely important element in social relations and in shaping the trajectory of mobile banking.

Table 4.2 Perceived Trust and security effect on mobile banking use by SME's

| | <i>f</i> | SA | A | N | $\chi^2(2)$ | Pr>ChSq |
|---|----------|------|-------|-------|-------------|---------|
| | | (%) | (%) | (%) | (%) | |
| I feel safe conducting financial transaction through mobile phone | 192 | 5.21 | 3.65 | 91.15 | 288.84 | <0.0001 |
| My bank is secure in terms of service provision through mobile technology | 192 | 5.21 | 3.65 | 91.15 | 288.84 | <0.0001 |
| I don't feel safe transferring money through mobile banking, I am afraid that I can lose money due to careless mistakes such as wrong input of account number and wrong input of the amount of money. | 192 | 3.65 | 72.92 | 23.44 | 146.66 | <0.0001 |
| I worry that I cannot get compensation from banks incase transaction errors occur. | 192 | 6.25 | 71.88 | 21.88 | 135.38 | <0.0001 |
| I trust that if I decided to use mobile banking and something went wrong with the transactions, my friends, family and colleagues would not think less of me. | 192 | 6.25 | 79.17 | 9.9 | 301.54 | <0.0001 |
| I think mobile banking transactions are confidential | 192 | 5.73 | 77.6 | 15.63 | 291.88 | <0.0001 |
| I feel safe in carrying out mobile banking | 192 | 8.85 | 66.15 | 25 | 100.53 | <0.0001 |
| Improved security when sending large sums of money using mobile banking has increased its usage. | 192 | 0 | 75 | 25 | 48 | <0.0001 |

Key: *f*=Population: SA=Strongly Agree; A=Agree; N= Neutral; $\chi^2(2)$ = Chi square %=

Respondents response frequency

Questions were asked to establish the feeling of respondents on the trustworthiness of the banks, mobile network service providers and the wireless infrastructure in relation to perceived trust and security as an influence towards mobile banking use by SME's. As highlighted in Table 4.3, it is important to note that in the eight questions, respondents had the highest percentage on the 'agree' response it is only in two questions where the highest response was neutral. This means that the majority felt that banks, mobile network service providers and wireless infrastructure are trustworthy and secure.

According to Loudon & Loudon (2007,p.g 413), wireless mobile services are starting to be used for purchasing goods and services as well as transmitting messages. Although this represents a fraction of total e-commerce transactions, revenue has been steadily growing.

The complexity of trust was found to be two folds: first the trust of people on technology and second, the trust on the financial service that is being offered. Thus, generating trust on m-banking remains one of the major challenges for ensuring use of offered services among the SME's. This agrees with Poon's (2008) findings that the consumer may feel at risk and exposed to insecurity and uncertainty that makes him or her anxious about using mobile services such that they end up not enjoying the benefits derived from the mobile banking.

4.3.2 Perceived Transaction Cost and Use of M-banking by SME's

This study sought to establish the relationship between cost and use of mobile banking and the findings are as shown in Table 4.3. Four questions were asked to establish the perception of respondents with regard to costs of mobile phones, airtime and bank charges.

Table 4.3 Perceived Transaction Cost and its effect on mobile banking use by SME's

| | <i>F</i> | <i>SA</i> | <i>A</i> | <i>N</i> | $\chi^2(2)$ | <i>Pr>ChS</i> |
|--|----------|-----------|----------|----------|-------------|------------------|
| | | (%) | (%) | (%) | (%) | <i>q</i> |
| I think mobile service providers have affordable cost of sending or receiving money. | 192 | 6.25 | 75 | 18.75 | 154.5 | <0.0001 |
| It is expensive to buy a mobile banking enabled mobile phone. | 192 | 6.25 | 81.25 | 18.75 | 75 | <0.0001 |
| I think the cost of subscription is high | 192 | 0 | 81.25 | 18.75 | 75 | <0.0001 |
| I think m-banking transaction fee (bank charges) is expensive to use | 192 | 25 | 62.5 | 12.5 | 78 | <0.0001 |
| M-banking is for High class of people and the educated. | 192 | 0 | 75 | 25 | 48 | <0.0001 |

Key: *f*=Population; SA=Strongly Agree; A=Agree; N= Neutral; $\chi^2(2)$ = Chi square; %= Respondents response frequency

On whether the cost of mobile phones is expensive, a highest percentage of 81.25% of the respondents indicated that they agree that Cost influences their choice to use m-banking. On the question if the cost of subscription is expensive, the majority of (81.25%) of the respondents were in agreement. On the ‘whether the cost of bank charges is expensive’ question, a majority of (62.5%) of the respondents agreed that the cost of bank charges is expensive. On the question about service providers fairness, most respondents Agreed (75%) that they were fair in their conduct of customer transactions.

This means that the costs of the service is considered as one of the most imperative factors in the decision making process. This is because it determines the respondents’ ability to use the service depending on availability of the specified amount and their set budget. Perceived cost is the perceived quantifiable costs of acquisition and use of technology. Referring to Luarn & Lin’s,

2005 definition, Perceived Cost is defined as “the extent to which a person believes that using mobile banking will cost money.” The cost may include the transactional cost in the form of bank charges, mobile network charges for sending communication traffic including SMS or data and mobile device cost.

4.3.3. Perceived convenience (usefulness and ease of use) and its influence m-banking among SME’s

This study sought to establish the relationship between convenience (usefulness and ease of use) and use of mobile banking and the findings are as shown in Table 4.4. The perception of usefulness was based on the behavioral intention of the respondents. Five items were used to investigate the effects of Perceived Convenience (Usefulness and Ease of Use) on respondents’ choice to use mobile banking.

Table 4.4 Perceived Convenience (Usefulness and Ease of Use) and its influence on mobile banking use by SME’s

| | <i>f</i> | SA (%) | A (%) | N (%) | $\chi^2(2)$ (%) | Pr>ChSq |
|---|----------|-----------|----------|----------|--------------------|---------|
| It is easy to use and learn how to use Mobile banking system | 192 | 25 | 62.5 | 12.5 | 78 | <0.0001 |
| Interaction with mobile banking does not require a lot of mental effort since it is easy to use hence convenient is business. | 192 | 0 | 75 | 25 | 48 | <0.0001 |
| I think that using mobile banking is useful as it enables me to accomplish my tasks more quickly. | 192 | 6.25 | 75 | 18.75 | 154.5 | <0.0001 |
| I think that using mobile banking would make it easier for me to carry out my tasks. | 192 | 6.25 | 81.25 | 6.25 | 324 | <0.0001 |
| I think that it is easy to use mobile banking to accomplish my banking tasks. | 192 | 0 | 81.25 | 18.75 | 75 | <0.0001 |

Key: *f*=Population: SA=Strongly Agree; A=Agree; N= Neutral; $\chi^2(2)$ = Chi square %=

Respondents response frequency

Majority of the respondents (62.5% to 81.25%) agreed which means that convenience is a factor influencing use of mobile banking by SME's. Chi square was also used to show significance of Perceived Convenience on Use of M-banking by the respondents. The results 78%, 48%, 154.5%, 324% and 75% are highly significant at 2 degrees of freedom 5% level of significance.

This clearly showed that perceived convenience among the people played a very critical role in setting perception about convenience of the technology and service that is being offered. Hence, ensuring convenience of the offered service both in terms of technology as well as the financial products being offered would be a very important factor in the adoption of M-banking.

This agrees with the study by Vanscoy, (2010) that mobile banking is the only channel available today that provides immediate banking services, and usage of the mobile phone is high across all demographic and socioeconomic levels. It is seen as the quickest way of transferring and receiving money today without having to go and queue at the bank counter to be served and it can be done anytime and anywhere. This means that people can work all round the clock. Mobile technology is driving both advanced services for sophisticated users and access to banking services for a large population without current access to banks or desktop applications..

4.3.4. User ICT Knowledge and Skills and its influence m-banking among SME's

This study sought to establish the relationship between user ICT knowledge and skills and use of mobile banking and the findings are as shown in Table 4.5. A total of five statements to measure perceived usefulness of ICT knowledge and skills on adoption and usage of m-banking were included in the questionnaire.

Table 4.5: User ICT Knowledge and Skills and its influence on m-banking among SME's

| | <i>f</i> | SA (%) | A (%) | N (%) | $\chi^2(2)$ (%) | Pr>ChSq |
|---|----------|-----------|----------|----------|--------------------|---------|
| Service providers have the skills and expertise to perform transaction in an expected manner | 192 | 6.25 | 81.25 | 6.25 | 324 | <0.0001 |
| It would take lots of time to learn use of m-banking services. | 192 | 0 | 81.25 | 18.75 | 75 | <0.0001 |
| Learning to use mobile banking would be easy. | 192 | 2.6 | 80.73 | 8.33 | 319.71 | <0.0001 |
| Proficiency on usage of m-banking enhances transaction processes between me, the bank and my customers. | 192 | 2.6 | 75.52 | 19.25 | 275.58 | <0.0001 |
| Service providers have the skills and expertise to perform transaction in an expected manner | 192 | 10.94 | 55.73 | 33.33 | 57.78 | <0.0001 |

Key: *f*=Population; SA=Strongly Agree; A=Agree; N= Neutral; $\chi^2(2)$ = Chi square %=

Respondents response frequency

The statements that m-banking; “is easy to use” and “m-banking service providers have the skills and expertise” had 81.25% of the respondents agree, “m-banking would take time to learn” had a 80.73% respondents agreeing, while that “m-banking is easy to learn” 75.52% of the respondents agreed and lastly, “that m-banking speeds up the communication process” obtained a 55.73% agreement from the respondents. The Chi square results of 324%, 75%, 319.71%, 275.58% and 57.78% are highly significant at 2 degrees of freedom and 5% level of significance as shown in Table 4.4.

According to Ivatury, (2006), mobile banking systems are providing good money transfer and payment services to early users. However, there is need to be better marketing and training involved to help consumers understand what the systems are capable of, as well as, improved policy measures to ensure that the benefits of mobile banking is evenly distributed across all banking and consumer sectors. This is because most SME's perceive the barriers of

implementing IT into their business operations as expensive, risky, complex procedure, lack of technical expatriate, and customer services (Yeung et al., 2003; Chong et. al., 2001; Pires & Aisbett, 2001).

4.4 Inferential Statistics

Correlation and ANOVA analysis were used to evaluate the correlation of all the dependent variables to independent variables and to examine the significant differences between the means of more than two groups when there is one variable.

4.4.1 Correlation Analysis

Correlation is the degree of relationship between two variables. It is a relative measure of value that ranges from negative one to positive one. Negative correlation implies that the two variables are moving in the opposite directions, while positive correlation implies that the two variables are moving in the same direction (Konthari, 2009).

A correlation analysis between the independent variables and the dependent variables was also carried out. This was done to understand the association between all the variables since this was expected from the results obtained in the preceding sections of this chapter.

Table 4.6: Summary of Correlations

| | | ICT | | | | |
|------------------------------|---------------------|------------------------------|----------------|-----------------------|----------------------|------------------|
| | | Perceived Trust and Security | Perceived Cost | Perceived Convenience | Knowledge and Skills | Use of m-banking |
| Perceived Trust and Security | Pearson Correlation | 1 | | | | |
| | P-value | | | | | |
| Perceived Cost | Pearson Correlation | .006 | 1 | | | |
| | P-value | .932 | | | | |
| Perceived Convenience | Pearson Correlation | .006 | 1.000** | 1 | | |
| | P-value | .932 | .000 | | | |
| ICT Knowledge and Skills | Pearson Correlation | .025 | -.031 | -.031 | 1 | |
| | P-value | .728 | .672 | .672 | | |
| Use of m-banking | Pearson Correlation | .439** | .814** | .814** | .370** | 1 |
| | P-value | .000 | .000 | .000 | .000 | |
| | N | 192 | 192 | 192 | 192 | 192 |

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

From the findings, as summarized in Table 4.6 above, there was a highly positive correlation between use of mobile banking by SME's and cost & convenience with a correlation factor of 0.932. A positive correlation between use of mobile banking by SME's and user ICT Knowledge and skills as shown by a correlation figure of .728 is also apparent.

The Pearson Correlation (T-test) results in Table 4.7, shows that the obtained correlation value (*Rho*) is 0.439, and the Probability (Pr) of obtained *Rho* value equal to critical value at the 0.01 level is <0.0001. This means that a significant relationship exists between the perceived Trust

and Security and Use of M-Banking.

The T-Test results in Table 4.7 shows that the obtained correlation value (*Rho*) is 0.814, and the Probability (Pr) of obtained *Rho* value equal to critical value at the 0.01 level is 0.000. This means that a significant positive correlation exists between perceived cost, perceived convenience and Use of M-Banking.

The T-test results in Table 4.7, shows that a significant relationship exists between the ICT Knowledge and Skills and Use of M-Banking since the obtained correlation value (*Rho*) is 0.370, and the Probability (Pr) of obtained *Rho* value equal to critical value at the 0.01 level is <0.0001.

The largest beta coefficient is 0.93 which is for Perceived Cost and make this variable as the strongest unique contribution in explaining the dependent variable (Adoption and use of m-banking by SME's), when the variance explained by all other predictor variables in the model is controlled for. It suggests that one standard deviation increase in Perceived Cost is followed by 0.932 standard deviation increase in adoption and use of m-banking among the SME's.

Therefore, the results in Table 4.7 show that there is a high positive correlation and significance between all factors towards use of m-banking. Perceived Usefulness and Perceived Ease of Use, greater reliability of the technology and easier access to ICT are among the important catalyst for better confidence and creates a better usage of ICT. When community perceived that ICT is useful, it was create a sustainable usage of ICT. Perceived Convenience must be persistent to have a better impact on ICT usage (Rogers, 2003). ICT can be perceived useful if it involves low cost, has the ability to reach wider market and able to gather large information within a short time (Laudon and Laudon, 2007 and Ongori, 2009).

4.5 Analysis of Variance Results

Table 4.7: Analysis of Variance

| Analysis of Variance | | | | | |
|-----------------------------|-----------|-----------------------|--------------------|----------------|------------------|
| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
| Model | 2 | 1833.91628 | 916.95814 | 427.12 | <.0001 |
| Error | 189 | 405.75038 | 2.14683 | | |
| Corrected Total | 191 | 2239.66667 | | | |

| | | | |
|-----------------------|----------|-----------------|--------|
| Root MSE | 1.46521 | R-Square | 0.8188 |
| Dependent Mean | 73.45833 | Adj R-Sq | 0.8169 |
| Coeff Var | 1.99461 | | |

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t | Variance Inflation |
|---------------------------------|-----------|---------------------------|-----------------------|----------------|--------------------|---------------------------|
| Intercept | 1 | 23.03339 | 1.74227 | 13.22 | <.0001 | 0 |
| Perceived cost | 1 | 1.99555 | 0.07488 | 26.65 | <.0001 | 1.00094 |
| ICT Knowledge and Skills | 1 | 1.02675 | 0.08013 | 12.81 | <.0001 | 1.00094 |

Table 4.7 above shows the ANOVA results of all the main constructs and the facets of use and adoption of mobile banking.

The ANOVA table revealed a reliable effect of m-banking usage among the respondents with the F-statistics $F(916.95814/2.14683)=427.12$, $p=0.0001$, $MS_{error}=1.46521$, $\alpha=.05$ being very large. The corresponding p-value is highly significant (0.0001) or lower than the alpha value of 0.05 indicating that the null hypothesis was rejected and thus the multiple R is not equal to zero, and thus confirming that there is linear relationship between four predictor variables the adoption and use of mobile banking among SME's.

The obtained T-value of perceived cost is 26.65 and Pr is <0.0001 (Table 4.8). This means that there is a significant difference between Means at 5% level. This implies there is a main effect for trust for use of mobile banking.

R square was positive (0.8188) in this study implies that the four predictor variables explain about 81.88% of the variance/variation in mobile banking usage by SME's under study. An adjusted R square of 0.8169 means 81.69% of variation in Mobile banking use is explained by the four independent variables Perceived Trust and Security, Perceived Cost, Perceived Convenience and ICT knowledge and Skills while 18.31% can be explained by other factors excluded from the model.

This study showed that use of mobile banking technology is on the rise among SME's in Nakuru CBD. Moreover, the study suggests that factors such as Benefits of adoption and use, cost of adoption and use and ICT knowledge and skills are important factors for adoption and use of mobile banking technology. Therefore, in this study the researcher confirmed that for the use of mobile banking technology to be spread, the factors influencing its adoption and use should be intervened and that SME's should be involved in such measures.

The results are in line with Mallat(2007), who argue that the cost of a payment transaction has a direct effect on consumer adoption if the cost is passed on to customers. Transaction costs should be low to make the total cost of the transaction competitive. The cost of the mobile payments should be affordable to most of the micro business operators and far below what the banks normally charge for their bank transactions. In a mobile environment, it is necessary to have perceived security and trust in the vendors and the payment system.

According to Zeithaml (2003), Customers are highly interested in the benefits that a service would offer them once it is used. In essence, the customer seeks to establish the value that the

service will add in his or her life before making the decision to adopt. Accordingly, the service must be able to satisfy the needs of the customer and provide benefits that make the service worth to adopt and use.

4.6 Hypotheses Testing

In this section, the results relating to the four research hypothesis are examined.

H₀₁: Trust and Security has no significant influence on use of mobile banking by SME's in Nakuru CBD.

The regression results in Table 4.7, shows that there is a weak positive coefficient of (0.439), at the 0.01. This implies that the more the increase in Trust and Security more SME's will Use M-Banking. Therefore, the null hypothesis (H₀₁) that "Trust and Security has no significant influence on use of mobile banking by SME's in Nakuru CBD" was rejected.

H₀₂: Perceived Cost has no significant influence on use of mobile banking by SME's in Nakuru CBD.

Table 4.7 shows a strong positive correlation of (0.814), and the Probability (Pr) equal to critical value at the 0.01 level is 0.000. This means that the relationship between Perceived Cost and Use of M-Banking increases with affordable rates provided by service providers. Hence, the null hypothesis (H₀₂) that "Perceived Cost has a significant influence on use of mobile banking by SME's in Nakuru CBD" was rejected.

H₀₃: Convenience (ease of use and usefulness) has no significant influence on the use of m-banking by SME's in Nakuru CBD.

The results in Table 4.7 shows that there exists a strong positive coefficient (0.814) and critical value at the 0.01 level is 0.000. This means that a SME's find use of m-banking Convenient to settle their transactions as it is time saving. Thus, the null hypothesis (H₀₃) that "Perceived Convenience has a significant influence on use of mobile banking by SME's in Nakuru CBD" was rejected.

H₀₄: ICT Knowledge and Skills has no significant influence on use of m-banking by SME's in Nakuru CBD.

Table 4.7 shows a weak positive coefficient (0.370) between the ICT Knowledge and Skills and

Use of M-Banking and the critical value at 0.01 level is <0.0001 . This implies that there is need for m-banking service providers to create more awareness on how to use their m-banking products. Hence, the null hypothesis (H_{04}) that “ICT Knowledge and Skills has a significant influence on use of mobile banking by SME’s in Nakuru CBD” was rejected.

CHAPTER FIVE
SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND
RECOMMENDATIONS

5.1 Introduction

This chapter includes a summary of the study's objectives and their attainment, the findings, conclusions and recommendation for further studies. The chapter was based on the results and discussions.

5.2 Summary of Findings

The SME sector in Kenya has inevitably found itself unable to resist technological indulgence with the continuously emerging wave of information driven economy. The need for convenient ways of accessing financial resources beyond the conventional norms has seen the recurrent expansion and modernization of business patterns. Recent advancement in mobile and wireless technologies has freed consumers from the spatial and temporal constraints of traditional commerce (Balasubramanian et al., 2002). This study sought to fulfill four objectives, these were;

- i. To assess the extent which trust and security influence use of m-banking by SME's.
- ii. To investigate the extent which cost influence use of m-banking by SME's?
- iii. To find out the extent which convenience (ease of use and usefulness) influence use of m-banking by SME's.
- iv. To establish the extent which user ICT knowledge and skills influence use of m-banking by SME's?

The study findings according in reverence to objectives can be summarized as follows:

1. Trust and Security was found to play one of the most important criteria when it came to banking services, with 34.3% of the respondents treating it as very important when it comes to using mobile banking. The various trust and security variables that were studied included transferring money, error handling, third party access to personal data, sending sensitive information and personal privacy information. Many people feel like they have exposed themselves to the possible theft and misuse of their bank accounts in the event that hackers get access to their secret codes or from friends and relatives who are likely to access their mobile phones (Yeow, et.al, 2008). This reveals the need for a noteworthy view toward the provision of security in mobile banking services.

2. The cost of the mobile banking services was another important selection criterion; concern

about the fees charged by the bank for the use of mobile banking services was sought and found significant. The costs of the service is considered as one of the most imperative factors in the decision making process. This is because it determines the customer's ability to use the service depending on availability of the specified amount and their set budget. Perceived cost is the perceived quantifiable costs of acquisition and use of technology (Koenig-Lewis, Palmer, & Moll, 2010). The cost of mobile banking usage accounts for much its adoption by SME's as most are less likely to adopt if costs are high. Therefore, if the service providers consider reducing cost of operation more entrepreneurs was eventually adopt mobile banking.

3. The study found that convenience (ease of use and usefulness) has a positive interaction between mobile banking adoption and use. However, most of the customers do still make use of the branch services and that mobile devices would make banking transactions convenient if they adopted and used it. The perception of usefulness was not based on actual utilization, but rather on the behavioral intention of the respondents. The number of mobile subscribers in Kenya has risen to 8 million subscribers from 6.5 million subscribers in June 2006, from the country's two operators Safaricom and Airtel against 293,400 fixed lines (ITU 2007). However, there is still need to explain to the mobile phone users of the usefulness and ease of use of mobile banking.

4. The study found that ICT knowledge and skills influence use of m-banking by SME's. Most SMEs perceive the barriers of implementing IT into their business operations as expensive, risky, complex procedure, lack of technical expatriate, and customer services. Studies by Sarvenaz Mehravani & Haghghinasab (2011) revealed that Training and awareness reduce consumer resistance and increased cooperation and adoption of new processes.

5.3 Conclusions

The study sought to understand the factors determining the use of mobile banking among small and medium enterprises (SME'S). Four factors were considered in relation to use of mobile banking. These were trust and security, perceived cost, perceived convenience (ease of use and usefulness) and ICT knowledge and skills. Concerning use, the factors considered were found to have positive effects in them which lead to mobile banking adoption. The study concluded that security was one of the key factors when it came to use of mobile banking, followed by convenience and trust. Almost all of the respondents had mobile devices, representing the huge

mobile banking market. The respondents were mostly comfortable in adopting mobile banking services, and many of them were concerned about the cost involved in making use of the service. Since the respondents were mostly young, cultural influence in terms of mobile banking was not substantial.

5.4 Recommendations

From the findings of this study, the following recommendations were made:

1. There is need for future study to look into training or induction sessions on new technologies among SME's so that they understand and use new processes in their business processes.
2. The policy makers, ministry of industrialization and mobile service providers should educate the masses more about the benefits of integrating and using mobile technologies to enhance small businesses and also the need to enhance technical capabilities of entrepreneurs to allow widespread use of emerging technologies in SMEs.
3. Mobile banking service providers need to continuously strive to simplify the mobile banking application used for transactions. The marketing drive should focus on demonstrating the simplicity, usefulness and cost benefit of using mobile banking.
4. The mobile banking service providers should begin to consider driving down the costs of mobile banking as a core of their strategic objectives. The increased use of mobile banking services will be beneficial to both the mobile banking service provider and the users. The mobile banking service provider will be able to reduce expenditure in establishing more banking branches. The people will benefit in terms of reducing taxi fare on travelling and effectively utilizing time for other productive opportunities.

5.5 Suggestions for Further Research

This study successfully identified the factors determining the adoption of mobile banking by the SME's. Future study should be on types of ICT application adopted by SME's and their impacts on businesses. In addition, future research may examine the knowledge and understanding of SME's on government enforcements on ICT laws thus, enrich the efforts that have been made in this study.

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APPENDICES

Appendix 1: Introduction Letter

Kones Beatrice

Kabarak University

P.O. Box Private Bag-20157

Kabarak

Dear respondent

I am a post graduate student pursuing a Masters Degree in Strategic Management at the Kabarak University. I am conducting an academic research on determinants of adoption of mobile banking among small and medium enterprises in Nakuru central business district. This questionnaire is aimed at obtaining more information about your opinions, perceptions, experiences and particular issues on Mobile banking technology. Your business story and particular experiences in accessing Mobile banking services was be valuable to this study. This was later result to valuable recommendations on how the service and technology can be improved.

My request is that you try and answer the questions as comprehensively as possible by using the available space provided. If you need more space you can add the same as an attachment. Your response was be treated with utmost confidentiality it deserves and no name was be disclosed without your consent.

Thank you in advance.

Yours faithfully

Kones Beatrice

Researcher

Appendix 2: Questionnaire

SECTION A: DEMOGRAPHIC DETAILS

You are kindly requested to complete the questionnaire as honestly and objectively as possible giving as much details as possible where necessary.

SECTION A:

1. What is your gender?

Male Female

2. What is your age bracket?

18-25 26-35 36-45 46-55 Over 55

3. Education

i. Primary

ii. Secondary

iii. Technical and vocational education

iv. University

v. No formal education

vi. Others (specify)

4. Do you have a mobile phone? YES NO

5. Do you have a bank account? YES NO

6. Are you subscribed to mobile banking service?

Yes

No, not interested

Not Sure

7. If Yes on question 8, what do you use mobile banking for?

Buy airtime

Transfer funds

Check balance

Pay bills

Cash withdrawal

None

8. How often do you use m-banking?

Daily [] Once a week [] Once a Month [] Other []

9. What are the major reasons that would prevent you from doing mobile banking? (Check all that apply)

- Fear transactions not secure []
- Can get along without []
- Prefer bank statements by mail []
- Not convinced of the benefits []
- Not comfortable learning about []
- None

10. Select the criteria that is very important to you in considering mobile banking

- Convenience []
- Trust in bank []
- Security []
- Risk []
- Cost []
- Service provider compatibility []

SECTION B: FIVE-POINT LIKERT SCALE QUESTIONNAIRE

Kindly provide your opinion to what extent you agree or disagree with the statements using the scale 1 to 5:

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

| | SD | D | N | A | SA |
|---|-----------|----------|----------|----------|-----------|
| Perceived Trust and Security | 1 | 2 | 3 | 4 | 5 |
| I feel safe conducting financial transaction through mobile phone | | | | | |
| My bank is secure in terms of service provision through mobile technology | | | | | |
| I don't feel safe transferring money through mobile banking, I am afraid that I can lose money due to careless mistakes such as wrong input of account number and wrong input of the amount of money. | | | | | |
| I worry that I cannot get compensation from banks incase transaction errors occur. | | | | | |
| I trust that if I decided to use mobile banking and something went wrong with the transactions, my friends, family and colleagues would not think less of me. | | | | | |
| I think mobile banking transactions are confidential | | | | | |
| I feel safe in carrying out mobile banking | | | | | |
| Improved security when sending large sums of money using mobile banking has increased its usage. | | | | | |
| Perceived Cost | SD | D | N | A | SA |
| 1 | 2 | 3 | 4 | 5 | |
| I think mobile service providers have affordable cost of sending or receiving money. | | | | | |
| It is expensive to buy a mobile banking enabled mobile phone. | | | | | |
| I think the cost of subscription is high | | | | | |
| I think m-banking transaction fee (bank charges) is expensive to | | | | | |

| | | | | | |
|---|-----------------------|----------------------|----------------------|----------------------|-----------------------|
| use | | | | | |
| M-banking is for High class of people and the educated. | | | | | |
| Perceived Convenience (Usefulness and Ease of Use) | SD 1 | D 2 | N 3 | A 4 | SA 5 |
| It is easy to use and learn how to use Mobile banking system | | | | | |
| Interaction with mobile banking does not require a lot of mental effort since it is easy to use hence convenient is business. | | | | | |
| I think that using mobile banking is useful as it enables me to accomplish my tasks more quickly. | | | | | |
| I think that using mobile banking would make it easier for me to carry out my tasks. | | | | | |
| I think that it is easy to use mobile banking to accomplish my banking tasks. | | | | | |
| ICT Knowledge and Skills Adoption | SD 1 | D 2 | N 3 | A 4 | SA 5 |
| Service providers have the skills and expertise to perform transaction in an expected manner | | | | | |
| It would take lots of time to learn use of m-banking services. | | | | | |
| Learning to use mobile banking would be easy. | | | | | |
| Proficiency on usage of m-banking enhances transaction processes between me, the bank and my customers. | | | | | |
| Use of m-banking | SD 1 | D 2 | N 3 | A 4 | SA 5 |
| Wireless infrastructure can be trusted. | | | | | |
| Using m-banking would not divulge my personal information | | | | | |
| Banks are trustworthy. | | | | | |
| It is of benefit to the business | | | | | |

Thank you for completing this questionnaire and assisting me in my research.

Kind Regards,

Beatrice Kones