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Factors that influence the adoption of mobile banking financial services in Nairobi County, Kenya.

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, this thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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Approval

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ABSTRACT

This study sought to establish the factors influencing the adoption of mobile banking in Nairobi County. The specific objectives of the study included establishing how the perceived ease of use, perceived risk, perceived usefulness and how social influence affects mobile banking adoption by bank customers. The research focused on 43 commercial banks with branches within Nairobi Central Business District and formed the population of the study. For each of the 43 banks in Nairobi the biggest in terms of customer size was chosen. The researcher randomly picked five respondents from the odd numbered banks that were 21, leading to a sample size of 110 respondents. The study was underpinned by the theories of adoption of technology and theories that support the adoption of mobile banking. The research design that was adopted was a descriptive and correlation research design. Primary data was collected through the use of a questionnaire with both closed and open ended questions. The descriptive analysis adopted, involved the use of tables, pie charts, percentages, mean and standard deviation to summarize the respondents' answers, and answer the four research questions. Results indicated that out of the four factors, perceived ease of use of mobile banking and social influence of mobile banking had a positive and statistically significant influence in adoption of mobile banking in Nairobi. On the other hand, perceived usefulness of mobile banking, and perceived risk of mobile banking were found to have positive and negative effects respectively but they both had a statistically non-significant influence on the adoption of mobile banking in Nairobi. The study recommends that financial institutions should invest in more easy to use technology as well as social innovations geared towards improving customer image in order to enhance mobile banking adoption in Nairobi County.

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LIST OF ABBREVIATIONS

ATM	-	Automated Teller Machine
CMA	-	Capital Markets Authority
CBK	-	Central Bank of Kenya
CDMA	-	Code Division Multiple Access
DOI	-	Diffusion of Innovation
IB	-	Internet Banking
KMS	-	Knowledge Management System
MB	-	Mobile Banking
MDG	-	Millennium Development Goals
MCMC	-	Malaysia Communication and Multimedia Commission
TAM	-	Technology Acceptance Model
TTF	-	Task Technology Fit
UTAUT	-	Unified Theory of acceptance and Usage of Technology

DEFINITION OF KEY TERMS

Adoption - Technology adoption is important because it is the vehicle that allows most people to participate in a rapidly changing world where technology has become central to our lives. Individuals who do not or cannot adapt to technology will increasingly limit their ability to participate fully in the financial and convenience benefits associated with technology (Bridges, 2012).

Mobile banking - It is a financial service delivered via mobile networks and performed on a mobile phone (Bangens & Soderberg, 2008)

Relative advantage - The degree to which an innovation is perceived as providing more benefits than its predecessor (More & Benbasat, 1991)

M-banking - is defined as the financial services delivered via mobile networks and performed on a mobile phone (Bangens & Soderberg, 2008)

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CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter presents the background of the study, problem statement, research objectives, research questions and significance of the study. This section is designed to bring out with clarity the key issues under study.

1.1 Background of the Study

Innovations in the telecommunications and information technology sectors have revolutionized the banking industry. The delivery of financial services by the banks and other financial institutions have experienced major changes in the recent past, such that the use of wireless devices to conduct Mobile Commerce or Mobile Business has become a new communication network particularly in developing countries (Lule, Omwasa & Mwololo, 2012). The banking business, both in the developed and developing world has been turbulent and unpredictable and technological developments, have responded to the challenges by adopting a new strategy, which emphasizes on attempting to build customer satisfaction through offering better products and services and at the same time to minimize operation costs (Sohail & Shanmugham 2013). Provision of mobile banking services has been broadly used, and an understanding of the customer adoption process will have important implications for bankers and customers alike. According to Keen and Mackintosh, 2011 technological changes influence the adoption of mobile value-added services.

Mobile banking, commonly referred to as M-banking, is a technological innovation which has come into being as a result of a wide spread use of the mobile technology. M-banking is defined as the financial services delivered via mobile networks and performed on a mobile phone (Bangens & Soderberg, 2008). Indeed, M-banking has great potential to extend the provision of financial services to unbanked people through a technology that is both familiar and widespread. Mobile banking can perform account balances and transaction history inquiries, funds transfers, and bill payments via mobile devices such as cell phones and smartphones. The benefits of mobile banking include ubiquity coverage, flexibility, interactivity, and with greater accessibility

compared to conventional banking channels such as Automated Teller Machine (ATM), and non-mobile banking (Sulaiman, Jaafar, & Mohezar, 2009)

The acceptance and adoption of mobile banking differs from adoption of non-mobile Internet banking in at least two ways. First, the difference between mobile and non-mobile Internet banking is the pace of evolution, with mobile banking evolving much faster than non-mobile Internet banking (Laukkanen, 2007). Indeed, mobile banking can be considered as one of the most significant technological innovations, which is emerging as a key platform for expanding access to banking transactions via mobile or handheld devices, and operating wireless communication technologies (Kleijnen, Wetzels, & Ruyter, 2010). Mobile services are important for firms and consumers because of ubiquitous, universal, and unison access to information and services, and the possibility for unique and personalized exchange of information. Determining the factors influencing the adoption of mobile commerce will be useful the companies prioritize and allocate resources accordingly.

1.2 Statement of the Problem

Over the last twenty years, the demand for internet connectivity has increased and this has transformed consumers' behavioral patterns in the way they relate with financial institutions, and as well as guidelines of purchasing and selling banks products. Hence, banks have laid emphasis on the execution of mobile banking financial services because it offered a chance to cut costs, serve unbanked customers, maintain competitive advantage and create enhanced accessibility to clients. According to Davis (1989), the acceptance and rejection of technology can be predicted by using the technology acceptance theory which links a user's belief, attitude and action purpose. However, Mathieson (2004) points out that it is insufficient to rely only on both constructs of perceived usefulness and perceived ease of use in investigating user's technology acceptance.

In Kenya, adoption of Mobile banking services is still very low compared to mobile operator led transfer services using mobile phones (Lule, Omwanza and Waema, 2012). Unlike mobile money transfer services operated by mobile network operators, M-banking promises a lot more to the users, including interest on funds saved, credit history and access to loans. This begs the

question on why despite mobile banking yielding enormous benefits; its adoption is still in its infancy stage and therefore meaning that the banking sector is yet to understand the unbanked user.

The factors that influence the adoption of M-Banking among its users have been studied in different countries therefore; the problem of low adoption is not unique to Kenya alone. Luarn and Lin (2012) note that despite the fact that numerous mobile banking adoption studies have been investigated, regrettably, most studies were conducted in countries such as Korea, Singapore, Brazil, Taiwan and China with relatively little attention paid to developing countries such as Kenya. Available studies were all undertaken in developed countries or emergent economies which had much more advanced technology than Kenya. In Kenya for example, only went as far as determining the application of TAM in M-banking adoption in commercial banks did not specifically seek to identify all the factors that affect the customer's perception (Lule, Omwanza and Waema, 2012; Al-Jabri and Sohail, 2013; Kazi, and Mannan, 2013). Further, these empirical studies generally have not been conducted in the periods with rising technological innovations including Pesa link which has not been widely adopted in all commercial banks according to Kenya Bankers Association report of 2015. As the dynamic growth of mobile penetration was mainly driven by developing countries thus, the findings from developing countries such as Kenya remain inconclusive. This study therefore was undertaken to establish how perceived ease of use, perceived usefulness, perceived risk and social influence affects the adoption of mobile banking by customers in Nairobi County, Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

To establish factors influencing the adoption of mobile banking in Nairobi County

1.3.2 Specific Objectives

i. To establish how the perceived ease of use of mobile banking platform affect its adoption by customers in Nairobi County.

ii. To determine how the perceived usefulness of mobile banking affect its adoption by customers in Nairobi County.
iii. To determine how the perceived risk of mobile banking affect its adoption by customers in Nairobi County.
iv. To evaluate how social influence affects the adoption of mobile banking by customers in Nairobi County.

1.4 Research Question

i. How does the perceived ease of use of mobile banking platform affect its adoption by bank customers in Nairobi County?
ii. How does the perceived usefulness of mobile banking affect its adoption by bank customers in Nairobi County?
iii. How does the risk perception of mobile banking affect its adoption by customers in Nairobi County?
iv. How does a customer's social influence affect the adoption of mobile banking in Nairobi County?

1.5 Scope of the Study

This research focused on commercial banks operating within Nairobi Central Business District and targeted customers frequenting bank branches within the Nairobi Central Business District. The study sought to establish the various factors affecting the adoption of mobile banking among the customers in Nairobi, where the relationship between ease of use, risk, social influence and usefulness was analyzed against the adoption of mobile banking. The tool of the study was a structured questionnaire that was distributed to 5 customers of the odd numbered banks (See Appendix II).

1.6 Significance of the Study

This study will be of benefit to management and industry players as well as other financial institutions such as microfinance and non-banking financial institutions, as the findings will form a reference point to their stakeholders within the industry and will inform and influence their

choice of competitive strategies to be adopted. By identifying these factors, the strength of each factor will enable these financial institutions to direct their energies and resources effective and efficiently towards those factors that influence most, the adoption of mobile technology in the this industry.

The study was timely in the sense that was conducted during the transition from Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs). Hence, the study can be used to provide policy guidance on how determinants of mobile phone penetration and mobile banking in best-performing countries can be developed in their least-performing counterparts, with special focus on the factors that have a greater influence in MB, thereby ensuring financial instructions focus on better products and services targeted at improving how customers interact with their mobile banking systems.

This study would inform other forms of technology such as internet banking and how they can be tailored to influence uptake by banking customers. The findings being of great importance in decision making for industry players and stakeholders in the banking industry, for example the Central Bank of Kenya (CBK). By being able to identify the factors that affect the adoption of mobile banking among the user, then regulatory authorities like CMA (Capital Markets Authority) and CBK will be able to come up with appropriate policy directions that will shore up the uptake of mobile banking. Even with the high initial costs of adopting technology, its continuous deployment will reduce operational costs and improves service delivery in the long run. Technology enables provision of electronic services (e-services) and it can be deployed in several ways.

This study can also be used by Savings and Credit Cooperatives (SACCOs) and other financial agencies with limited capital to improve on their service delivery i.e. non-banking financial and other microfinance institutions. The results of this research may need to be complemented with more empirical tests and as such other researchers should take caution while referring to this study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Overview of the Chapter

This chapter captures major issues relating to the mobile banking and its acceptance. The section will cover the theories underpinning the study, global mobile banking and its acceptance, empirical studies and the conceptual framework.

2.2 Theoretical Framework

The debates on the acceptance of technology and adoption of mobile banking has attracted different explanations and hypotheses, with the common theories on acceptance of technology being that of Technology Acceptance Theory by Davis (1989) and Diffusion of Technology theory by Rogers (1983). It is imperative to note that there has been significant traction over the last decade in explaining and predicting user acceptance of information technology.

2.2.1 Diffusion of Innovation theory

The diffusion theory, also known as the diffusion of innovations theory, is a theory concerning the spread of innovation, ideas, and technology through a culture or cultures (Rodgers, 1962). Diffusion theory states that there are many qualities in different people that cause them to accept or not to accept an innovation. There are also many qualities of innovations that can cause people to readily accept them or to resist them. According to diffusion theory, there are five stages to the process of adopting an innovation. The first stage is knowledge, in which an individual becomes aware of an innovation but has no information about it. Next is persuasion, where an individual becomes actively interested in seeking knowledge about the innovation. In the third stage, decision, the individual weighs the advantages and disadvantages of the innovation and decides whether or not to adopt it. After the decision, comes implementation, where the individual actually does adopt and use the innovation. Confirmation is the final stage. After adopting the innovation, the individual makes a final decision about whether or not to continue using it based on his own personal experience with it. These same stages apply, to varying degrees, to groups of people in addition to individuals (Rogers, 2002).

2.2.2 Theories of adoption of Technology

Over time, the user acceptance of technology has popularly been explained using the Technology Acceptance Model as well as the Diffusion of Technology model. The technology acceptance model (TAM) postulates that external variables such as the improvement process, system characteristics and training affects the intention to consume a technology by a user and this decision is mediated by perceived usefulness and ease of use (Davis, 1989). According to TAM, perceived usefulness of a technology is also influenced by the ease of use because, other things being equal, the easier the system are to use, and the more useful it can be. TAM is theorized to explain determinants of user acceptance of a wide range of end-user computing technologies. In addition, TAM is not only parsimonious but it can provide empirical support to explain determinants of technology usage (Agarwal & Prasad, 2009). They further state the need for this theory to be integrated with other I.T. approaches that incorporate decision-makers' social and idiosyncratic characteristics. It goes further to claim that user's adoption of technology is determined by intention to use, which in turn is driven by the user's attitude and belief about the system.

Across different empirical tests of TAM, what has been termed as perceived usefulness consistently resulted as a strong determinant of usage intentions, with standardized regression coefficients typically around 0.6 (Venkatesh & Davis 2002). Since perceived usefulness is such a fundamental driver of usage intentions, it is important to understand the determinants of this construct and how their influence changes over time with increasing experience using the system. Ease of use, TAM's other direct determinant of intention, has exhibited a less consistent effect on intention across studies. Davis also defined 'perceived usefulness' as the degree to which a person believes that using a particular information system would enhance competitiveness in the organization. In this study, usefulness is defined as the extent to which technology usage would be useful in improving or increasing the usage of the mobile banking platform. It is important to note that technology acceptance model opens ways for better use of technology which creates avenues for better performance of Kenyan banking system; Conservativeness in communication can therefore be broken by the TAM model as one of the factors for technology use as perceived performance (Hartwick & Barki, 1994).

Diffusion of Innovation (DOI) theory developed by Rogers (2003), on the other hand postulates that an idea or product gains momentum and spreads through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative and it is through this that diffusion is possible. Adoption of a new idea, behavior, or product does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others (Hager, 2006). The theory has its primary focus on how potential adopters perceive an innovation in terms of relative advantage/disadvantage; hence some of the factors of the DOI approach help form a framework: innovativeness, complexity, compatibility and relative advantage. Furthermore, firms that intensely use a particular technology are often prime candidates for early adoption of the next generation of that technology.

Rogers (2003) asserted that there are four key elements in the diffusion process namely; the innovation, the communication channels through which the innovation is diffused, time, and the social system. The theory approach has its primary focus on how potential adopters perceive an innovation in terms of relative advantage/disadvantage; hence some of the factors of the DOI approach help form a framework: innovativeness, complexity, compatibility and relative advantage (Li & Atuagene-Gima, 2011). Different characteristics of the innovation, communication channels, and social system are likely to have varying influences at different times throughout the diffusion process. Because unique diffusion strategies are required as the stages of the diffusion process progress, researchers can benefit from a more in-depth understanding of the diffusion process to assist them in translating their research and innovative programs into practice. Thus, the theory suggests that innovations that have a clear, unambiguous advantage over the previous approach will be more easily adopted and implemented (Greenhalgh, 2004).

2.2.3 Theories in Support of the adoption of Mobile Banking

The earlier studies attempted to explain mobile user adoption based on user perceptions of the technology such as perceived usefulness, perceived ease of use, relative advantage, compatibility and interactivity (Lee, 2009; Shin, 2009).

However, by simply focusing on user perceptions of the technology and how the technology is considered by users to be able to solve a particular problem might not be enough. The Task Technology Fit (TTF) (Goodhue, 1995) and the Unified Theory of acceptance and Usage of Technology (UTAUT) argue that individuals will adopt a technology based on the fit between the technology characteristics and task requirements (Goodhue & Thompson, 1995). Goodhue, (1995) is of the view that although users may consider a technology as being advanced, they do not adopt it if they think that that technology is unfit to carry out their tasks and cannot improve their performance. This means that users may be considered practical, and therefore their adoption is not only influenced by their perception and attitudes toward the technology but also by a good task technology fit. Task Technology Fit (TTF) also argues that a user will only adopt an information technology when it fits his/her tasks at hand and improves his/her performance (Gebauer & Ginsburg, 2009).

A good fit between task and technology will encourage user adoption of mobile banking while a poor task technology fit will decrease users' adoption intention (Lin & Huang, 2008). For example, although mobile banking has many advantages such as ubiquity and immediacy, if users do not require mobile transactions, for example due to their nature of work or even the presence of another more dominant form of technology or way of doing things, they will choose to use that traditional or other banking service rather than mobile banking. A similar study conducted by Shang et al. (2012), found that the interaction between task and technology characteristics will affect users' usage of 'blogs' and therefore that task technology fit affects users' utilization of information technology.

Venkatesh et al. (2003) came up with the Unified Theory of Acceptance and Usage of Technology (UTAUT) as an extension to TAM, where they found that user adoption and usage of an information technology, such as mobile banking, are influenced mainly by four factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. However, Park, Yang, & Lehto, (2012) brought out that though UTAUT has not been as widely used as TAM, it gradually drew researchers' attentions and has been recently applied to exploring user acceptance of mobile technologies. Under UTAUT performance expectancy and effort expectancy are found to be the main determinants of behavioral intention in using mobile

services. Moreover, with UTAUT, the determinants of mobile technology acceptance will be influenced by the user assessment of trust on the technology, privacy, convenience, and cost.

Social cognitive theory (SCT) as advocated by Lin (2011) is yet another framework for understanding and predicting changing behavior and introduces human behavior as a result of the interaction between personal factors, behavior, and the environment in the adoption of mobile banking. In the model, the interaction between the person and behavior involves the influences of a person's thoughts and actions. The interaction between the person and the social set up involves human beliefs and cognitive competencies that are developed and modified by social influences and structures within the environment. Therefore, the SCT theory is helpful in understanding and predicting both individual and group behavior and identifying methods in which behavior can be modified or changed (Hanafizadeh et al., 2014). Moreover, theory also asserts that the adoption rate of a new technology depends on five innovation characteristics: relative advantage, compatibility, complexity, observe-ability and trial-ability.

2.3 Mobile Banking and its Usefulness

Mobile banking is developed on wireless networks using protocols such as general package radio service (GPRS) and code division multiple access (CDMA) (Junglas & Watson, 2009). With this system, users are able to access ubiquitous and real-time services and therefore compared with traditional banking services, mobile banking is more advantageous for mobile users who are constantly on the go, resulting in a higher task technology fit. However, when tasks become more complex, technologies will not be able to meet task demands (Gebauer& Ginsburg, 2009) in that, for example, when users need to conduct a large number of payments simultaneously, mobile banking functions may not come in handy because of the small screen, inconvenient input, and slow processing speed. Lin and Huang (2008) observe that task tacit-ness and knowledge management system (KMS) features determine perceived task technology fit. Shang et al. (2007) is of the view that a good task technology fit will promote user adoption of mobile banking while a poor task technology fit will decrease users' adoption intention. Therefore, although mobile banking has many advantages such as ubiquity and immediacy, if users do not

require mobile transactions, they will select traditional or online banking services rather than mobile banking.

Wonglimpiyarat (2014) opines that mobile banking enables consumers to gain convenient access to value-added and banking services, even in countries with low incomes. As a result, mobile banking improves the way personal financial services are designed and delivered as well as the way consumers interact with other societal constituents. It is, consequently, becoming an inseparable part of how business is being done today (Oliveira et al., 2014). Further, mobile banking services enables one to access details and transactions of personal bank accounts, as well as making credit installment and utility bill payments and transferring funds instantly. It offers mobile banking services that allows their customers to take full advantage of the latest technology whereby they can: Check account details, view mini-statement, pay bills for government service and public utilities, transfer funds between bank accounts, pay credit cards and loan installments and also place remittances to beneficiaries in local banks or abroad.

According to the CBK (2007) report, mobile banking in Kenya reduces the cost of basic banking services to customers with over 60 percent from what it would cost through traditional banking channels. The electronically managed transactions result in huge cost savings, the benefits of which are transferred to the users. M-banking also lowers the costs of roll-out and the economies of handling low-value transactions realized by leveraging networks of existing third-party agents. Cash transactions, account opening and other transactions can be conducted online. This makes it easy to subscribe and accounts for the high customer concurrence.

2.4 Determinants of Mobile Banking Adoption

There has been a growing consensus on the benefits of mobile phones in economic development in the recent past. As a result, there has been a need to establish what the determinants of factors behind mobile phone adoption are. Madden and Coble-Neal (2004) highlight economic determinants behind the adoption of cell phones to establish that 'price-ceilings' on fixed-line networks slow the growth of mobile network. On their part, Tseng and Lo (2011) try to establish what customer intentional antecedents motivate the decision to upgrade a mobile and conclude that most customers are not willing to adopt recent models if they are satisfied with the

usefulness of the current application. Narwold (2014) concluded that, fixed line penetration, population density, rural rate, Gross Domestic Product (GDP) per capita and population are significant determining factors in Africa. In terms of behavioral aspect of users, perceived ease of use, usefulness, risk and social influence have been identified as the major factors that influence consumer adoption of mobile banking.

2.4.1 Perceived Ease of Use

Perceived ease of use is concerned with the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). This feeling will be important acceptance criteria which is an imminent acceptance driver of new technology-based applications. In this study, however, it is assumed that ease of use has an effect on MB usage which encourages consumers to use it in their financial transactions. Moreover, as Schierz et al. (2010) notes, perceived ease of use has been proven to have an effect on attitude through perceived usefulness.

Ease of use is usually related to innate features of IT and this will affect a customer attitude toward and adoption of M-banking because it uses a highly complex system for performing banking transactions. Studies have revealed a positive association between ease of use and intention of using technology (Curran & Meuter, 2005). Therefore, perceived ease of use is expected to have an indirect effect on consumers' attitudes via perceived usefulness as well.

2.4.2 Perceived Usefulness

Perceived usefulness is concerned with the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989) and therefore can be considered as a key determinant of attitude, which encourages banking users to adopt more innovative and user-friendly technologies that give them greater freedom in completing transactions, paying bills, and performing other banking affairs (Pikkarainen et al., 2004). Perceived usefulness has been found to have a significant positive effect on both attitude and usage intention toward use of MB services. In fact, an individual's willingness to use a specific system for their transactions depends on their perception of its use (Hanafizadeh et al., 2014). As a consequence, the greater the perceived usefulness of MB services, the more positive is the

attitude and the intention toward its continuous usage; thus, greater the likelihood that it will be used.

If an innovation is perceived as providing more benefits than its predecessor then a user will find it more useful (Hanafizadeh et al., 2014). The relative usefulness will about because of the increased efficiency, economic benefits and enhanced status. Past research has found that relative advantage of an innovation is positively related to the rate of adoption (Rogers 2003). Research suggests that when user perceives relative advantage or usefulness of a new technology over an old one, they tend to adopt it and in the context of mobile banking adoption, benefits such as immediacy, convenience and affordability to customers have been reported (Lin 2011).

2.4.3 Perceived Risk

A customer's intention to use an innovation or mobile device can be influenced by security and privacy that the device affords the user. This attribute refers to the degree of risks in using an innovation. Risk perception by customers usually arises due to the doubt related to the degree of inconsistency between customers' judgment and real behaviour, and technology failing to deliver its anticipated outcome and its consequent loss (Koenig-Lewis 2010). In technology adoption, there is research evidence of the importance of the perception of risk in deploying new technology or services.

In the context of mobile banking, the perception of risk is even more important due to the threat of privacy and security concerns. In addition, fear of loss of PIN codes may also pose security threats and compounded by some users also fear that hackers may access their bank accounts via stolen PIN codes (Poon 2008), mobile banking exposes and individual to a possible risk. Finally, some users may also have a fear of loss or theft of a mobile device with stored data (Coursaris et al. 2003). Therefore, perceived risk is more likely to negatively affect the mobile banking adoption.

2.4.4 Social Influence

The adoption of mobile banking facilities would be possible if individual behavioral intention of a customer is influenced by what people around believe about it. Social influence such as the

opinions of friends, parents, relatives is said to affect the customer's intention to adopt and use mobile facilities (Rogers, 2003). Perceived image can be defined as the degree to which the use of an innovation is supposed to enhance one's image or social status. Perceived image that is associated with the use of mobile banking technology has been found to have a positive effect on innovation (Skog, 2012). As MB users generally use it to create and retain a positive image of themselves in others' minds and therefore perceived image and how it influences one's social standing is considered to be a key factor in determining attitudes toward the use of MB. Image significantly affects users' attitudes, which may moderate the effect of usefulness and modify their attitudes toward intention to continue MB usage, since they perceive it as being compatible with their own images.

Customers who are familiar with the internet and e-mail should not find MB complex. Therefore, it can be concluded that the stronger a person's self-efficacy, the more likely that they try to achieve the required outcomes (Al-Somalli et al., 2009). The effect of self-efficacy on users' adoption of online banking is proved in some studies such as (Nasri & Charfeddine, 2012). When users perceive that they have high ability, they may change their attitudes and therefore self-efficacy in the context of users' perceived ability may moderate the effects of ease of use and modify their acceptability of mobile banking.

2.5 Empirical Studies

Because of its perceived usefulness, mobile banking has attracted interest in research. According to Anderson, (2010), M-banking has the ability to provide banking services and electronic transaction services to the unbanked customers in the development of markets. However, when activating mutual markets, the solutions of M-banking raise questions in the minds of the regulators of distant communication industry, particularly about the privacy of communication network.

Laforet and Li (2005) researched on the factors affecting the adoption and use of internet banking in China. They studied how gender affects the adoption of mobile banking and concluded that majority of users of internet banking in China were men and also that security is among one of the crucial the determinants affecting the adoption of M-banking, though such

factors as risk, computer skills needed to use new technologies, and the culture were factors inhibiting the adoption of M-banking in that country.

Khalfan et al. (2006) researched on factors determining the adoption of Internet banking in Oman. The findings of the study show that the issues of security and data confidentiality significantly influence the adoption of internet banking as well as the top management support as an inhibiting factor in the adoption of electronic commerce applications. The study further found that banks in the region have been slow to embrace e-banking services though they are in agreement that online services reduce overheads by a wide margin. In addition, a combination of technology investment costs, customer insecurities and lack of market-readiness have all conspired to make e-banking less embraced by the customers.

Gu et al. (2009) assessed the determinants of behavioral intention to mobile banking by verifying the impact of perceived dynamics of usefulness, ease-of-use and trust on adoption intentions to conclude that self-efficiency is the most determining antecedent of foreseen ease-of-use, which affects behavioral intensions via the foreseen utility of mobile banking. They also find that structural assurances represent the best antecedent of trust that has the potential of increasing mobile banking behavioral intention.

Al-Somali et al. (2009) attempted to investigate the factors influencing acceptance of online banking in Saudi Arabia. The research findings were that the quality of internet connection was the dominant factor that influence acceptance of mobile banking in the country. At the same time, the awareness of online banking among the potential users and its benefit, the peer influence and computer literacy have significant effects on the perceived importance and of online banking acceptance. Further, the study found that education, trust and resistance to change also significantly impact the attitude towards the likelihood of online banking adoption.

Koenig-Lewis et al. (2010) conducted a study to put in rest factors influencing the continuation of the use of M-banking services by young users in England, aiming at investigation of barriers of M-banking adoption. Their findings revealed that compatibility, perceived usefulness, and risk are significant factors affecting the adoption of M-banking. Compatibility not only has a strong positive effect on the adoption of M-banking, it is also identified as one of the most important independent variables affecting perceived ease of use, perceived usefulness, and credibility. The

variables of trust and credibility were identified as having significant effect on reducing the total perceived risk.

Riquelme and Rios (2010) attempted to establish the moderating effect of gender in the adoption of mobile banking in Singapore. The study sought to rest the determinants of mobile banking among users of internet banking while having gender as a moderating variable. The findings were that usefulness, social norms and social risk are respectively the factors that influence the intention to adopt mobile banking services the most. In addition, it was found that social norms influence the adoption of internet banking more among female respondents than males.

On their part, Hanafizadeh and Khedmatgozar (2012) studied on the question of whether bank customers' awareness of the services and advantages of internet banking (IB) is necessary in reducing the negative effect of customers' perceived risk on their intention of IB adoption. The results were that IB awareness is a dominant factor surpassing all dimensions of the perceived risk including time, social and security. Except for social risk, other dimensions of the perceived risk have a significant negative effect on the intention of IB adoption.

In Pakistan, Muhammed et al. (2013) study mobile banking acceptance by utilizing a sample of 200 bank account holders of MCB bank. The research utilized TAM framework and modelled regression analysis to study the impact of speed, self-efficacy, mobility access, advertising and quality of service on user's convenience level and found their significant impact on peoples tendency to use and accept m-banking of the country. Likewise, Kazi and Mannan (2013) examine the factors affecting m-banking. The study also applied TAM framework and regression technique to study the effect of perceived usefulness, perceived ease of use social influence and perceived risk on m-banking intention and adoption. The results concluded significant effects of all the factors in influencing users' acceptance of m-banking in Pakistan.

In Saudi Arabia, Sohail and Al-Jabri (2014) studied the attitudes of users and non-users in the adoption of mobile banking. The research utilized innovation diffusion framework on the sample of 128 users and 338 non-users of m-banking. The findings of the research suggested that relative advantage, complexity, compatibility, perceived risk and trial-ability are significant to influence m-banking adoption. The study also asserted the major contribution of Perceived risk, compatibility and trial-ability in effecting Saudi consumers' decision to adopt m-banking. Likewise, Oliveira et al. (2014) presented an exploratory research on mobile banking acceptance

for Portugal. The study combines three IS theories of UTAUT, TTF and ITM to test their effect on behavioral intention. Based on the responses of 194 individuals, Initial trust, performance expectancy, technology characteristics, and task technology fit are found to have total effect on behavioral intention. The results further established that facilitating conditions and intention have significant contribution in the adoption of m-banking. The research highlighted the usefulness of integrating UTAUT, TTF and ITM in the improvement of decision support framework to analyze the acceptance of new technologies.

Cudjoe et al. (2015) have recently investigated factors motivating mobile banking adoption in Ghana from 150 sampled Access Bank customers to establish that perceived financial cost and credibility are the main setbacks to the adoption of mobile banking practices offered by the underlying bank. These two factors also outweigh perceived usefulness and ease-of-use in adoption intentions. In Thailand, Bhatiasevi (2015) examined an extended framework of unified theory of acceptance and usage of technology on m-banking adoption. The study integrated perceived cost perceived convenience and perceived credibility in the existing framework of UTAUT. By applying structural equation modelling technique, the results concluded that performance expectancy, effort expectancy, social influence, perceived credibility, perceived convenience caused significant positive effects on people's intentions to use m-banking.

2.6 Research Gap

The literature review and the empirical studies covered above have reinforced the importance of banking institutions to adopt newer methods of service delivery to its customers in a manner that will reduce their operational cost and provide convenience and other benefits to the users of this technology. It is clear that the level of competition in the banking industry has increased like never before and one strategy that can be used by a banking institution to maintain its competitiveness is the use of internet banking due to its increased level of efficiency and cost benefit. The use of telecommunication and banking services has brought about opportunities for the surfacing of mobile commerce, especially mobile banking. Mobile banking services brings about time liberty, expediency and swiftness to customers, along with cost savings.

The literature also presents evidence that banks, aided by technological developments, have reacted to the challenges by embracing new strategies which emphasizes on building customer satisfaction through offering better products and services and at the same time to minimize operation costs. One of these strategies is the adoption of mobile banking. However, for effective realization of the benefits of mobile banking, there is need to understand the factors that determine customer adoption of mobile banking platforms which is expected to generate important results for bankers and customers alike. Several studies have been undertaken towards this goal with different results. The dominant factors that have been highlighted to affect customer adoption of mobile banking include the perceived usefulness of the system, perceived ease of use, accompanying relative advantage, perceived risk and personal innovativeness. A study by Lule, Omwanza and Waema, (2012) attempted to study technology adoption in Kenyan commercial banks, only went as far as determining the application of TAM in M-banking adoption in Kenya did not specifically seek to identify all the factors that affect the customer's perception. In addition, studies reviewed such as that of Al-Jabri and Sohail (2013), Kazi, and Mannan (2013) were all undertaken in developed countries or emergent economies which had much more advanced technology than Kenya. These empirical studies generally have not been conducted in the periods with rising technological innovations including Pesa link. Hence this study will use TAM and include more factors, such as social influence to determine consumers' intention to adopt mobile banking services, specifically the low-income sector in a developing country like Kenya.

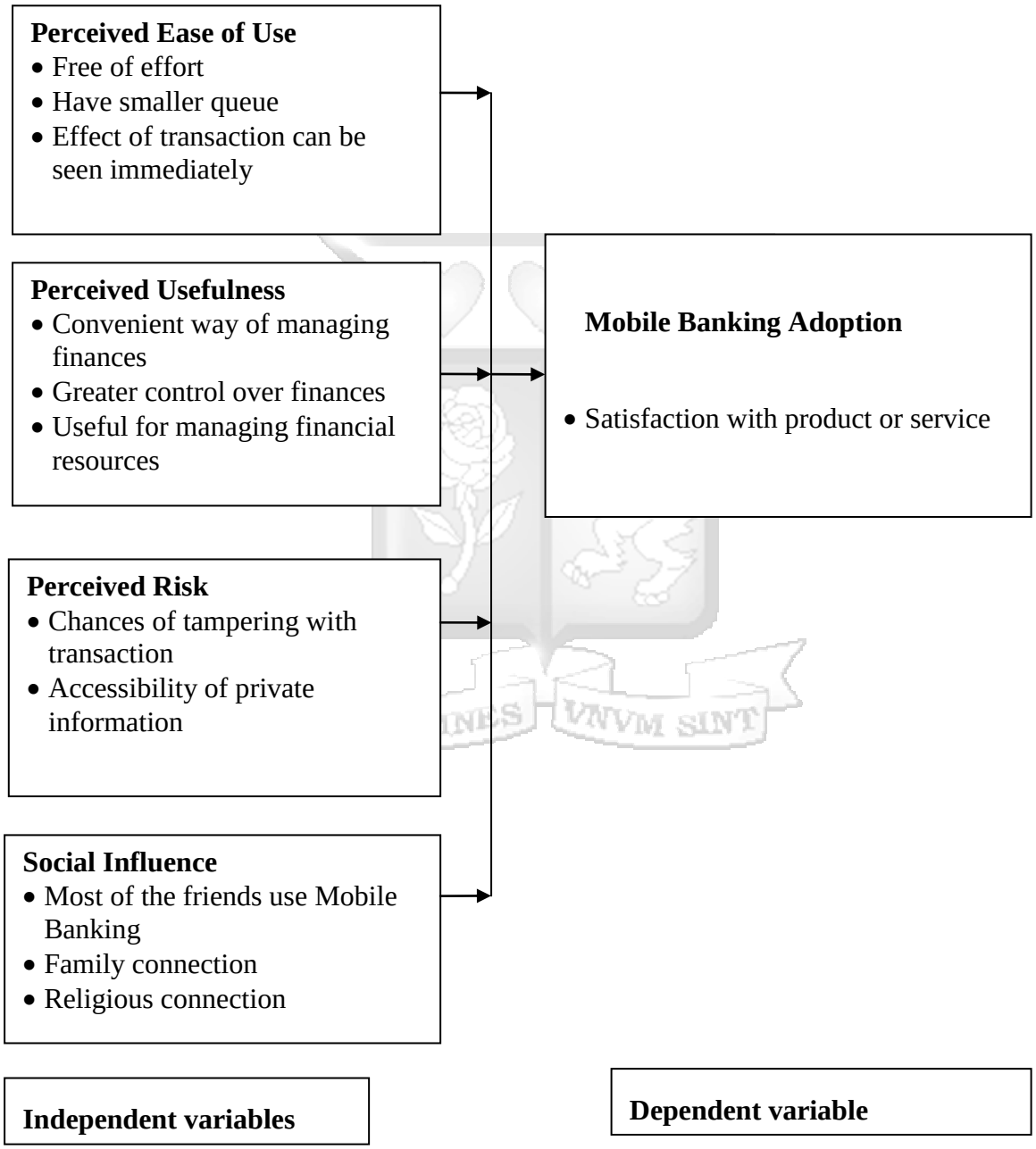
2.7 Conceptual Framework

A conceptual framework can be defined as a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation (Reichel and Ramey, 1987). The schematic diagrams below will not only guide the study but will also show the interrelationship among the key variables in the study as illustrated in Figure 2.1.

This study adopts a conceptual framework of strategic importance to identify the factors that influence the adoption of mobile banking in Kenya. In particular, it investigates the main

constructs advanced by Davis (1989) namely; perceived ease of use, perceived usefulness, perceived risk, and social influence.

Figure 2.1: Conceptual Framework



Source: Researcher, 2017

2.7.1 Perceived ease of use

Ease of use by a customer refers to the degree of user's willingness to use the system where they do not make any effort. Major studies on ease of use consider direct and indirect user behavior through perceived usefulness that is manifested through success, quality of system information and customer satisfaction. Ease of use is usually related to innate features of I.T. and this will affect a customer attitude toward and adoption of M-banking because it uses a highly complex system for performing banking transactions. Studies have revealed a positive association between ease of use and intention of using technology (Curran & Meuter, 2005).

2.7.2 Perceived Usefulness

Perceived usefulness is concerned with the degree to which a person believes that by using a particular system, he/she will be able to perform better or perform their tasks better. In most cases, perceived usefulness is the major aim that determines the behavior of a user for using a system and this will also influence usage of a technology system. This is because once consumers realize the importance of the technology-based alternate method of service delivery, the intention to adopt such services would increase. According to Akturan and Tezcan (2012), perceived usefulness directly affected attitudes towards mobile banking, and that attitude was the major determinant of mobile banking adoption intention.

2.7.3 Perceived Risk

This determinant is concerned with the confidence that an individual in their ability to use a specific technology. The risk factor is an important variable in mobile services, because mobility increases the threat to security due distant connection. Coursaris et al. (2003) found out that the risk associated with M-banking is high because of the high probability of theft and loss of a mobile device. The satisfaction of a customer is higher when the risk associated with the technology is low and therefore, it is expected that there is going to be a positive relationship

between perceived risk and intention to use mobile. Therefore, the higher the risk of using a new technology, the more negative is the attitude toward it, and the less is the willingness to its use.

2.7.4 Social Influence

This attribute is concerned with the level to which a person perceives others believe he/she should exercise the technology. Singaporean consumers consider that usefulness, social norms and risks were three crucial factors influencing the adoption of mobile banking. This is because an individual's decisions to accept mobile commerce services are inclined by acquaintances and family members. Therefore, an individual's perception that most people who are important to him think he should or should not perform the behavior in question including not using mobile banking. Similarly, opinions and influence of friends, family, and relatives are important in making a decision to adopt a new product and service.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Overview of the Chapter

This chapter highlighted the research design, the study variables, the study area, the study population, sampling techniques and sample size determination, construction of research instruments, pilot study, validity and reliability of the instruments, methods of data collection and data analysis.

3.2 Research Design

A research design is a blue print which enables the smooth sailing of the various research operations, thus making research as efficient as possible hence yielding maximum information with minimal expenditure of time, effort and money. It refers to a set of methods and procedures that describe variables (Creswell, 2013). It involves gathering data that describe events and then organizes, tabulates, depicts and describes the data. This research adopted descriptive research design. The descriptive design has been described by Cooper and Schindler (2006) as detailed description of events, situations and interactions between people and things. This research design involved gathering data that describe events and then organizes, tabulates, depicts, and describes the data. This design also helps in collecting qualitative data to provide a great depth of responses resulting in a better and elaborate understanding of the phenomenon under study. Descriptive research design portrayed the variables by answering who, what, and how questions. According to Mugenda and Mugenda (2004), descriptive design is a process of collecting quantitative and qualitative data in order to test hypothesis or to answer the questions of the current status of the subject under study. Descriptive research was used to describe the general characteristic of the study population and show the relationship between the dependent and independent variables.

3.3 Population of the Study

A population is defined as a complete set of individuals, cases or objects with some common observable characteristics (Mugenda and Mugenda 2003). On his part, Denscombe (2007) defines a population frame as "an objective list of the population from which the researcher can make his or her selection."

According to the latest sector statistics from the Communications Authority of Kenya, the county now has over 90% mobile penetration. Mobile subscriptions reached 39.7 million up from 38.3 million subscriptions between April and June 2016, translating into a 3.6 percentile increase, an equivalent of 1.4 million new subscribers in that quarter. The most recent numbers from the Communication's Authority indicate that there are around 26.3 million mobile money subscribers. 227.3 million Transactional purchases from mobile commerce that were made translated to KES 404.1 billion. Furthermore, mobile money transfers, from person to person, were valued at KES 429.4 billion. Numbers like this give credence to the fact that Kenya is the global leader when it comes to mobile money. Hence, the target respondents were those bank with any of the commercial banks (43 banks) operating within the Nairobi business district (See Appendix II).

3.4 Sampling Design

Sampling design refers to a research plan that indicates how cases are to be selected for observation or as respondents (Denscombe, 2007). This study used purposive sampling method of the non-probability sampling design to select the units of study. Purposive sampling was particularly appropriate for this study as it ensured that the research sample was aligned to the study objectives. First, the existing three tiers of commercial banks operating in Nairobi were treated as strata upon which the respondents were selected. The three strata enabled the researcher capture the perception of the different respondents that bank with the Nairobi based commercial banks. For each of the banks in Nairobi the biggest in terms of customer size was chosen. From the list of commercial banks in Appendix II (the total number of banks were 43) which consisted of various banks in the city the researcher randomly picked five respondents

from the odd numbered banks, that is, 21 commercial banks. Thus, the sample of this facilitated a total of 110 responses being collected.

3.5 Data Collection Instruments

The study utilized primary data which was collected through the use of a questionnaire and the questions were both closed and open ended (Appendix I). The survey questionnaire consisted of two parts. The first part would record the respondents' demographic details. The second part recorded respondents' multi-item attitudes of each factor in the model using the five-point Likert scale from 1 being Strongly Disagree to 5 being Strongly Agree.

3.6 Data Analysis

All collected questionnaires were checked for completeness. For greater accuracy and precision, an editing process was undertaken by reviewing the questionnaire and screening out illegible, inconsistent and ambiguous responses. A code sheet was then prepared. After this process, data cleaning was undertaken for a more thorough and extensive treatment of responses. The descriptive analysis adopted involved the use of tables, percentages, mean and standard deviations to summarize the respondent answers and answer the four research questions. To determine the strength of the various adoption strategies, the researcher adopted correlational analysis as well as factor analysis where a regression analysis of structural variables through Structural Equation Modeling (SEM) was employed in estimation. SEM characterizes the links between the concepts or the unobservable variables as well as defining latent factors that are either directly or indirectly causing modifications in the values of other latent factors in the prescribed model.

The researcher chose SEM since both the dependent and independent variables were structural in nature. SEM is an extrapolation of the general linear model and allows researchers to test more than one regression equation simultaneously (Byrne, 2013).

The general model was presented as follows;

$AMB = \beta_1 EU + \beta_2 PU + \beta_3 PR + \beta_4 SOC + \varepsilon$……..…3.1

Where AMB=is Adoption of Mobile Banking

EU=ease of use

PU=perceived usefulness

PR=perceived risk

SOC=social influence

While β1…β4=are the coefficients for the respective factors to be estimated and lastly ε is the error term.

3.7 Operationalization of the Study Variables

The section below is a breakdown of study variables, the indicators, and measure of indicators, questionnaire items and corresponding supporting literature.

Table 3.1 Operationalization of the Study Variables

Variable	Indicator	Measure of Indicator	Questionnaire Items
Adoption of mobile banking (Dependent Variable)	• Satisfaction with product or services	Using 5- Point Likert Type Scale	Section B Table A – I of the questionnaire in appendix 1
Perceived ease of use of mobile banking (Independent Variable)	• Free of effort • Have no queue • Effect of transaction can be seen immediately	Using 5- Point Likert Type Scale	Section B, Table A II of the questionnaire in appendix 1
Perceived Usefulness (Independent Variable)	• Convenient way of managing finances • Greater control over finances • Useful for managing financial resources	Using 5- Point Likert Type Scale	Section B Table A III of the questionnaire in appendix 1

Perceived Risk (Independent Variable)	• Chances of tampering with transaction • Accessibility of private information	Using 5- Point Likert Type Scale	Section B Table A IV of the questionnaire in appendix 1
Social Influence (Independent Variable)	• Most of the friends use Mobile banking • Family connection • Religious connection	Using 5- Point Likert Type Scale	Section B Table A V of the questionnaire in appendix 1

(Source: Researcher, 2017)

3.8 Research Quality

3.8.1 Validity

Researchers want to know if their measure is valid, and the question of validity expresses their concern with accurate measure. Validity is broadly defined as the ability of a scale or measuring instrument to measure what it is intended. The degree of validity of this study depended on the reliability of the facts presented, and whether or not the right variable was being measured. The fact is that it is difficult to determine whether or not a method is 100 percent valid thus, an effort to avoid leading questions were made in the questionnaire. A pilot test was undertaken to increase the instrument validity. Two even numbered commercial banks were randomly selected for piloting. The responses from the pilot test were not considered in the final study.

3.8.2 Reliability

When the outcome of the measuring process is reproducible, the measuring instrument is reliable. Reliability is broadly defined as: the degree to which measures are free from errors and therefore yield consistent results. For this study, several precautions were taken to reduce sources of errors, and thereby increase reliability. The study used pilot data collected in analyzing reliability of the study instruments. The data was subjected to Cronbach's alpha analysis to determine the internal consistency or average correlation of constructs in a survey instrument to

gauge its reliability, considering a threshold alpha figure of 0.7 to demonstrate that the study instrument is reliable. The smaller the variability (or stronger the correlation), the greater the internal consistency reliability of this survey instrument.

Before conducting structural modeling, the study evaluated whether instruments were reliable and valid in order to enhance the accuracy of their assessment and evaluations. It should be noted that the reliability of an instrument is closely associated with its validity. An instrument cannot be valid unless it is reliable. However, it should also be noted that reliability of an instrument does not depend on validity (Nunnally and Bernstein, 1994). According to Nunnally and Bernstein, (1994) internal consistency is recommended before a test can be employed for research or examination purposes to ensure validity. Reliability estimates on the other hand show the amount of measurement error in a test. Bland and Altman, (1997) suggest that the acceptable values of alpha range from 0.60 to 0.90. The Table 3.2 indicates Cronbach's alpha coefficient for structural variables.

Table 3.2: Cronbach's Alpha Index and KMO

Type of Variable		No. of items in the scale	Cronbach's Alpha Index	Sampling adequacy
Structural Variables			**Alpha**	**KMO**
	Adoption of Mobile Banking (AMB)	8	0.6030	0.6589
	Ease of Use (EU) of mobile banking	4	0.3732	0.5784
	Perceived Usefulness (PU) of mobile banking	5	0.6764	0.6180
	Perceived Risk (PR) of mobile banking	5	0.4136	0.5924
	Customer Social Influence (SOC)	4	0.2735	0.4664
	RC-AMB	18	0.7638	0.7457
Overall		26	0.8227	0.7532

*KMO= Kaiser-Meyer-Olkin

Since the study had more than one root construct, the overall Cronbach's alpha index was also reported as it could justify the low alpha test for individual independent variables. In principle therefore, alpha was calculated for each of the concepts, for all constructs except for dependent variable and also for the entire test or scale of both dependent and independent variables.

From the study results, most variables had between four and eight items. It was shown that adoption to mobile banking and perceived usefulness of mobile banking were some of the reliable constructs with an alpha of over 0.6 and thus adequate and valid. On the other hand, the reliability coefficients for three main constructs (Ease of Use of mobile banking, Perceived Risk of mobile banking, and Customer Social Influence) were below the threshold (alpha<0.60). As the estimate of reliability decreases, the fraction of a test score that is attributable to error increase. Despite having factors with low Cronbach's coefficient, this implies that the correlation between items in a test was low, Nunnally and Bernstein (1994) asserts that a high coefficient of alpha does not always mean a high degree of internal consistency. This is because alpha is also affected by the length of the test. If the test length is too short, the value of alpha may also be reduced.

Further, a low value of Cronbach's alpha found among the root constructs could be attributed to a low number of items as well as poor interrelatedness between items or heterogeneous items. According to De Vellis, (2003) low alpha due to poor correlation between items should be revised or discarded. However, in this study, most of the constructs were fairly correlated (See correlation analysis). Since this study first explored critical technology adoption theories and frameworks, it was not possible to discard or revise the items; instead, they were subjected to the survey on the basis that the overall reliability scale for independent latent variables was 0.7638 above 0.6, a figure which increased significantly to 0.8227 with the inclusion of the dependent variable.

3.8.3 Sampling Adequacy

Sampling adequacy predicts if data are likely to factor well, based on both correlation and partial correlation. In determining sample adequacy, the study estimated the Kaiser-Meyer-Olkin

(KMO) measure of sampling adequacy. Based on Table 4.2, most of the constructs were at least 50% sampled except customer social influence. On average Adoption of Mobile Banking was highly sampled (65.89%) compared to other root constructs while Customer Social Influence was lowly sampled (46.64%). However, it should be noted that almost all constructs had sampling rate of above 50% implying that the least construct was fairly sampled. Further, on overall, all independent variables was sampled to approximately 74.57% adequacy levels with all constructs including dependent variable indicating sampling adequacy of about 75.32% indicating fairly sampling of all constructs considered in the study.

3.9 Ethical Consideration

Data was collected from the sampled respondents after obtaining the consent of the sampled commercial banks. This was done by an official letter from the university and an introductory letter from the researcher. All the information obtained was kept private and treated with the confidentiality it deserves and was used for academic purposes and only the findings will be published and not the raw data.

CHAPTER FOUR: PRESENTATION OF THE RESEARCH FINDINGS

4.1: Introduction

This chapter presents data analysis, findings and interpretation. Results are presented in tables and figures. The analyzed data was arranged under themes that reflect the research objectives.

4.2: Response rate

A total of 110 questionnaires were administered to the sampled respondents, out of which approximately 100 questionnaires were properly filled and returned. This represented an overall successful response rate of 90.9%. According to Mugenda and Mugenda (2003), a response rate of 50% or more is adequate. Babbie (2015) also asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good.

Table 4.1: Response Rate

Response	Total	Percent
Returned	100	90.9%
Unreturned	10	9.09%
Total	110	100%

4.3: Demographic Characteristics

This section consists of information that describes basic respondent's characteristics. They include age category, marital status, level of education and affixed-line Internet Connection.

4.3.1 Age of the respondents

The respondents were asked to indicate their age bracket. The results are as shown in table 4.2. The results indicated that majority of the respondents that is 43% were between the ages of 31- 40, followed by 40% of the respondents who were between the ages 41-50 years. The

rest that is 17% were mainly from age categories (30 years and below; and over 50 years) where 11% were above 50 years of age whereas 30 and below years were only 6%.

Table 4.2: Age of the respondents

Age Bracket	Freq.	Per cent
30 years and below	6	6.00
31-40 years	43	43.00
41-50 years	40	40.00
Over 50 years	11	11.00
Total	100	100.00

4.3.2 Marital Status

The respondents were asked to state their Marital Status. The findings are as shown in table 4.3. Results in table 4.3 indicated that majority of the respondents 58 % were married while the remaining 42% were not married. Note that those who indicated as not married were single, divorced, separated, or widowed.

Table 4.3: Marital status

Marital status	Freq.	Per cent
Not married	42	42.00
Married	58	58.00
Total	100	100.00

4.3.3 Level of Education

The respondents were asked to indicate their highest level of education. The results are as shown in table 4.4. Results in table 4.4 indicated that majority of the respondents 30% had attained university level of education (bachelors) similarly to those who had tertiary college (diploma) education levels. On the other hand, 22% had gone up to postgraduate level of education, with only 18% of the respondents had attained secondary level of education.

Table 4.4: Level of education

Educational qualification	Freq.	Per cent
Secondary level	18	18.00
Tertiary college (diploma)	30	30.00
University (bachelors)	30	30.00
Post graduate (master/phd)	22	22.00
Total	100	100.00

4.3.4 Affixed - Line Internet and mobile banking adoption

The respondents were asked to state whether they have an affixed line internet connection or not. The findings are as indicated in table 4.4. Affixed line internet is essential in facilitating the use of mobile banking. Findings in table 4.5 showed that majority of the respondents 89% had affixed line internet connection, while 11% did not. On further inquiry of whether the respondents had adopted any mobile banking technology, it was found out that all respondents agreed that they had adopted mobile banking.

Table 4.5: Affixed Line Internet

Affixed-line Internet	Freq.	Per cent
Yes	89	89.00
No	11	11.00
Total	100	100.00

4.4 Descriptive Statistics

This section presents the descriptive results of the factors that influence the adoption of mobile banking (perceived ease of use of mobile banking, perceived usefulness of mobile banking, perceived risk of mobile banking and social influence) in Kenya.

4.4.1 Adoption of Mobile Banking

The study sought to establish benefits that are associated with adoption of mobile banking. The responses were rated on a Likert scale and results presented in table 4.6. The findings from Table 4.6 indicated that majority of the respondents, 49%, strongly agreed and 36% just agreed that they used mobile banking to check account details. The mean was 4.2 with a standard deviation of 1.06 indicating that the respondents strongly agreed with that statement and that the responses were not highly varied. Approximately 81% agreed with the statement that they viewed their mini-statement through mobile banking. The mean of 3.93 indicating that the respondents strongly agreed with that statement while the standard deviation was 1.155 indicating that the responses were varied. Moreover, about 79% of the respondents were in agreement with the fact that they used mobile banking to pay bills for government services and public utilities with a mean of 3.99 indicating that the respondents strongly agreed with that statement while the standard deviation was 1.27 indicating that the responses were varied.

On usage of mobile banking to transfer funds between bank accounts, approximately 59% of the respondents disagreed with that fact with about 29 percent being undecided or neutral on the same. The mean was 2.26 and a standard deviation of 1.13 showed that the respondents strongly disagreed and the responses were varied. For payment of credit card and loan, the distribution of responses was almost equal across the scale that is between 15% and 22%. The mean for the statement that they pay credit card and loan through mobile banking was 2.89 indicating that the respondents neither did agree nor disagree with that statement while the standard deviation was 1.37 indicating that the responses were as well varied.

A majority of the respondents, 86%, agreed with the statement that through mobile banking, they were able to access real-time services, compared with traditional banking services. The mean for this statement was 4.12 indicating that the respondents strongly agreed with that statement while the standard deviation was 1.1 indicating that the responses were varied. Similarly, the results indicated that majority, 87%, of the respondents agreed with the statement that mobile banking had improved the way they designed their personal financial services. The mean for the agreement of this statement was 4.12 indicating that the respondents strongly agreed with that statement while the standard deviation was 1.03 indicating that the responses were varied. Lastly, it was established that majority of the respondents i.e. 69%, disagreed with the statement that mobile banking had reduced the cost of banking services. About 14% of the respondents were neutral on this issue. The mean for

this statement was 2.22 indicating that the respondents strongly disagreed with that statement while the standard deviation was 1.26 indicating that the responses were varied.

The overall mean response of 3.47 implied that respondents just agreed on most of the statement regarding adoption of mobile banking in Kenya while a standard deviation of 1.17 denoted that there was some variation in the responses on the same statements.

Table 4.6: Adoption of Mobile Banking in Nairobi County

	Percentage (%)						
	SD	D	N	A	SA	Mean	SD
Check account details	5	4	6	36	49	4.2	1.06
View mini-statement	8	6	5	47	34	3.93	1.17
Pay bills for government services and public utilities	9	7	5	34	45	3.99	1.27
Transfer funds between bank accounts	32	27	29	7	5	2.26	1.13
Pay credit cards and loan	21	21	21	22	15	2.89	1.37
I am able to access real-time services compared with traditional banking services	7	3	4	43	43	4.12	1.10
Mobile banking has improved the way I design my personal financial services	6	2	5	48	39	4.12	1.03
Mobile banking has reduced the cost of banking services	35	34	14	8	9	2.22	1.26
Average						3.47	1.17

4.4.2 Objective One - Ease of Use of Mobile Banking

The study sought to establish the ease of use of mobile banking among individuals who own a mobile phone. The responses were rated on a Likert scale and the results presented in table 4.7. The study results indicated that majority, 52%, of the respondents agreed with 32% disagreeing with the fact that their interaction with the mobile financial services was clear and understandable, making it easy for them to use mobile banking. The mean for the statement was 3.39 while the standard deviation was 1.449. Furthermore, the majority of the respondents, 81%, agreed with the statement that their interaction with mobile financial service did not require a lot of mental effort. The mean and the standard deviation for this statement was 3.99, while the standard deviation was 1.11.

The study also established that the majority, 79% of the respondents agreed with the statement that they found it easy to get mobile financial service to do what they wanted it to do. Their mean was 3.93 while the standard deviation was 1.17. Lastly majority of the respondents, 88%, agreed with the statement that the mobile payment procedure was flexible to interact with. The mean for this statement 4.18 while the standard deviation was 0.99 implying low variation in responses. The average mean for the constructs was 3.88, indicating that majority of the respondents just agreed that mobile banking is easy to use. The standard deviation was 1.16, indicating that there was some variation in responses.

Table 4.7: Perceived Ease of use of mobile banking in Nairobi County

	Percentage (%)						
	SD	D	N	A	SA	Mean	SD
The interaction with the mobile financial services is clear and understandable	9	23	16	22	30	3.41	1.36
The interaction with mobile financial service does not require a lot of mental effort	6	6	7	45	36	3.99	1.11
I find it easy to get mobile financial service to do what I want it to do	6	10	5	43	36	3.93	1.17
I find the mobile payment procedure to be flexible to interact with	5	2	5	46	42	4.18	0.99
Average						3.88	1.16

4.4.3 Objective Two - Perceived Usefulness of Mobile Banking in Nairobi County

The study sought to establish the perceived usefulness of mobile banking among the individual adults who own a mobile phone. The responses were rated on a Likert scale and the results presented in table 4.8 which shows that a majority, 87% of the respondents were in agreement with the fact that mobile payment appeared to be practical in terms of perceived usefulness of mobile banking. The mean for this statement was 4.19 while the standard deviation was 1.10. Similarly, the results indicated that majority i.e. 85%, of the respondents agreed with the fact that they found mobile payment a useful possibility for paying in regards to perceived usefulness of mobile banking. The mean for the construct was 4.15 while the standard deviation was 1.24. A majority of the respondents, 83%, also agreed with the

statement that using mobile payment made it easier for them to conduct transactions, in terms of perceived usefulness of mobile banking. The mean for this statement was 3.99 while the standard deviation was 1.22. This implies that respondents strongly agreed on this fact with some variation in responses.

The results on the other hand indicated that most of the respondents that is 87% of the respondents agreed with the statement that using mobile payment would enable them to pay more quickly, in terms of perceived usefulness of mobile banking. The mean for the agreement of this statement was 4.2 while the standard deviation was 0.98 implying most respondents strongly agreed with little variation. Lastly, majority of the respondents 87% agreed with the statement that there was enhanced status as a result of using the mobile banking among their peers in terms of perceived usefulness of mobile banking. The mean for the statement was 4.32, while the standard deviation was 1.02 also implying that most respondents strongly agreed with some variation.

Considering the overall mean responses, 4.17, it could be deduced that the majority of the respondents strongly agreed that there is perceived usefulness of mobile banking. However, the responses had some variation, hence a standard deviation of 1.11.

Table 4.8: Perceived Usefulness of Mobile Banking

	Percentage (%)						
	SD	D	N	A	SA	Mean	SD
Mobile payment appears to be practical	7	2	4	39	48	4.19	1.10
I would find mobile payment a useful possibility for paying	9	5	1	32	53	4.15	1.24
Using mobile payment makes it easier for me to conduct transactions	11	1	5	44	39	3.99	1.22
Using mobile payment would enable me to pay more quickly	3	6	4	42	45	4.2	0.98
There is enhanced status as a result of using the mobile banking among my peers	4	4	5	30	57	4.32	1.02
Average						4.17	1.11

4.4.4 Objective Three - Perceived Risk of Mobile Banking in Nairobi County

The study sought to establish the perceived risk of mobile banking among the individual adults who own a mobile phone. The responses were rated on a Likert scale and the results presented in table 4.9. Following the findings, majority of the respondents 95% disagreed with the statement that the mobile banking was a safe place to transmit sensitive information

indicating a risk perceived in mobile banking. The mean for the statement was 1.6, indicating that majority of the respondents strongly disagreed with the statement, while the standard deviation was 0.74 implying low variation in responses. The study also found out that a majority of the respondents 73% disagreed with the statement that mobile banking was a secure means through which to send sensitive information indicating a risk perceived in mobile banking with 22% being neutral on that statement. The mean response was 1.93, indicating that the majority of the respondents did not agree with the statement, while the standard deviation of 0.97 indicating less variance in responses.

It was further established that approximately 90% of the respondents disagreed with the statement that they felt secure sending sensitive information across the mobile banking indicating a risk perceived in mobile banking. The mean response to the statement 1.6, showing that majority of the respondents strongly disagreed with that particular statement. The standard deviation was 0.88. On the other hand, about 89% of the respondents disagreed with the statement that there is minimal technology failure to deliver its anticipated outcome and its consequent loss is also negligible indicating a risk perceived in mobile banking. The mean response for the statement was 1.79, showing that majority of the respondents strongly disagreed with the information. The standard deviation was 0.80 show less variation in responses.

Lastly, the study established that 54%, disagreed with the statement that the fear of losing a PIN code/passwords is minimal as well as the threat of hacking indicating a risk perceived in mobile banking whereas about 20% were neutral and 31% agreed with that statement. The mean response for this statement was 2.63 indicating that majority of the respondents just disagreed with the statement. However, there was some variation in responses on this statement given the standard deviation of 1.41. The overall mean for all the variable constructs was 1.91, indicating that most of the respondents perceived mobile banking as being risky. The responses were not highly varied, as shown by an overall standard deviation of 0.96.

Table 4.9: Perceived Risk of Mobile Banking

	Percentage (%)						
	SD	D	N	A	SA	Mean	SD
Overall, the mobile banking is a safe place to transmit sensitive information	49	46	3		2	1.6	0.74
The mobile banking is a secure means through which to send sensitive	41	32	22	3	2	1.93	0.97

information							
I would feel secure sending sensitive information across the mobile banking	57	33	5	3	2	1.6	0.88
There is minimal technology failure to deliver its anticipated outcome and its consequent loss is also negligible	37	52	8	1	2	1.79	0.80
The fear of losing a PIN codes/passwords is also minimal as well as the threat of hacking	32	17	20	18	13	2.63	1.41
Average						1.91	0.96

4.4.5 Objective Four - Effect on the Customer's Social Influence

The study sought to establish the effect on the customer's social influence among the individual adults who own a mobile phone. The responses were rated on a Likert scale and the results presented in table 4.10. As indicated, that majority of the respondents, 88%, agreed with the statement that using mobile banking improved their self-image. Only 6% disagreed on this statement. The mean for this item was 4.23 while the standard deviation of 0.95 means there was less variation in responses. The results indicated that majority of the respondents, 52%, agreed with the statement that they using a mobile phone, improved their personal prestige. The findings also indicated that 36% of the respondents were neutral on this statement. The mean was 3.58 while the standard deviation was 1.13 showing some variation.

On the other hand, most of the respondents, 81% of the respondents were in agreement with the statement that using mobile banking, made them look trendy among their peers. The mean for this statement was 4.17 while the standard deviation was 1.14. Approximately 63% of the respondents agreed with the statement that people who use mobile payment services are information technology savvy. The mean was 3.69 while the standard deviation was 1.41. The overall mean for all the items regarding the effect on the customer's social influence was 3.92, indicating that majority of the respondents agreed with this statement. However, the responses had some variations yielding an overall standard deviation of 1.16.

Table 4.10: Effect on the Customer's Social Influence

	Percentage (%)						
	SD	D	N	A	SA	Mean	SD
By using mobile banking, it improves my	4	2	6	43	45	4.23	0.95

self-image							
By using a mobile phone, it improves my personal prestige	7	5	36	27	25	3.58	1.13
By using mobile banking, it makes me look trendy among my peers	4	9	6	28	53	4.17	1.14
People who use mobile payment services are information technology savvy	12	11	14	22	41	3.69	1.41
Average						3.92	1.16

4.5 Correlation Analysis

Correlation analysis was used to determine both the significance and degree of association of the variables. The correlation technique is used to analyze the degree or extent of association between two variables. The results of the correlation analysis are summarized in table 4.11 and in the appendices section. The correlation ranges from 1 to -1 where 1 indicates a strong positive correlation and a -1 indicates a strong negative correlation and a zero indicates lack of association between the two variables.

Table 4.11: Correlation matrix

Correlating Pairs	**Coefficients**	**OIM Std. Err**	**t**	**P>t**	**95% Conf. interval**	
Adoption_M_Banking, Ease_of_Use	0.2820	0.11057	2.55	0.011	0.0653	0.4988
Adoption_M_Banking, Perceived_Usefulness	0.3852	0.0987	3.90	0.000	0.1916	0.5787
Adoption_M_Banking, Perceived_Risk	-0.1733	0.0578	-3.00	0.003	-0.2866	-0.0601
Adoption_M_Banking, Social_Influence	0.4201	0.0960	4.38	0.000	0.2319	0.6083
Ease_of_Use, Perceived_Usefulness	0.2125	0.0880	2.42	0.016	0.0401	0.3850
Ease_of_Use, Perceived_Risk	-0.0987	0.0441	-2.24	0.025	-0.1851	-0.0123
Ease_of_Use, Social_Influence	0.2178	0.0878	2.48	0.013	0.0457	0.3899
Perceived_Usefulness, Perceived_Risk	-0.1792	0.0576	-3.11	0.002	-0.2921	-0.0663
Perceived_Usefulness, Social_Influence	0.3175	0.0875	3.63	0.000	0.1459	0.4890
Perceived_Risk, Social_Influence	-0.1976	0.0632	-3.13	0.002	-0.3216	-0.0737

LR test of model vs. saturated: chi2(289) = 417.30, Prob > chi2 = 0.0000

The correlation analysis was conducted as shown in table 4.11 to determine the association between adoption of mobile banking and other independent variables. The results indicated that there is a positive association between adoption of mobile banking and ease of use of mobile banking. This is indicated by a correlation coefficient of 0.282. The correlation coefficient was found to be statistically significant at 5% level given a p value of 0.011. It was also found out that adoption of mobile banking was positively correlated with perceives usefulness with a correlation coefficient of 0.3852 which was shown to be significant at 5% levels. Thirdly, the correlation coefficient of the relationship between adoption of mobile banking and perceived risk of mobile banking was found to be 0.1733 but had a negative sign. The relationship was however significant given a p value of 0.003. On the other hand, the adoption of mobile banking was positively correlated with social influence with a correlation coefficient of 0.4201 which was shown to be significant at 5% levels.

Further, the study conducted correlation analysis among the independent variables. On perceived ease of use and perceived usefulness, the correlation coefficient was 0.2125 with a p value of 0.016. Also the relationship between perceived ease of use and perceived risk was found to be negatively correlated with correlation coefficient of 0.0987 and a significant p value of 0.025. Further, perceived ease of use and social influence had a significant and positive correlation of 0.2178.

The correlation analysis was conducted to determine the association between perceived usefulness of mobile banking and perceived risk which was found to be negatively correlated with a correlation coefficient of 0.1792 and a significant p value of 0.002. On the other hand, the results indicated that there is a strong positive association between perceived usefulness of mobile banking and social influence which was also found to be significant with correlation coefficient of 0.3175 and p value of 0.000. Lastly, it was established that perceived risk and social influence had a negative correlation coefficient of 0.1976 but significant at 5% level.

4.6 Regression Analysis of the Structural Variables

A Structural Equation Modeling (SEM) was undertaken to assess the influence of various factors on adoption of mobile banking in Nairobi. This model was suitable since both the dependent and independent variables were structural in nature. According to Byrne, (2013), structural equation model is an extrapolation of the general linear model and allows

researchers to test more than one regression equation simultaneously. SEM characterizes the links between the concepts or the unobservable variables as well as defining latent factors that are either directly or indirectly causing modifications in the values of other latent factors in the prescribed model.

The study conducted Latent Variable Path Analysis (LVPA) which simultaneously tests measurement and structural parameters. This is because the latent variables are intangible constructs that are measured by a variety of indicators (more is better). The study thereafter estimated standardized SEM. A measurement model for the latent that is ease of use, perceived usefulness, perceived usefulness and social influence variables was first estimated in order to determine whether observed variables could be modeled as a single latent construct. Table 4.12 shows the goodness of fit of the estimated model.

Table 4.12: Goodness of Fit of the Model

Fit Statistic	**Value after RF**	**Description**
Likelihood Ratio	***	
*chi2_ms (.)	.	Model versus Saturated
p > chi2	.	
*chi2_bs (325)	983.858	Baseline vs. Saturated
p > chi2	0.000	
Population error		
RMSEA	.	Root Mean Squared Error of Approximation
90% CI, Lower Bound	0.000	
Upper bound	.	
P-close	.	Probability; RMSEA <= 0.05
Information Criteria		
AIC	7681.406	Akaike's Information Criterion (AIC)
BIC	7889.820	Bayesian Information Criterion (BIC)
Baseline Comparison		
CFI	1.000	Comparative Fit Index
TLI		Tucker-Lewis index
Size of Residuals		

SRMR	0.176	Standardized Root Mean Squared Residual
CD	1.000	Coefficient of Determination

The model goodness of fit indicates the overall influence of the predictor variable on the dependent variable. The results indicate that the regression model goodness of fit was satisfactory. All the five structural factors were subjected to a modeling and from the goodness of fit of the model as indicated in table 4.12, it was found that all variables fitted the data well given that the overall p value of 0.000 implied the variables had a joint significance in explaining the dependent variable that is adoption of mobile banking in Kenya. This was also confirmed by other criteria for model fitness such as Root Mean Squared Error of approximation. Table 4.13 shows the analysis of the relationship between the structural variables.

Table 4.13 displays the output of the structural modeling of the predictor variables. Results indicate that two out of the four variables were statistically significant at the 5% level. The beta coefficient indicates the direction and degree of influence of the predictor variable on the dependent variable. From the findings, the study established that for a unit increase in perceived ease of use of mobile banking led to a significant (5% level) increase in the adoption of mobile banking by 0.7639 units holding other factors constant. This is because the p value of 0.000 is less than 5% level of significance. Also, for a unit increase in perceived usefulness of mobile banking led to a rise in adoption of mobile banking by 0.074 units holding other factors constant. The effect however was found to be statistically insignificant at all levels. The p value of 55% was far more than 5% level of significance.

On the other hand, for a unit increase in the perceived risk of mobile banking led to a decline in adoption of mobile banking by 0.113 units holding other factors constant. The effect was also found to be statistically insignificant at all levels. This is because the p value of 38.5% was more than 5% level. Lastly, for a unit increase in customer social influence increased adoption of mobile banking at 5% level of significance by 0.2428 units holding other factors constant. The p value of 1.6% was less than 5% level.

Table 4.13: Structural Equation Model (SEM)

Structural Equation Model
Number of observations = 100
Estimation method = ml (maximum likelihood)
Log likelihood = -3760.7032

Structural Adoption_M_Banking	Coef.	OIM Std. Err	t	P>t	[95% Conf.	Interval
Ease_of_Use	0.7639**	0.1478	5.17	0.000	0.4743	1.0535
Perceived_Usefulness	0.0740	0.1237	0.60	0.550	-0.1684	0.3165
Perceived_Risk	-0.1130	0.1300	-0.87	0.385	-0.3678	0.1417
Social_Influence	0.2428**	0.1012	2.40	0.016	0.0444	0.4413

(1) [AMB] Adoption_M_Banking
(2) [EU] Ease_of_Use
(3) [PU] Perceived_Usefulness
(4) [PR] Perceived_Risk
(5) [SOC] Social_Influence

** Significant at 5% level

Endogenous Variables
Latent: Adoption_M_Banking

Exogenous Variables:
Latent: Ease_of_Use, Perceived_Usefulness, Perceived_Risk and Social_Influence

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter presents discussion of the findings obtained in the previous chapter. The findings related to modeling are discussed. It further blends the findings to the reviewed literature.

5.2 Discussion

The study was carried out with the main objective of establishing factors that influence the adoption of mobile banking in Nairobi County. The following discussion ensues on the basis of direction and significance of the respective factors on adoption of mobile banking. From the findings, most of the respondents just agreed on most of the statements regarding adoption of mobile banking in Nairobi given the overall mean response of 3.47 with some variation in the responses. The ease of use of mobile banking; perceived usefulness of mobile banking; perceived risk of mobile banking and Effect on the customer's social influence are explored.

5.2.1: Ease of Use of Mobile Banking

The study established the mean for this statement was 4.18 while the standard deviation was 0.99 implying low variation in responses. The average mean of 3.88 showed that majority of the respondents just agreed that mobile banking is easy to use. It was further shown that there was a strong positive association between adoption of mobile banking and ease of use of mobile banking (r2=0.2820). The correlation coefficient was found to be statistically significant at 5% level given a p value of 0.011. On estimation, the study established that perceived ease of use of mobile banking led to a significant increase in the adoption of mobile banking. This is because the p value of 0.000 is less than 5% level of significance. These findings may be linked to the fact that ease of use is usually related to innate features of I.T. and this affects a customer attitude toward and adoption of M-banking because it uses a highly complex system for performing banking transactions. The findings confirm the theory of Technology Acceptance (TAM) as put forward by Davis, (1989). According to the theory, the easier the system is to use the more useful

it can be. The findings of this study concurs with the study results obtained by Schierz et al. (2010) who established that perceived ease of use had an effect on use of technology. In the same way, it concurs with the findings of other studies like Curran & Meuter, (2005) who revealed a positive association between ease of use and intention of using technology.

5.2.3 Perceived usefulness of mobile banking

An individual's willingness to use a specific system for their transactions depends on their perception of its use which amounts to perceived usefulness. Considering the overall mean responses of 4.17, with regard to usefulness of mobile banking, it could be deduced that the majority of the respondents agreed that there is perceived usefulness of mobile banking. On correlation, it was found out that adoption of mobile banking was positively and significantly correlated (r2=0.3852) with perceived usefulness at 5% levels. Moreover, the study established that perceived usefulness of mobile banking led to a rise in adoption of mobile banking in Kenya. The effect however was found to be statistically insignificant at all levels. The p value of 55% was far more than 5% level of significance.

According to Venkatesh & Davis (2002), perceived usefulness has consistently resulted in strong determinant of usage intentions. However, findings obtained by this study differed with this fact since, despite demonstrating a positive effect on adoption of mobile banking; it was not statistically significant in determining adoption of mobile banking in Kenya. The study also differed with the findings of Rogers (2003) and Hanafizadeh et al., (2014) who found that perceived usefulness had a positive and significant effect on both attitude and usage intention toward use of mobile services.

5.2.4 Perceived Risk of Mobile Banking

As demonstrated earlier, a customer's intention to use an innovation or mobile device can be influenced by perceived risk which entails security and privacy that the device affords the user. On perceived risk, the overall mean for all the variables was 1.91, indicating that most of the respondents perceived mobile banking as being risky. The responses were not highly varied, as

shown by an overall standard deviation of 0.96. The correlation coefficient of the relationship between adoption of mobile banking and perceived risk of mobile banking was found to have a negative sign. The relationship was however significant given a p value of 0.003. Similarly, estimation established that the perceived risk of mobile banking led to a decline in adoption of mobile banking in Nairobi County. The effect was also found to be statistically insignificant at all levels. This is because the p value of 38.5% was more than 5% level. This risk perception by customers usually arises due to the doubt related to the degree of inconsistency between customers' judgment and real behavior, and technology failing to deliver its anticipated outcome and its consequent loss. The study assess the following items; whether the mobile banking is a safe place to transmit sensitive information, the mobile banking is a secure means through which to send sensitive information, whether the customer feels secure sending sensitive information across the mobile banking, whether there is minimal technology failure to deliver its anticipated outcome and its consequent loss is also negligible and the fear of losing a PIN codes/passwords is also minimal as well as the threat of hacking. The study findings concurred with the fact that some users may also have a fear of loss or theft of a mobile device with stored data. The empirical evidence is in line with the findings obtained by Coursaris et al. (2003) who found perceived risk was more likely to affect the mobile banking adoption negatively.

5.2.5 Effect on the customer's social influence

The degree to which the use of an innovation is supposed to enhance one's image or social status determines greatly the likelihood of technology adoption. The effect of the customer's social influence and adoption of mobile banking in Nairobi County, related factors such as the opinions of friends, parents, relatives to the customer's intention to adopt and use mobile facilities. This study established the overall mean for all the items regarding the effect on the customer's social influence to be 3.92, implying that majority of the respondents agreed with the stated items. However, the responses had some variations yielding an overall standard deviation of 1.16. On correlation analysis, the adoption of mobile banking was positively correlated with social influence with a correlation coefficient of 0.4201 which was shown to be significant at 5% levels. Further, customer social influence increased adoption of mobile banking at 5% level of significance. The significance and positive effect of social influence could be attributed to easy

access to internet, gadgets (mobile phones) as well as upsurge in social media usage. On the other hand, these findings could as well be attributed to the fact that customers who are familiar with the internet and e-mail do not find mobile banking complex as also suggested by Al-Somalli et al., (2009) and Nasri & Charfeddine, (2012). The empirical findings obtained in this study concur with the results obtained by Skog (2012), where perceived image that is associated with the use of mobile banking technology has been found to have a positive effect on innovation.

5.3 Conclusions

This section basically reviewed the findings from analysis of the structural constructs meant to establish the relationship existing between explanatory variables (factors) and adoption of mobile banking and made some conclusions. Regarding the adoption of mobile banking in Kenya, the overall mean response meant that respondents agreed on most of the statements while a standard deviation denoted that there was some variation in the responses on the same statements. Secondly, the average mean for the constructs showed that majority of the respondents also agreed that mobile banking is easy to use. The standard deviation obtained indicated that there was some variation in responses.

On the other hand, the study established that the majority of the respondents strongly agreed that there is perceived usefulness of mobile banking. The overall mean for all the variable constructs indicating that most of the respondents perceived mobile banking as being risky. The responses were not highly varied. Lastly, the overall mean for all the items regarding the effect on the customer's social influence indicated that majority of the respondents agreed on most items. On structural modeling, the study established that perceived ease of use and customer social influence had a positive and significant influence on adoption of mobile banking in Kenya at 5% levels. The study suggests that for major recommendations focusing on ease of use and customer social influence.

5.4 Recommendations

It is evident that in the 21st century, innovations in the telecommunications and information technology sectors have revolutionized the banking industry. This section presents both practical

implications as well as theoretical implication with regard to the conclusions drawn from the relationship between adoptions of mobile banking.

The study made the recommendation on adoption of mobile banking in Kenya that should be explored by both the public and private sectors. Recommendations are anchored on two key areas, that is, perceived ease of use and effect on customer social influence that were statistically significant. Theoretically, a good fit between task and technology will encourage user adoption of mobile banking while a poor task technology fit will decrease users' adoption intention. Based on the study findings, first, the study recommends that financial institutions should ensure of the following; the interaction with the mobile financial services is simple, clear and understandable, the interaction with mobile financial service should not require a lot of mental effort, it should be easy to get mobile financial services to do what the customer wants it to do, and lastly the mobile payment procedure should be flexible to interact with. By doing so, these efforts will enhance mobile banking adoption as it will make it easy to use and will be highly convenient to the customer.

Secondly, the study suggests the following to be implemented by the financial institutions; to obtain a system of mobile banking that can improve customer self-image, advocate for mobile phone that improves customer's personal prestige, have a mobile banking system compared to others that can make customer to look trendy among the peers and lastly, employ a system that does not only need people who are only information technology savvy. These recommendations are required to raise the effect of customer on social influence. Since there are two key variables that explain banking adoptions due to their significant effect, financial institutions now only need to invest their resources on these two to realize greater mobile banking adoption. These institutions need to mobilize and collaborate where possible to enhance adoption of their mobile banking systems.

5.5 Limitations of the study

The main objective for this study was to establish factors influencing the adoption of mobile banking in Kenya but was limited to the CBD of Nairobi city. Both Technology acceptance and diffusion of innovation theories extensively examined. Secondly, the study mainly considered

perceived ease of use of mobile, perceived usefulness of mobile banking, perceived risk of mobile banking and social influence as factors that affect the adoption of mobile banking leaving many other variables that are not considered.

5.6 Areas for further study

This study concentrated at establishing factors influencing the adoption of mobile banking in Kenya but was limited to the CBD within Nairobi. A similar study is required considering all commercial banks in Kenya to give a clear and exact estimate. Main factors that were suggested in other relevant theories such as Unified Theory of acceptance and Usage of Technology (UTAUT) which is anchored on technology fit with regard to task requirements could as well be employed in future studies to examine adoption of other financial innovation technologies by the banking systems. Therefore, a study is required to include factors such as attitude and belief about the system in addition to effort expectancy as put forward in UTAUT framework are demonstrated as potential determinants of the technology adoption. Similar studies are also required showing comparison in different areas/settings or sectors.

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APPENDICES

APPENDIX I: FACILITATION LETTER

Strathmore Business School

Tuesday, 31 October 2017

To Whom It May Concern.

Dear Sir/ Madam,

RE: FACILITATION OF RESEARCH –GENEVIEVE ANYONA

This is to introduce Genevieve Anyona, who is a Master of Business Administration student at Strathmore Business School, admission number MBA/79252/14. As part of our MBA Program, Genevieve is expected to do applied research and to undertake a project. This is in partial fulfillment of the requirements of the MBA course. To this effect, she would like to request for appropriate data from your organization.

Genevieve is undertaking a research paper on **"Factors that influence the adoption of Mobile Banking in Kenya."** The information obtained from you shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We very much appreciate your support and we shall be willing to provide any further information if required.

Yours sincerely,

Muriithi Njogu

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APPENDIX II: QUESTIONNAIRE

My name is Genevieve Anyona, a student at the Strathmore Business School. I am carrying a research on "Factors that influence the adoption of mobile banking in Kenya". You have been chosen as one of the respondents to the questions below towards the establishment of the research objective. Please give answers in the spaces provided and tick (√) in the box that matches your response to the questions where applicable.

PART A: RESPONDENTS PROFILE

1) Name of the respondent, (Optional) …….

2) What is your age bracket? (Tick as applicable)

a) Under 30 years ( ) b) 31 – 40 years ( )

c) 41 – 50 years ( ) d) Over 50 years ( )

3) Marital status

a) Single ( ) b) Married ( )

4) What is your highest level of education qualification?

a) Post graduate level ( ) b) University ( )

c) Tertiary College ( ) d) Secondary ( )

5) Do you have affixed-line Internet Connection?

a) Yes ( ) b) No ( )

Section B: Adoption of Mobile Banking

6) Have you adopted mobile banking systems being offered by your bank?

a) Yes ( ) b) No ( )

7) Below are some of the benefits that are associated with mobile banking. In a scale of 1 – 5 as shown in the scale below, please indicate the extent to which you have adopted mobile banking to because of the same;

Use 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree and 5-Strongly agree

Table A - I

Statement	5	4	3	2	1
Check account details					
View mini-statement					
Pay bills for government services and public utilities					
Transfer funds between bank accounts					
Pay credit cards and loan					
I am able to access real-time services compared with traditional banking services					
Mobile banking has improved the way I design my personal financial services					
Mobile banking has reduced the cost of banking services					

Section B: Determinants of Mobile Banking Adoption

Please circle one choice for each of the following statements

(1= strongly disagree, 2=disagree, 3= nor disagree nor agree, 4=agree, 5=strongly agree)

Table A II

Factor 1: Ease of use of mobile banking (Number of Items = 4)

The interaction with the mobile financial services is clear and understandable	5	4	3	2	1
The interaction with mobile financial service does not require a lot of mental effort	5	4	3	2	1
I find it easy to get mobile financial service to do what I want it to do	5	4	3	2	1
I find the mobile payment procedure to be flexible to interact with	5	4	3	2	1

Table A - III

Factor 2: Perceived usefulness of mobile banking (Number of Items = 5)

Mobile payment appears to be practical	5	4	3	2	1
I would find mobile payment a useful possibility for paying	5	4	3	2	1
Using mobile payment makes it easier for me to conduct transactions	5	4	3	2	1
Using mobile payment would enable me to pay more quickly	5	4	3	2	1
There is enhanced status as a result of using the mobile banking among my peers	5	4	3	2	1

Table A - IV

Factor 3: Perceived risk of mobile banking (Number of Items = 5)

Overall, the mobile banking is a safe place to transmit sensitive information	5	4	3	2	1
The mobile banking is a secure means through which to send sensitive information	5	4	3	2	1
I would feel secure sending sensitive information across the mobile	5	4	3	2	1

banking					
There is minimal technology failure to deliver its anticipated outcome and its consequent loss is also negligible	5	4	3	2	1
The fear of losing a PIN codes/passwords is also minimal as well as the threat of hacking	5	4	3	2	1

Table A - V

Factor 4: Effect on the customer's social influence (Number of Items = 4)

By using mobile banking, it improves my self-image	5	4	3	2	1
By using a mobile phone, it improves my personal prestige	5	4	3	2	1
By using mobile banking, it makes me look trendy among my peers	5	4	3	2	1
People who use mobile payment services are information technology savvy	5	4	3	2	1

THANK YOU FOR YOUR TIME

APPENDIX III: LIST OF COMMERCIAL BANKS IN KENYA

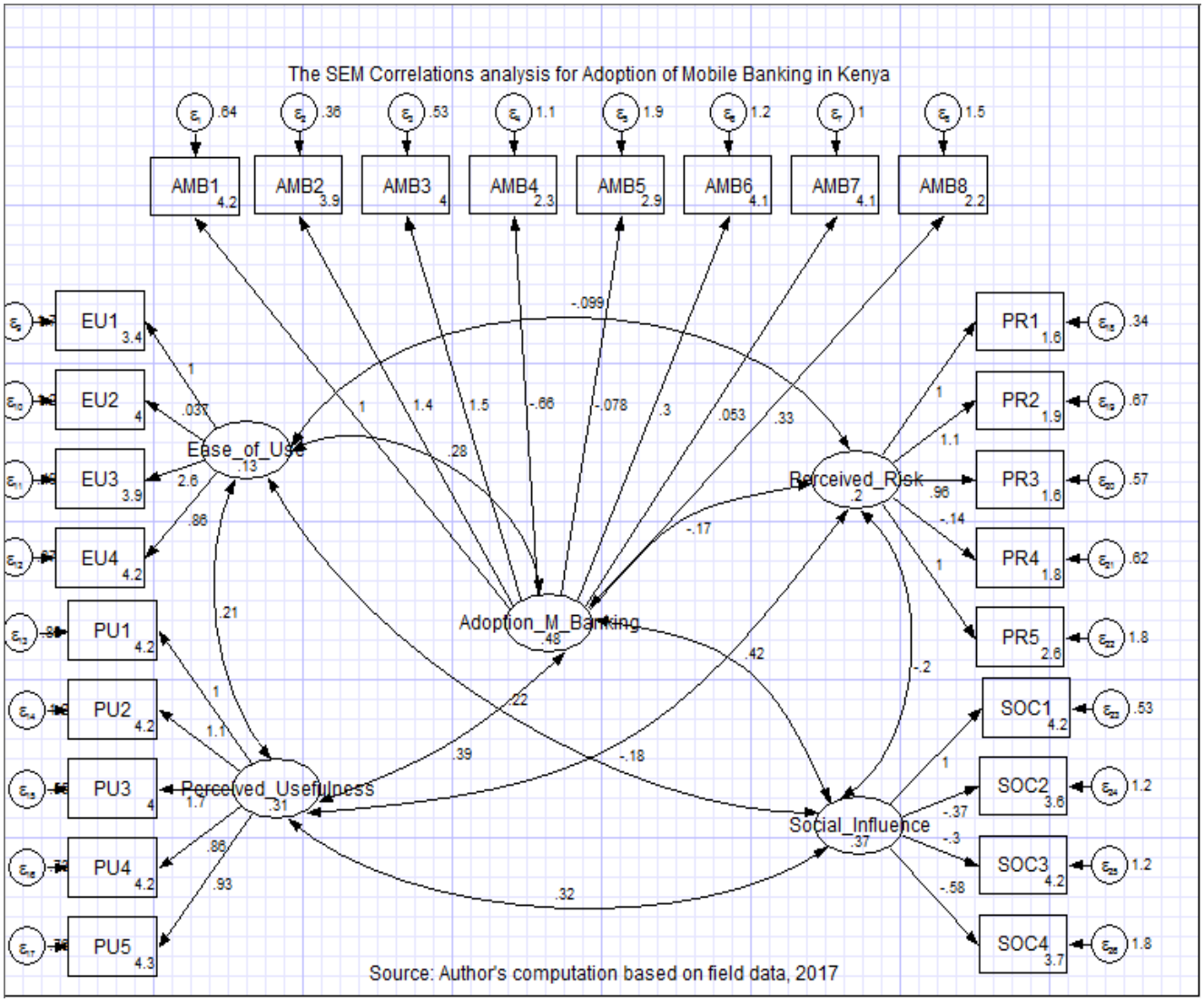
Classification	Description	Commercial Banks
Tier I	Comprises of banks with a balance sheet of more than Kenya Shillings 40 billion	1. Citibank 2. Barclays bank of Kenya 3. Equity Holdings Ltd 4. Kenya Commercial Bank 5. Standard Chartered Bank 6. Cooperative Bank of Kenya 7. Stanbic Holdings 8. National Industrial Bank
Tier II	Comprises of banks with a balance sheet of less than Kenya Shillings 40 billion but more than Kenya Shillings 10 billion	9. Bank of India 10. Bank of Baroda 11. Family Bank 12. Prime Bank 13. Commercial Bank of Africa 14. Bank of Africa 15. Consolidated Bank 16. Chase Bank 17. Fina Bank

		18. EcoBank 19. Housing Finance 20. National Bank of Kenya 21. Diamond Trust Bank
Tier III	Comprises of banks with a balance sheet of less than Kenya Shillings 10 billion	22. Habib A.G. Zurich 23. Victoria Commercial Bank 24. Credit Bank 25. Habib Bank (K) Ltd 26. Oriental Commercial Bank 27. K-Rep Bank 28. ABC Bank 29. Development Bank of Kenya 30. Middle East Bank 31. Equatorial Commercial Bank 32. Trans-National Bank 33. Dubai Bank 34. Fidelity Commercial Bank 35. City Finance Bank 36. Paramount Universal Bank

	37. Giro Commercial Bank
	38. Imperial Bank
	39. Guardian Bank
	40. Southern Credit Bank
	41. Gulf African Bank
	42. First Community Bank

Source: The Banking Survey by CBK 2015, pp. 191.

APPENDIX IV: CORRELATION MATRIX FOR ALL LATENT VARIABLES



APPENDIX V: LVPA FOR ADOPTION OF MOBILE BANKING IN NAIROBI COUNTY, KENYA