

**DETERMINANTS OF ELECTRONIC BANKING ADOPTION BY CUSTOMERS
IN SELECTED KENYA COMMERCIAL BANK BRANCHES IN
NORTH RIFT REGION, KENYA**

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DECLARATION

Declaration of Candidate

I declare that this is my original work and has not been presented in any institution of higher learning for a degree or any other award. No part of this research may be reproduced in any form without prior permission of the author and/or Moi University.

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ABSTRACT

The adoption of electronic banking as a platform for carrying out banking services has continued to rise globally. While it has been adopted in most developed countries, little research has been undertaken in Kenya on determinants of electronic banking in Kenya. The current study therefore sought to bridge this knowledge gap. The study aimed at establishing the determinants of electronic banking adoption by customers. The study was guided by the following specific objectives; to determine the effect of perceived usefulness on adoption of electronic banking, to establish effect of perceived ease of use on adoption of electronic banking, to assess the effect of perceived compatibility on adoption of electronic banking, to determine the effect of perceived reliability on adoption of electronic banking, and to establish the effects of perceived self efficacy on adoption of electronic banking. The researcher adopted Technology Acceptance Model. The model is used to predict adoption of technological innovations. The study was explanatory research design. The study was conducted in Kenya Commercial Bank (KCB) branches in Eldoret town, Iten and Kabarnet town. The target population was 34010 customers from the selected Kenya Commercial Bank branches. The KCB branches are in Eldoret town, Iten and Kabarnet town. The sample size was 380 customers that were established using the Krejcie and Morgan (1970) table for determining sample size from a given population (Appendix IV). The number of customers in each branch was distributed proportionately. Systematic sampling was used to select the respondents, where the first respondent was selected randomly and the subsequent selected systematically based on the sample size. Primary data was collected through structured questionnaire. Reliability and validity of the questionnaire was established by conducting a pilot study in Ecobank, Eldoret branch. Cronbach's reliability coefficient was calculated to establish the reliability of the instrument in which 0.89 was obtained. The data was analyzed using Descriptive Statistics, Correlation and Multiple Regressions. The study established that perceived usefulness ($\beta = 0.236$, $p = 0.010$) significantly affect adoption of electronic banking. Perceived usefulness was second in prediction of adoption electronic banking. Perceived ease of use ($\beta = 0.262$, $p = 0.003$) significantly affects adoption of electronic banking. From the results, perceived ease of use was the major predictor of adoption of electronic banking. The results indicated that compatibility ($\beta = 0.121$, $p = 0.114$) does not significantly affect adoption of electronic banking. The regression results indicated that reliability ($\beta = 0.211$, $p = 0.011$) significantly affects adoption of electronic banking. The study established that self efficacy ($\beta = 0.039$, 0.586) does not significantly affect adoption of electronic banking. The researcher recommends that in the design of electronic banking services, perceived usefulness should be emphasized. The banks should adopt the electronic banking services that are easily understandable to the customers. The bank management should ensure that electronic banking services should not inconvenience the customers, since electronic banking is intended to avail 24 hours services. Future studies to consider other variables such as perceived trust and perceived playfulness. Similar studies to be done in different banks to allow for generalization of the findings.

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LIST OF ABBREVIATIONS

ATM: Automated Teller Machine

EFT: Electronic Fund Transfer

ICT: Information Communication Technology

IDT: Innovation Diffusion Theory

PC: Personal Computer

SMS: Short Messages Service

TAM: Technology Acceptance Model

U.K: United Kingdom

USA: United

OPERATIONAL DEFINITION OF TERMS

Adoption: Sathye (1999) defines adoption as “the acceptance and continued use of a product, service or idea.”

Commercial bank: Heffernan (2005) defined commercial bank as a financial institution that provides services, such as accepting deposits, giving business loans and auto loans, mortgage lending, and basic investment products like savings accounts and certificates of deposit.

Compatibility: De Ruyter *et al.*, (2001) defined compatibility as the extent in which electronic banking is consistent with individuals’ lifestyle and believes.

Ease of use: Hernández-Ortega *et al.*, (2007) defined ease of use as the navigability and operability of electronic banking.

Electronic Banking: Mohammed *et al.*, (2009) defined electronic banking as the use of electronic channel to conduct banking activities, such as transferring funds, paying bills, viewing account balances, paying mortgages and purchasing financial instruments.

Reliability: Khan, (2007) defined reliability as the level in which electronic banking can be depended upon to deliver the services.

Self efficacy: Prasad and Arumbaka,(2009) defined self efficacy as the individual knowledge on the operations of electronic banking.

Usefulness: Rahmath & Hema (2011) defined usefulness as the extent in which a person perceive the performance of electronic banking

CHAPTER ONE

INTRODUCTION

1.0 Overview

The chapter presents the background of the study, the statement of the problem, general objective of the study, specific objectives, research hypotheses, significance of the study and scope of the study.

1.1 Background of the Study

E-banking is the term used for all types of electronic banking; it is also known as online banking or Internet banking. E-banking uses the Internet as the delivery channel to conduct banking activities, such as transferring funds, paying bills, viewing account balances, paying mortgages and purchasing financial instruments and certificates of deposits (Mohammed *et al.*, 2009). E-banking is also known as electronic funds transfer (EFT). It is basically the use of electronic methods or means to transfer money directly from one account to another, rather than carrying cash around or paying by cheque. With e-banking, people can withdraw money from Automatic Teller Machines (ATM) or pay accounts using a debit/credit card at any time of the day (Rahimuddin & Bukhari, 2009). Electronic delivery channels are collectively referred to as electronic banking. There are three main types of electronic banking: automated teller machines, mobile banking, and online banking. Mobile and online banking offer security alerts so that clients know immediately what activity is occurring on their account. Alerts are sent directly to a

client's cell phone or email address when credit or debit transactions are completed on the account. One can also receive daily alerts of the bank account balance.

Electronic banking in the United States has reduced costs in the banking industry and improved service quality for their existing and potential new customers worldwide. Many UK banks continue to develop and launch new banking services on the E-banking in order to satisfy and meet their Internet-based customer requirements in terms of time, ease of use, security and privacy (Ongkasuwan and Tantichattanon, 2002). Developing countries are also experiencing a strong growth in e-banking. Countries such as India and the Republic of Korea are experiencing a particularly strong growth in e-banking. In South East Asia, E- banking is also developing rapidly, especially in Thailand, Malaysia, Singapore, and the Philippines (Mia *et al.*, 2007). Similar trends were also observed by Thulani *et al.* (2009) in Zimbabwe; Maiyaki and Mokhtar (2010) in Nigeria. In Cameroon, until 1997, banks were only offering services through physical branch; the country now has electronic services such as Automated Teller Machines (ATMs), SMS banking, Internet banking, Point of Sales (POS) machines, and telephone banking). Karin (2002) suggests that roughly 672,000 people are using electronic banking in South Africa. Consumer acceptance and use of electronic banking is still far less in South Africa when compared to other countries such as UK.

Banks in Kenya are crafting and implementing various strategies to attract new customers and also to increase existing customers' use of electronic banking services. To encourage the use of electronic banking, Herington and Weaven (2007) noted that banks are

rewarding customers for using online services and penalizing customers for using offline services. Thus Kenya retail banks, like banks elsewhere, charge premium fees for customers who perform banking services over the counter rather than doing the transaction electronically.

Chen & Wellman (2004) in a study which focused on E-banking usage in China, Germany, Korea, Italy, Japan, Mexico, UK, and USA found that men were more likely than women to use the Internet and the rate of adoption was high for young people who understand English and live in urbanized environments. Taking a step further, MacGregor and Vrazalic (2006) conducted a study into e-Commerce adoption barriers in small businesses and the differential effects of gender. The results indicated that adoption barriers fall into one of two distinct groupings: too difficult to implement or unsuitable to the business. The results also showed that females were more concerned about e-commerce being unsuitable for their business, while males expressed more concern about the difficulty of implementing e-commerce (MacGregor and Vrazalic, 2006).

There are several major challenges and issues facing the growth of e-banking and e-business in general. One major obstacle is the security concern ((Feinman, *et al.*, 1999; Financial Service, 2001). Another challenge for e-business (including e-banking) is the quality of the delivered service – including both delivery speed and delivery reliability (Furst *et al.*, 2000). As an Internet-based technology, e-banking is new and quite unfamiliar to some people in developing countries, due to the digital divide and the different levels of Internet experience and environments.

Studies have explored the potential relationship between demographic characteristics of customers and the adoption of e-banking. This relationship is found to be as significant as the psychological factors in determining its adoption (Yuan *et al.*, 2010). According to the Economic Commission for Africa (2007), the growth of e-banking in most African countries has been slow for a variety of reasons, which include the following: low levels of Internet penetration and limited communication infrastructures. Many Africans are still unaware of the opportunities offered by e-banking. The major obstacles include the lack of a suitable legal framework and security measures, inadequate banking systems, poorly developed telecommunications infrastructures, especially beyond urban areas, and high rates of illiteracy.

1.2 Statement of the Problem

Electronic banking services have provided numerous benefits for both banks and customers. The first benefit for banks offering electronic banking services is better branding and improved responsiveness to the market, new distribution channels provide improved services to customers, as well as the use of electronic commerce strategies (JIBC August 2010). Despite the many benefits that Internet banking provides to both banks and their customers, acceptance of this technology has not been equal in all parts of the world (Gettingmoneywise, 2011). Security, of course, is the primary concern for those who are wary of taking their banking online, and there have been cases of successful breaches of some bank websites' security. According to Karjaluoto *et al.* (2002), there are also some disadvantages associated with e-banking services, as most people do not trust transactions which are conducted online. For beginners, e-banking can be difficult to

learn, and websites sometimes take time to load. Some websites ask for identification, which can be very inconvenient for newcomers to e-banking (Muhammad and Syed, 2010). Hackers may intercept data and defraud customers, and phone bills can increase due to Internet usage.

In Kenya, e-banking is a new industry and consumer acceptance and use of e-banking is still limited. There is only a vague understanding of factors influencing consumers' adoption of e-banking. While e-banking has been adopted in most developed countries, little research has been undertaken in Kenya on determinants of electronic banking adoption in Kenya. Munyoki, (2011) conducted a study on challenges of e banking adoption among the commercial banks in Kenya. Wami, (2014) carried out a study on factors influencing the adoption of internet banking, a case of imperial bank. The current study therefore seeks to bridge this knowledge gap.

1.3 Objective of the Study

The main objective of the study was to establish the determinants of electronic banking adoption by customers.

1.4 Specific Objectives

The study was guided by the following specific objectives;

- i. To determine the effects of perceived usefulness on adoption of electronic banking
- ii. To establish effects of perceived ease of use on adoption of electronic banking
- iii. To assess the effects of perceived compatibility on adoption of electronic banking

- iv. To determine the effects of perceived reliability on adoption of electronic banking
- v. To establish the effects of perceived self efficacy on adoption of electronic banking

1.5 Research Hypotheses

Ho₁: Perceived usefulness has no significant effect on adoption of electronic banking

Ho₂: Perceived ease of use has no significant effect on adoption of electronic banking

Ho₃: Perceived compatibility has no significant effect on adoption of electronic banking

Ho₄: Perceived reliability has no significant effect on adoption of electronic banking

Ho₅: Perceived Self efficacy has no significant effect on adoption of electronic banking

1.6 Significance of the Study

The study will be of significance to the government in formulating policies for promoting electronic banking in Kenya. The findings will also be of significance to the management of the financial institutions in implementing strategies to encourage their clients to embrace electronic banking. Finally, the study will contribute to academic literature in the field of finance and banking.

1.7 Scope of the Study

The study sought to establish effects of; perceived usefulness, perceived ease of use, perceived compatibility, perceived reliability and perceived self efficacy on adoption of electronic banking. The study was conducted in Kenya Commercial Bank branches in Eldoret town, Iten town and Kabarnet town

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter presents the concepts of electronic banking, status of electronic banking, factors influencing adoption of electronic banking; effects of perceived usefulness, effects of perceived ease of use, effects of perceived compatibility, effects of perceived reliability, effects of perceived self efficacy, theoretical framework and conceptual framework.

2.2 The Concept of Electronic Banking Adoption

The information technology revolution in the banking industry, especially in regards to distribution channels, began in the early 1970 with the introduction of the credit card, the Automatic Teller Machine (ATM), and the ATM networks (Gan, Clemes, Limsombunchai, & Weng, 2006). This was followed by telephone banking, cable television banking in the 1980s, and the progress of personal Computer (PC) banking in the late 1980s and in the early 1990s Information technology enabled electronic channels to perform many banking functions that were traditionally carried out over the counter (Giannakoudi, 1999).

The trend in the financial services industry has been to gradually replace over the-counter banking with new electronic delivery channels (Yu & Guo 2008). As a result, recent years have seen many banks embrace electronic banking in order to make banking easier for their customers and also to allow them to offer new services. This reduces the

need for customers to visit branch offices (Hernández-Murillo, Llobert & Fuentes 2012). Furthermore, by adopting electronic banking, customers not only enjoy banking services that are accessible, regardless of time and location, but they also enjoy better business terms such as lower commission rates, reliable service quality and timesaving benefits (Yu & Guo 2008).

2.2.1 Status of Electronic banking

The rapid growth of the Internet has dramatically changed delivery channels in the banking industry and many banks have established a presence on the Internet (Trudeau, 2009). Bughin (2004) found approximately two-thirds of the variance (64%) explained for internet banking (IB) adoption is linked to country level Internet utilization. According to comScore (2010), Canada is one of the world's leaders in internet banking with 65 percent of its population being internet banking users, followed by the Netherlands (61%). The percentages of internet banking users in United Kingdom and in the United States were 52% and 45%, respectively. Typically, most developed countries have established their IT infrastructure and their Internet adoption rate is generally above 70 percent of their population (ITU, 2011). In contrast, the majority of developing countries, such as Kenya, still have an Internet adoption rate below 40% (Internet World Stats, 2011). Traditional branch based retail banking remains the most widespread method for conducting banking transactions in Kenya with agency banking and mobile banking being the recently adopted and widely used (Wambari,2009). However, internet technology is rapidly changing the way personal financial services are being designed and delivered.

Technological innovation coupled with availability of internet services in Ghana results in banks in Ghana networking their branches and provision of service products. Because of competition almost all banks in Ghana are now providing various forms of E-banking services. For instance, a report by Abor (2004) showed that Barclays Bank (Ghana) Limited and Standard Chartered Bank (Ghana) Limited pioneered this very important electronic novelty, which changed the banking landscape in the country. Banks in Ghana have launched many commercials and a range of products and services. The Trust Bank Ghana, in 1995 installed the first ATM. After that, the other major banks began their ATM networks at competitive positions. Ghana Commercial Bank started its ATM offering in 2001 in collaboration with Agricultural Development Bank (Abor, 2004). In Ghana, ATM is the extensive and most widely utilized E- banking services. The ATM has been the most successful delivery medium for consumer banking in this county.

Banks in Kenya have increasingly embraced the use of information and communication technology both in their service provision and as a strategy to ensure their survival. They have invested huge amounts of money in implementing the self and virtual banking services with the objective of improving the quality of customer service. Some of the ICT based products and services include the introduction of SMS banking, ATMs, Anywhere banking software's, Core banking solution, Electronic clearing systems and direct debit among others.

The banking industry has also over years continued to introduce a wide range of new products, prompted by increased competition, embracing ICT and enhanced customer

needs. As a marketing strategy, the new products offered in this segment of market, continue to assume local development brand names to suit the domestic environment and targeting the larger segment of local customer base. All the above clearly indicate that, Kenya's banking Industry has great developments like any other banking market in the world.

2.3 Factors Influencing Adoption of Electronic Banking

Past studies have indicated several factors that influence adoption of electronic banking. This study presents; effects of perceived usefulness, effect of ease of use, effect of compatibility, effects of reliability and effects of self efficacy on adoption of electronic banking.

2.3.1 Effects of Perceived Usefulness

According to Rahmath & Hema (2011) defined perceived usefulness as the extent to which a person deems a particular system to boost his/her job performance. Perceived usefulness has been identified by several studies as an important adoption factor of innovation technologies (ACNielsen, 2005). The 24-hour service availability, home access, world wide access, time savings and wide variety of services accessible are seen as drivers of convenience in electronic banking (Gerrard and Cunningham, 2003).

Previous authors considered internet banking as competitive advantage of adopting of a new retailing channel in services capes (Polatoglu and Ekin, 2001; Gerrard and Cunningham, 2003). It is one of the dominating factors in transaction channel preferences (Ramsay and Smith, 1999) and a key determinant of consumer satisfaction (Yang *et al.*, 2003). In his study Eastin (2002) found that perceived convenience was the strongest

predictor of online banking usage. Finally, the same study also indicated that the perceived convenience was the most influential variable of overall adoption of all four e-commerce activities investigated.

Internet banking users expect the internet to offer many advantages that are not available in traditional banking (among others, time saving, speediness and economic benefits) (Goi, 2007). All these advantages must be supported by a readily accessible and user friendly website (Hernández-Ortega *et al.*, 2007). Website is the best platform to attract more visitors and reach new customers because the site can promote banks' products, services, and image. Thus, website design is one of the most important channels of transmission for banks (Huang and Chen, 2007). In the e-service context, users may perceive a relative advantage in accessing the Internet and use its website services from any location and at any time of the day. Online services present other advantages for the organizations in addition to providing continuous access.

They potentially contribute to valuable promotions of the company; enhance the quality and speed of customer services; create competitive advantages; entice shoppers and encourage customer interaction; support core business functions that are integral to business strategy; and provide new business opportunities by increasing market presence and facilitating online purchasing (Drinjak *et al.*, 2001). According to Polatoglu & Ekin (2001) these advantages may have an effect on individuals' adoption decisions. Yet, Tan & Teo (2000) found that there is no significance relationship between adoption of on line services and its relative advantages. They attribute the desire for adoption of new

technologies to the curiosity about the innovation rather than any benefits the innovation might offer.

2.3.2 Effects of Perceived Ease of Use

Ease of use has an important effect on users' intentions to use or to adopt a new technology (Chau & Lai, 2003). In the on line context perceived ease of use was found to affect e-service adoption significantly, reflecting the importance of the role of the ease of use variable on adoption of e-services (Chau & Lai, 2003). Navigability refers to the usability and operability which a website must offer its customers (Hernández-Ortega *et al.*, 2007). The characteristics of navigability include ease of search, which reflects the websites capacity to help users to find the information they require (Huizingh, 2000). The fewer clicks necessary for a user to find an object, and the greater the navigability, the greater the increase is in users' satisfaction (Hernández-Ortega *et al.*, 2007). The ease of navigability increases the probability of obtaining loyal customer. A poor website design may prevent users from finalizing the desired transaction, and consequently, they may not revisit the financial entity. The navigability of a website is a function of its ease of use, usefulness, and the time customers saved during their interaction period (Hernández-Ortega *et al.*, 2007). Thus, banks must provide e-tools on their website, such as site maps or a permanent site menu, that permit visitors to review these characteristics and to know where they are at any given moment (Robbins and Stylianou, 2003). Moreover, these navigation tools help users to keep a mental map of their position and understand how different pages or sections are interrelated (Cao *et al.*, 2005). For example, Search for keywords, Back to top, Home buttons are important features for Internet banking users (Cao *et al.*, 2005).

2.3.3 Effects of Perceived Compatibility

Compatibility is another important dimension of the innovation diffusion theory (IDT). It refers to the fact that there is a high probability for innovation to be adopted by an individual, when it is consistent with his or her job's responsibility and value system. Therefore, the more an individual uses the internet and the more he or she perceives the internet as compatible with his or her lifestyle, the more likely that individual will adopt electronic banking (Hoppe *et al.*, 2001). Electronic banking has been considered a delivery channel that fits with the modern banking customers who are computer literate and familiar with the internet. The innovation should be compatible with the individual's and group's values or beliefs. It also involves the degree to which the new innovation is consistent with existing consumer affect, cognition and behaviour (de Ruyter *et al.*, 2001). Thus, people with strong negative feelings towards the Internet (or computer technologies in general) might find it difficult to switch from branch banking to electronic banking. Compatibility has been measured through engagement in other Web-related activities (Karayanni, 2003). Electronic banking is more likely to be compatible with consumers' previous attitudes if they have some Internet experience and reasonably high computer literacy (Karjaluoto *et al.*, 2002). Although complexity and compatibility are closely related, the distinction can be made that complexity has more to do with real skills and abilities, whereas compatibility reflects attitudes towards innovations and technology in general. Previous research conducted in the United States has shown that compatibility has a positive connection with use of electronic banking (Kolodinsky *et al.*, 2004).

Compatibility is considered as one of the main determinants for the innovation spread process with the higher compatibility perceived by the individual leading to the speedy adoption of any new technologies. Thus, people with strong negative feelings towards the Internet (or computer technologies in general) might find it difficult to switch from branch banking to Internet banking. Several researchers have shown that perceived compatibility has a significant direct influence on individuals' intention to adopt Internet banking services (Ruyter *et al.*, 2007).

Studies by Wu and Wang, 2005 have found compatibility to be a strong antecedent having significant effect on in determining consumers' intention to use electronic banking. This antecedent has been developed from Rogers, 1962. Compatibility is defined as the level of consistency between new technology and customers' needs, daily life routine, experiences and values. Greater the compatibility between individuals' life style and technology, greater will be its interpretation in a more familiar context. Studies have confirmed compatibility to be one of the strong indicators of attitude towards electronic banking. Chen *et al.*, (2002) has been found that chances of technology adoption increases much with high compatibility.

2.3.4 Effects of Perceived Reliability

The Internet is the cheapest delivery channel for banking products (Giglio, 2002), and allows banks to reduce their branch networks and downsize the number of service staff (Karjaluoto *et al.*, 2003). The Internet has an ever-growing importance in the banking sector due to the advantages the technology brings to both the banks and their customers. However, not all financial institutions that adopt electronic banking are successful with

the technology (Hernández-Ortega *et al.*, 2007). An inadequate website design is often cited as major deficiency in Internet banking (Hernández-Ortega *et al.*, 2007).

Leelapongprasut, *et al.*, (2005) indicated that in Thailand, the three most important dimensions of quality in electronic banking are: reliability, serviceability, and durability. Reliability involves consistency of performance and dependability which means that the banking firm performs the services right the first time and honors its promises (Khan, 2007). Reliability involves accuracy in billing and information, keeping records correctly, performing the service at the designated time (Zeithaml, *et al.*, 2002). Reliability is associated with the technical functioning of the e-banking site, particularly the extent to which the site is available and functioning properly. Polatoglu and Ekin (2001) find that the reliability dimension is an important factor for consumers who use electronic banking. Furthermore, Liao and Cheung (2002) find that reliability is positively related to the use of electronic banking.

A navigable website allows users to find the information they want and carry out their operations quickly (Hernández-Ortega *et al.*, 2007). Therefore, success on electronic banking requires the provision of adequate service products through a well designed website (Hernández-Ortega *et al.*, 2007). The website becomes the new sales outlet and the site represents the image of a bank (Hernández-Ortega *et al.*, 2007). An adequate electronic banking strategy must include the design and construction of a visible website on the internet that the users can navigate easily (Serrano-Cinca *et al.*, 2007). Electronic banking users expect the internet to offer many advantages that are not available in

traditional banking (among others, time saving, speediness and economic benefits) (Goi, 2007). All these advantages must be supported by a readily accessible and user friendly website (Hernández-Ortega *et al.*, 2007).

Website design is one of the most important channels of transmission for banks (Liao, Huang and Chen, 2007). Navigability refers to the usability and operability which a website must offer its customers (Hernández-Ortega *et al.*, 2007). The characteristics of navigability include ease of search, which reflects the websites capacity to help users to find the information they require (Huizingh, 2000). The fewer clicks necessary for a user to find an object, and the greater the navigability, the greater the increase is in users' satisfaction (Hernández-Ortega *et al.*, 2007). The ease of navigability increases the probability of obtaining loyal customers (Hernández-Ortega *et al.*, 2007). A poor website design may prevent users from finalizing the desired transaction, and consequently, they may not revisit the financial entity (Hernández-Ortega *et al.*, 2007).

2.3.5 Effects of Perceived Self Efficacy

Any new technology is usually picked up by the early adopters who have Internet access and knowledge about the facilities such as those provided by a bank on the Internet (Prasad and Arumbaka, 2009). However, some consumers do not know how to become an electronic banking user, and some consumers do not have the required PC skills and facilities needed to do electronic banking (Prasad and Arumbaka, 2009). Venkatesh *et al.*, (2003) ever considered three constructs of perceived self-efficacy, facilitating conditions, and behavioral intention would directly affect actual behavior. However, after empirically testing the three constructs at three time-points in their longitude study, they finally

verified that perceived self-efficacy did not play a determinant role in influencing the actual behavior. Through a further analysis, Venkatesh *et al.*, (2003) argued that self-efficacy was an indirect determinant captured by effort expectancy and fully mediated by effort expectancy. Therefore, they dropped self-efficacy from the direct determinant of behavior, which is also supported by (Venkatesh & Zhang 2010). Among electronic banking adoption researches, Brown *et al.*, (2003) supported self-efficacy was not a direct determinant in affecting individual behavior to adopt electronic banking, and Puschel *et al.*, (2010) supported self-efficacy was not a direct determinant in affecting individual intention to adopt electronic banking. Meanwhile, some mobile banking studies (Dasgupta *et al.*, 2011) supported perceived self-efficacy as a determinant in influencing people intention toward mobile banking adoption. The above discussion reveals a need to ascertain the role of self-efficacy.

Kim *et al.*, (2005) noted that some consumers have more ability to use banking technology and computer software for managing money than other consumers. Consumers with increased computation ability may adopt electronic banking more easily and their ability may also improve their efficiency in the use of electronic banking. In addition, they may need to invest less time and money to learn electronic banking (Kim *et al.*, 2005). Consumers who have no experience and skill in the use of banking technology and computer software may not recognize the benefits of electronic banking. However, these customers may hesitate to adopt electronic banking as they need to invest more time and money to teach (Kim *et al.*, 2005).

In Anakwe *et al.*, (2002) research paper, the authors show that general Internet skills of employees are related to the three indicators of Internet usage: daily use of the Internet, frequency of use, and participating in business activities such as marketing and communication. Thus, the more internet skills an employee has, the greater their daily use of the Internet; the more time they spend on the Internet, then the more activities (such as marketing and communication) they perform using the Internet (Anakwe *et al.*, 2002). Several researchers have discussed about the virtual requirement of computer ownership and operational skills for electronic banking adoption. For example, Centeno (2003) notes that electronic banking requires that the user must have a minimum level of Internet skills. This may explain why some older customers are hampered by a lack of computer skills and the need to be educated on basic Internet functions required to conduct electronic banking (Al-Alawi, 2005).

Black *et al.*, (2001) study revealed that the adoption of electronic banking depends on the compatibility of the new channel with the individuals' personality, computer skills, and the opportunity to try the service offered. Gerrard and Cunningham (2003) found that consumers who are non-adopters of electronic banking could be differentiated by their low (or poor) computation proficiency and computer skills. In Lichtenstein and Williamsons' study (2006), the authors point out that a person's Internet self-efficiency, such as Internet skill, will affect the decision whether or not to adopt electronic banking. Internet users generally expressed confidence in their ability to use the Internet – a confidence acquired from multiple positive experiences and acquired familiarity with the Internet channel (Lichtenstein and Williamson, 2006). The results show that the non-user

of electronic banking services have lower Internet skills, lack of access, and lack of experience (Lichtenstein and Williamson, 2006). Furthermore, Polatogu and Ekin (2001) reach a similar conclusion with Lichtenstein and Williamson (2006). The authors show that the consumers' knowledge and skills about the Internet and electronic banking are important to the adoption of electronic banking. If the knowledge and skills about the Internet and electronic banking are low, the adoption rate will low. The more knowledge and skills a consumer possesses about electronic banking, the easier it is for the consumer to utilize electronic banking (Polatogu and Ekin, 2001).

2.4 Theoretical Framework

The study adopts Technology Acceptance Model proposed by Davis *et al.*, (1989) the model explain why a user accepts or rejects information technology. Two mental beliefs are theorized by TAM: perceived usefulness and perceived ease of use. TAM proposed that perceived usefulness and perceived ease-of-use are both able to predict the behavioural intention to use a technology of users. Perceived usefulness is the extent to which an individual's expectation that the use of the technology will improve one's job performance whereas perceived ease of use is the belief that using the technology will be free of effort (Davis, 1989; Fusilier and Durlabhji, 2005). According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system. TAM also proposes that external factors affect intention and actual use through mediated effects on perceived usefulness and perceived ease of use. TAM appears to be able to account for 40 percent to 50 percent of user acceptance. TAM has evolved over time. TAM 2 extended the original model to explain perceived usefulness

and usage intentions including social influence (subjective norm, voluntariness, and image), cognitive instrumental processes (job relevance, output quality, and result demonstrability) and experience. The new model was tested in both voluntary and mandatory settings. The results strongly supported TAM 2 and explained 60 percent of user adoption using this updated version of TAM (Venkatesh & Davis, 2000).

Past studies (Pikkarainen *et al.*, 2004) indicate that the TAM has been tested in many studies and that its ability to explain attitude towards using information technology is better than other models. Consequently, various researchers have applied the TAM to predict customers' attitude towards Internet banking (Arunkumar 2008; Dahlberg 2006; Laforet & Li 2005; Walker & Johnson 2005) and cellphone banking (Gu, Lee & Suh 2009; Maduku & Mpinganjira 2012). Sharp (2007) attributes the success of the TAM and its prolific usage by IS researchers to the reality that: the TAM provides specific focus on information technology; has demonstrated validity and reliability; and has accumulated a research tradition. Polančič, *et al.*, (2010) add that the TAM's ability to be used in both adoption and post-adoption behaviour, has accounted for its wide employment in studying user adoption of information technology (IT).

Although there is overwhelming support in the literature regarding the suitability of the TAM in explaining user acceptance of various IT systems, Moon and Kim (2001) note that the TAM's fundamental constructs do not fully reflect the particular influences of technological and usage context factors that may alter the users' acceptance. Consequently, various studies on customers' attitude towards adopting e-banking (Al-

Somali, Gholami & Clegg 2009; Al-Sukkar 2005; Pikkaraine *et al.* 2004) have included factors such as trust, subjective norm, demographic variables, self-efficacy, and quality of Internet/mobile connectivity, culture, customers' awareness of the benefits, perceived playfulness and perceived enjoyment. This study, however, included demographic variables. The modification in the current study is other factors; perceived compatibility, perceived reliability and perceived self-efficacy.

2.5 Conceptual Framework

The study aim at establishing determinants of electronic banking adoption by customers in selected commercial banks in Eldoret Town, Uasin Gishu County, Kenya. These banks are Kenya Commercial Bank, Equity Bank, Cooperative Bank, Barclays Bank, Standard Chartered Bank, Transnational Bank, Paramount Bank, Oriental Bank, Credit Bank and Middle East Bank. The independent variables are; perceived usefulness, perceived ease of use, perceived compatibility, perceived reliability, and perceived self efficacy while the dependent variable is adoption of electronic banking.

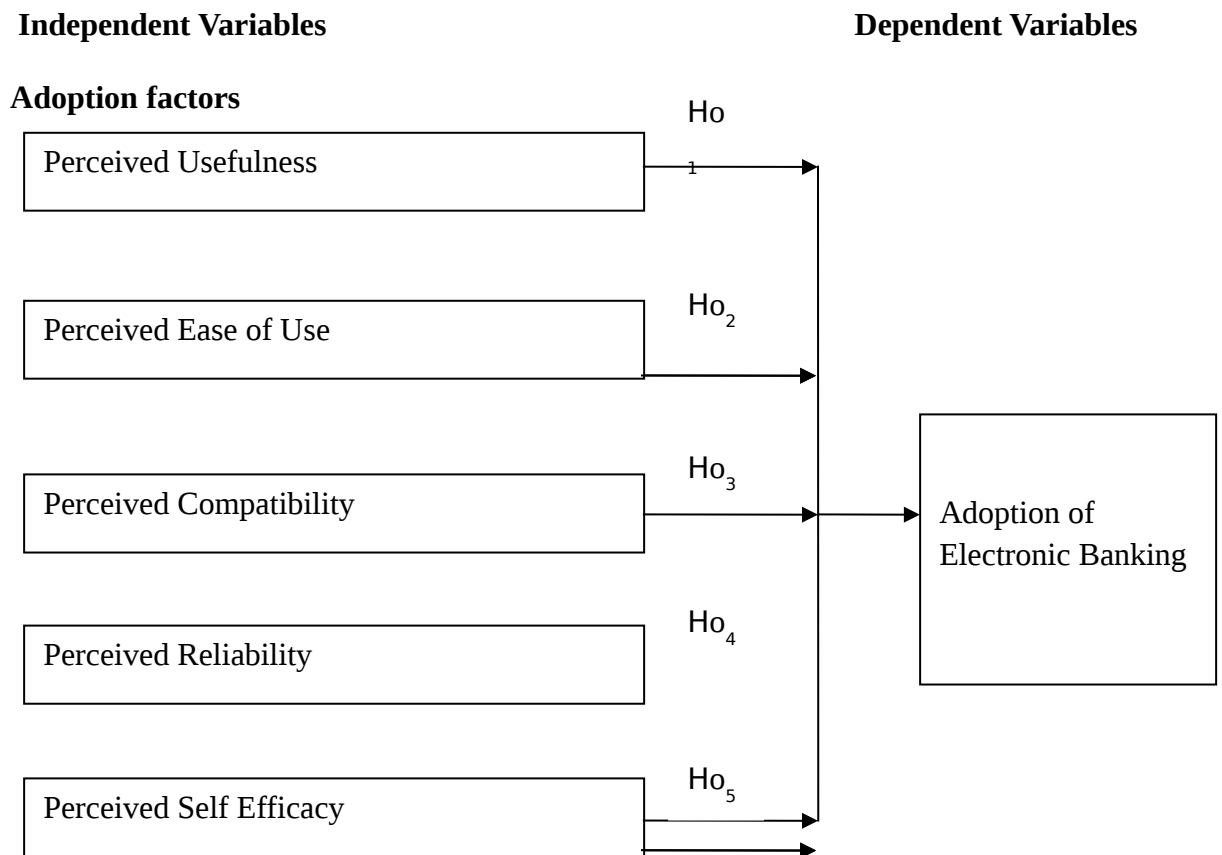


Figure 2.1: Conceptual Framework

Source: Researcher 2015

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter presents the research design, study area, target population, sampling procedure and sample size, data collection instruments and procedure, types and sources of data, data collection instruments, validity and reliability of research instruments, measurement of research variables, data analysis and presentation, ethical consideration and limitations of the study.

3.2 Research Design

A research design is a plan for selecting subjects, research sites, and data collection procedures to answer research question(s) (McMillan & Schumacher, 2006). The rationale for a research design is to help the researcher to plan and structure a research project in such a way that the eventual validity of the research findings is maximized through either minimizing or, where possible, eliminating potential error (Durrheim *et al.*, 2006). The study adopted explanatory research design. Explanatory study looks for explanation of certain relationship that exist between variables. The design was selected since it allowed the researcher to study relationship between adoption and non-adoption factors of electronic banking.

3.3 Study Area

The study was undertaken in Kenya Commercial Bank branches in Eldoret Town, Iten town and Kabarnet town. These branches are located in the capital towns of the three

major counties in the North Rift region, which are Uasin Gishu, Elgeyo Marakwet and Baringo counties respectively. This region was selected since most studies have not been carried out in this area.

3.4 Target Population

The target population for the study were customers from the selected Kenya Commercial Bank branches in North Rift: Eldoret Town, Iten and Kabarnet town. From the bank records, there are 34, 010 active bank customers; 22, 840 in Eldoret branch, 6720 for Iten branch and 4450 customers in Kabarnet branch.

Table 3.1: Target Population

Bank	Customer Base
KCB Eldoret branch	22, 840
KCB Iten Branch	6,720
KCB Kabarnet branch	4,450
Total	34,010

Source: Research Data (2015)

3.5 Sampling Procedure and Sample Size

The sample size was calculated using Krejcie and Morgan (1970) table for determining sample size from a given population (Appendix IV). From the table, sample size corresponding with 34, 010 were 380. Simple random sampling was used to select the respondents for the study. The data was collected from the customers seeking various services at KCB in the selected towns during the study period. The customers were selected randomly. The number of customers in each selected KCB branches was established using banks' records. Systematic sampling was used to select the respondents,

where the first respondent will be selected randomly and the subsequent was selected systematically based on the sample size.

Table 3.2: Sample Size

Bank	Customer Base	Sample Size
KCB Eldoret branch	22, 840	255
KCB Iten Branch	6,720	75
KCB Kabarnet branch	4,450	50
Total	34,010	380

Source: Research Data (2015)

3.6 Data Collection Instruments and Procedures

3.6.1 Types and Sources of Data

The researcher collected primary data from the customers of the selected commercial banks. An advantage of using primary data is that researchers collect information for the specific purposes of their study. In essence, the questions the researchers ask were tailored to elicit the data that helped them with their study. Primary data thus provided useful insights that may not be captured by secondary data. Quantitative data was collected since it can be subjected to statistical analysis.

3.6.2 Data Collection Instruments

Questionnaires were used to collect data from customers the selected commercial banks. Mugenda and Mugenda, (2003) observed that questionnaires are used to obtain descriptive information from a larger sample. It also ensures objective replies due to its confidentiality. They also help the researcher to compare responses given to different items and hence minimize subjectivity and makes possible to use quantitative analysis. The researcher used structured and unstructured questionnaire. The questionnaire used

five point Likert Scale ranging from Strongly Agree (SA) to Strongly Disagree (SD). The questionnaire was administered by the bank personnel due to their accessibility to the customers. This enabled them explain to the customers the purpose of the study; clarify meanings, interpretations and any other issues that came up.

3.6.3 Data Collection Procedure

The approval to carry out the research was obtained from the selected commercial banks before carrying out the research. The questionnaires were presented to the bank customers who were seeking various services from the banks. The researcher introduced herself to the respondents and request for their consent. The questionnaire was presented to them and collected either on the same day or as per the client's convenience.

3.7 Validity of Research Instruments

Validity is the degree to which a test measures what is supposed to measure, it is the accuracy and meaningfulness of inferences, which are based on research results (Orodho, 2004). Content validity was determined by making logical links between questions and the objectives of the study. Content validity is the extent to which the elements within a measurement procedure are relevant and representative of the construct (theory) that they were used to measure (Haynes *et al.*, 1995). The research instruments were also presented to the supervisors for their advice and the appropriate changes made before the study.

3.8 Reliability of Research Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. Reliability is influenced by random error. As random

error increases, reliability decreases. Random error is the deviation from the true measurement due to factors that have not been addressed effectively by the researcher such as coding, ambiguous instructions to respondents and bias (Mugenda and Mugenda, 2003). To ensure reliability of the instruments, a pilot study was conducted in Ecobank, Eldoret branch. Reliability of the questionnaire was estimated using the Cronbach's reliability coefficient, which is a measure of internal consistency (Fraenkel & Wallen, 2000). A reliability coefficient of 0.89 was obtained, which indicated that the instruments were reliable.

3.9 Measurement of Variables

The variables to be considered in this study are; usefulness, ease of use, compatibility, reliability and self efficacy. On usefulness; the customers rated electronic banking in terms of efficiency, convenience, speed, and financial control, organization of banking tasks, comfort, and information. The constructs used to measure ease of use were; time saving, mental effort, enjoyment, ease, information clarity and level of language, option of language choice. To measure compatibility; prestige, privacy, trust, ownership, effects on work performance, payment of utility bills, and effectiveness. To measure reliability, the customers rated the ease of correcting error, use of electronic banking to transact large sum of money, preference, level of trust on security, the trust of technology to prevent unauthorized transactions. On self efficacy, the customers were asked to rate their level of understanding, confidence, recommendation to other people, skills, and navigation of transaction.

3.10 Data Analysis and Presentation

The data was analyzed using descriptive statistics and inferential statistics with the aid of Statistical Package for Social Science (SPSS version 20.0). Multiple regression analysis was employed to test hypothesis, and to predict the relationship between dependent variable and independent variables (Hair, *et al.*, 2005).

The regression model was expressed as;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where;

Y = Adoption of electronic banking

α = Constant

x_1 = Perceived usefulness

x_2 = Perceived ease of use

x_3 = Compatibility

x_4 = Reliability

x_5 = Self efficacy

β = Coefficient of independent variable

ε = Error term

3.11 Ethical Consideration

The goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from research activities (Cooper and Schindler, 2001). Ethics refers to

discussions around what is considered acceptable or justifiable behaviour in the practice of social research. It is concerned with what is considered to be fair ways for the researchers to proceed (Makhanya 2006). A number of ethical issues will be observed during the study. The researcher will obtain permission from the authorities of the bank management. During data collection, the researcher will explain to the respondents the aim of the research and assure them of confidentiality of the information given. The researcher will only collect data from the willing respondents.

3.12 Limitation of the Study

The main limitation of this study was dealing with busy customers some of whom did not have time to fill the questionnaires, thus it was difficult to obtain sufficient information from such clients. The other limitation was non-response from some respondents who declined to fill the questionnaires.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The chapter presents research findings under the following sections; effects of perceived usefulness on adoption of electronic banking, effects of perceived ease of use on adoption of electronic banking, effects of perceived compatibility on adoption of electronic banking, effects of perceived reliability on adoption of electronic banking and effects of perceived self efficacy on adoption of electronic banking, adoption of electronic banking, correlation analysis and regression analysis.

4.2 Effects of Perceived Usefulness on Adoption of Electronic Banking

The first objective of the study was to determine the effect of perceived usefulness on adoption of electronic banking. The respondents were presented with Likert scale questions in which they were to rate the extent in which they agree or disagree with the statements presented. The statements were rated; strongly agree- 5, agree -4, undecided- 3, disagree- 2, and strongly disagree – 1. During analysis, the response on strongly agree and agree were sum up and presented as agree, while response on strongly disagree and disagree were summed up and presented as disagree.

The respondents 150(100%) agreed that using electronic banking improve their efficiency in bank transaction. Similar proportion also agreed that using electronic banking enables them to do their work conveniently. Majority of the respondents 135(90.0%) agreed that using electronic banking services allows them to accomplish more banking activities than would otherwise be possible, while 7(4.7%) disagreed. On the statement that using

electronic banking services enables me to accomplish banking activities more quickly, 145(96.7%) agreed and 2(1.3%) disagreed.

Majority of the respondents, 125(83.4%) agreed while 11(7.3%) disagreed on the statement that using electronic banking services gives me greater control over financial banking activities. Most of the respondents 142(94.4%) agreed that using electronic banking enables them to organize banking tasks, while 1(0.7%) disagreed. Similarly, 146(97.3%) of the respondents agreed that using electronic banking makes it easier to pay bills. On statement that I feel comfortable in changing and using electronic banking services for my financial activities, 132(87.8%) of the respondents agreed and 11(7.3%) disagreed. Similar proportion, 133(88.6%) agreed that the website offers them enough information to answer questions, as presented in table 4.1

Table 4.1 Response on Perceived Usefulness of Electronic Banking

Statements	Agree	Undecided	Disagree
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	F	%	F	%	F	%
Using electronic banking improve my efficiency in bank transaction	150	100.0	0	0.0	0	0.0
Using electronic banking enables me to do my work conveniently	150	100.0	0	0.0	0	0.0
Using Electronic banking services allows me to accomplish more banking activities than would otherwise be possible.	135	90.0	8	5.3	7	4.7
Using Electronic banking services enables me to accomplish banking activities more quickly.	145	96.7	3	2.0	2	1.3
Using Electronic banking services gives me greater control over financial banking activities.	125	83.4	14	9.3	11	7.3
Using Electronic banking enables me to organize banking tasks.	142	94.4	7	4.7	1	0.7
Using Electronic banking makes it easier to pay my bills.	146	97.3	1	0.7	3	2.0
I feel comfortable in changing and using electronic banking services for my financial activities.	132	87.8	7	4.7	11	7.3
The website offers me enough information to answer my questions.	133	88.6	5	3.3	12	8.0

Source: Research Data (2015)

4.3 Effect of Perceived Ease of Use on Adoption of Electronic Banking

The second objective of the study was to establish effects of perceived ease of use on adoption of electronic banking. All the respondents agreed that using electronic banking saves time. 123(82.0) respondents agreed that using electronic banking requires little mental effort while 19(12.6%) disagreed. On statement that using electronic banking services can be fun, 127(84.6%) agree and 10(6.7%) disagreed. Most respondents 137(91.4%) agreed that learning to operate electronic banking is easy, and 9(6.0%) disagreed.

The study established that electronic banking is an easy way to conduct a banking transaction as indicated by 144(96.0%) of the respondents who agreed and 2(1.3%) that

disagreed. Most of them 142(84.7%) also agreed information displayed on the screen during electronic banking is clear, well organized, unambiguous and easy to understand. Most respondents 115(76.7%) agreed that the electronic banking platform offers information in more than one language, as presented in table 4.2

Table 4.2: Response on Perceived Ease of Use of Electronic Banking

Statement	Agree		Undecided		Disagree	
	F	%	F	%	F	%
Using electronic banking saves me time.	150	100	0	0.0	0	0.0
Using electronic banking requires little mental effort.	123	82.0	8	5.3	19	12.6
Using electronic banking services can be fun.	127	84.6	13	8.7	10	6.7
Learning to operate electronic banking is easy for me.	137	91.4	4	2.7	9	6.0
Electronic banking is an easy way to conduct a banking transaction.	144	96	4	2.7	2	1.3
Information displayed on the screen during electronic banking is clear, well organized, unambiguous and easy to understand.	142	84.7	2	1.3	6	4.0
The electronic banking platform offers information in more than one language.	115	76.7%	24	16.0	11	7.3

Source: Research Data (2015)

4.4 Effect of Perceived Compatibility on Adoption of Electronic Banking

The third objective of the study was to assess the effects of perceived compatibility on adoption of electronic banking. Majority of the respondents 145(96.7%) agreed that Electronic banking allows them to carry out my business transaction conveniently and 2(1.3%) disagreed. 96(64%) agreed that using electronic banking services gives them more prestige among peers and 38(25.3%) disagreed. Most respondents 131(87.3%) agreed that they trust the ability of electronic banking to protect their privacy while

8(5.3%) disagreed. Likewise, 144(96%) of the respondents agreed that they feel a sense of personal ownership about the use of electronic banking.

Most of the respondents 141(94.0%) agreed that using electronic banking services improves their performance, and also 143(95.3%) agreed that using electronic banking increases their free time. The study also established that using electronic banking makes it easier to pay bills, as indicated by 143(95.3%) of the respondents who agreed and 1(0.7%) that disagreed. On statement that using electronic banking will enhance my effectiveness in my daily work, 143(95.3%) of the respondents agreed and 1(0.7%) disagreed, as indicated in table 4.3

Table 4.3: Response on Perceived Compatibility of Electronic Banking

Statements	Agree		Undecided		Disagree	
	F	%	F	%	F	%
Electronic banking allows me to carry out my business transaction conveniently.	145	96.7	3	2.0	2	1.3
Using electronic banking services gives me more prestige among my peers.	96	64.0	16	10.7	38	25.3
I trust the ability of electronic banking to protect my privacy.	131	87.3	11	7.3	8	5.3
I feel a sense of personal ownership about the use of electronic banking.	144	96	4	2.7	2	1.3
Using electronic banking services improves my performance	141	94.0	4	2.7	5	3.3
Using electronic banking increases my free time.	143	95.3	6	4.0	1	0.7
Using electronic banking makes it easier to pay my bills.	147	98.0	2	1.3	1	0.7
Using electronic banking will enhance my effectiveness in my daily work	142	94.7	3	2.0	5	3.4

Source: Research Data (2015)

4.5 Effects of Perceived Reliability on Adoption of Electronic Banking

The fourth objective of the study was to determine the effects of perceived reliability on adoption of electronic banking. The study established that majority of the customers 118(78.7%) believe that in the event that an error occur during electronic banking session, they are confident that the bank will be able to rectify the error and no erroneous transaction will be made. Most of the respondents 121(80.7%) agreed that if transaction involves a huge amount of money, they prefer to use electronic banking, while 24(16.0%) disagreed. Most respondents 131(87.3%) agreed that when it comes to performing transactions such as transfer funds, I prefer to do electronic banking rather than conventional banking, while 15(10%) disagreed. On statement that the current security

measures taken by banks to protect electronic banking transaction are sufficient, 133(88.7%) of the respondents agreed and 10(6.7%) disagreed. Majority of the respondents 135(90.0%) agreed that electronic banking is just as secure as conventional banking, while 10(6.7%) disagreed. similarly, 133(88.7%) of the respondents agreed that the bank provides the latest encryption technology to prevent unauthorized intrusion to electronic transactions, as indicated in table 4.4

Table 4.4: Response on Perceived Reliability of Electronic Banking

Statements	Agree		U		Disagree	
	F	%	F	%	F	%
In the event that an error occurred during my electronic banking session, I am confident that the bank will be able to rectify the error and no erroneous transaction will be made.	118	78.7	18	12.0	14	12.0
If transaction involves a huge amount of money, I prefer to use electronic banking.	121	80.7	5	3.3	24	16.0
When it comes to performing transactions such as transfer funds, I prefer to do electronic banking rather than conventional banking.	131	87.3	4	2.7	15	10.0
The current security measures taken by banks to protect electronic banking transaction are sufficient.	133	88.7	7	4.7	10	6.7
Electronic banking is just as secure as conventional banking.	135	90.0	5	3.3	10	6.7
The bank provides the latest encryption technology to prevent unauthorized intrusion to electronic transactions.	125	83.3	18	12.0	7	4.6

Source: Research Data (2015)

4.6 Effects of Perceived Self Efficacy on Adoption of Electronic Banking

The fifth objective of the study was to establish the effects of perceived self efficacy on adoption of electronic banking. The study established that most respondents 147(98.0%) found interaction with electronic banking to be clear and understandable, while 2(1.3%)

disagreed. 143(95.3%) of the respondents agreed that they are confident of using electronic banking to perform financial transactions, while 1(0.7%) agreed. Most respondents 142(94.6%) agreed that they will strongly recommend others to use electronic banking, while 2(1.3%) disagreed. 93(62.0%) agreed that they are very skilled at conducting electronic transactions, and 27(18.0%) disagreed. Almost similar proportion 82(54.7%) agreed that they consider themselves knowledgeable about good search techniques on the internet and 26(24.0%) agreed. On the statement that I know how to navigate financial electronic transaction platform, 77(51.4%) agreed and 46(30.0%) disagreed, as indicated in table 4.5

Table 4.5: Response on Perceived Self efficacy of Electronic Banking

Statements	Agree		U		Disagree	
	F	%	F	%	F	%
My interaction with electronic banking is clear and understandable.	147	98	1	0.7	2	1.3
I am confident of using electronic banking to perform financial transactions.	143	95.3	6	4.0	1	0.7
I will strongly recommend others to use electronic banking.	142	94.6	6	4.0	2	1.3

I am very skilled at conducting electronic transactions.	93	62	30	20.0	27	18.0
I consider myself knowledgeable about good search techniques on the internet.	82	54.7	32	21.3	26	24.0
I know how to navigate financial electronic transaction platform.	77	51.4	27	18.0	46	30.6

Source: Research Data (2015)

4.7 Adoption of Electronic banking

The dependent variable of the study was adoption of electronic banking by the bank customers who were the respondents in this study. The study established that most respondents 133(58.7%) agreed that they prefer using electronic banking over other available banking transactions while 9(6.0%) disagreed. On the statement that I use ATM because I access my accounts conveniently, 146(97.4%) agreed and 3(2.0%) disagreed. 140(93.3%) of the respondents agreed on the statement that I am willing to use electronic banking frequently, and 7(4.7%) disagreed.

Majority of the respondents 92(61.3%) disagreed with the statement that I use electronic banking as the last resort, and 34(22.7%) agreed. To the contrary, most respondents 129(86.0%) agreed to use electronic fund transfer to transact large amounts of money, while 13(8.7%) disagreed. On the statement that electronic banking is only for people with large sum of money to transact, 126(84.0%) disagreed with the statement while 19(12.7%) agreed. Most of the respondents 129(86.0%) agreed that they use mobile banking in paying utility bills, while 17(11.4%) disagreed.

Majority of the respondents 139(92.7%) agreed with the statement that that I will highly recommend my friends to use electronic banking, and 5(3.4%) disagreed. On statement

that I prefer using mobile banking in paying my shopping bills, 135(90.0%) of the respondents agreed and 5(3.4%) disagreed. Most respondents 113(75.3%) agreed that they use electronic fund transfer since it is cheaper compared to other international fund transfer, while 28(18.7%) disagreed, as indicated in table 4.6

Table 4.6: Response on Perceived Self efficacy of Electronic Banking

Statement	Agree		Undecided		Disagree	
	F	%	F	%	F	%
I prefer using electronic banking over other available banking transactions	133	58.7	8	5.3	9	6.0
I use ATM because I access my accounts conveniently	146	97.4	1	0.7	3	2.0
I am willing to use electronic banking frequently	140	93.3	3	2.0	7	4.7
I use electronic banking as the last resort	34	22.7	24	16.0	92	61.3
I use electronic fund transfer to transact large amounts of money	129	86	8	5.3	13	8.7
Electronic banking is only for people with large sum of money to transact.	19	12.7	5	3.3	126	84.0
I use mobile banking to in paying my utility bills	129	86.0	4	2.7	17	11.4
I will highly recommend my friends to use electronic banking	139	92.7	6	4.0	5	3.4
I prefer using mobile banking in paying my shopping bills	135	90	3	2.0	12	8.0
I use electronic fund transfer since it is cheaper compared to other international fund transfer	113	75.3	9	6.0	28	18.7

Source: Research Data (2015)

4.8 Correlation Analysis

Correlation analysis was conducted to establish the relationship between perceived usefulness and adoption of electronic banking. The results indicated a significant correlation ($r = 0.556$, $p = 0.000$) between perceived usefulness and adoption of electronic banking. Indicating that, customers consider the usefulness before adopting electronic banking. Correlation analysis indicated a significant relationship between perceived ease of use and adoption of electronic banking ($r = 0.551$, $p = 0.000$). Indicating that for electronic banking to be adopted by the customer, it should be

designed in a way that it is easier for the customers to undertake the transaction. Correlation results indicated a significant correlation between compatibility and adoption of electronic banking ($r = 0.403$, $p = 0.000$), but the relationship is weak.

The correlation results indicated a significant positive relationship between reliability and adoption of electronic banking ($r = 0.515$, $p = 0.000$). Indicating that, electronic banking services should be available whenever the customers need to use them. Correlation analysis indicated a significant, but a weak correlation between self efficacy and adoption of electronic banking ($r = 0.264$, $p = 0.001$). Indicating that, the customers' knowledge in navigating electronic banking operations affects their adoption, as indicated in table 4.7

Table 4.7 Correlations on the Variables

		Adoption
Adoption	Pearson Correlation	1
	Sig. (2-tailed)	
	N	150
Usefulness	Pearson Correlation	.556**
	Sig. (2-tailed)	.000
	N	150
Ease of use	Pearson Correlation	.551**
	Sig. (2-tailed)	.000
	N	150
Compatibility	Pearson Correlation	.403**
	Sig. (2-tailed)	.000
	N	150
Reliability	Pearson Correlation	.515**
	Sig. (2-tailed)	.000
	N	150
Self efficacy	Pearson Correlation	.264**
	Sig. (2-tailed)	.001
	N	150

Source: Research Data (2015)

4.6 Regression Analysis

The researcher performed regression analysis on the data.

4.6.1 Model Summary

The R square was 0.423, indicating that the variables considered in this study: perceived usefulness, perceived ease of use, compatibility, reliability and self efficacy predict 42.3% of adoption of electronic banking, and hence the remaining percentages are predicted by other factors that were not considered in this study, as indicated in table 4.8.

Table 4.8: Model Summary on Electronic Banking Adoption

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.650 ^a	.423	.403	.24780

Predictors: (Constant), Self efficacy, Reliability, Compatibility, Ease of use, Usefulness

Source: Research Data (2015)

4.6.3 Coefficients of the Variables

The coefficients indicate the prediction of individual variables on the dependent variables. The results indicates that perceived usefulness significantly ($\beta = 0.236$, $p = 0.010$) predict adoption of electronic banking. Perceived ease of use significantly ($\beta = 0.262$, $p = 0.003$) predict adoption of electronic banking. Perceived compatibility does not significantly predict adoption of electronic banking ($\beta = 0.121$, $p = 0.114$). Perceived reliability significantly predict adoption of electronic banking ($\beta = 0.211$, $p = 0.011$). Perceived self efficacy does not significantly predict adoption of electronic banking ($\beta = 0.039$, 0.586).

The t test indicates that perceived ease of use highly predict adoption of electronic banking ($t = 2.98$), followed by perceived usefulness, ($t = 2.615$), and perceived reliability ($t = 2.569$) least predict electronic banking adoption.

Table 4.9: Coefficients^a of the Independent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.453	.289		5.020	.000
Usefulness	.207	.079	.236	2.615	.010
Ease of use	.226	.076	.262	2.980	.003
Compatibility	.103	.064	.121	1.590	.114
Reliability	.116	.045	.211	2.569	.011
Self efficacy	.023	.042	.039	.546	.586

Source: Research Data (2015)

a. Dependent Variable: Adoption

The regression model;

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

Plucking in the β values for the significant variables (Perceived usefulness, perceived ease of use and reliability)

$$y = 1.453 + 0.207 X_1 + 0.121 X_2 + 0.226 X_3 + 0.116 X_4 + 0.116 X_5 + \epsilon$$

4.7 Hypothesis Testing

The hypothesis testing was based on regression results, the null hypothesis was tested at 5% significant ($p = 0.05$).

The first hypothesis (H_{01}) was that Perceived usefulness has no significant effect on adoption of electronic banking. Regression results indicated that perceived usefulness significantly predict adoption of electronic banking ($\beta = 0.207$, $p = 0.010$), and therefore the null hypothesis was rejected.

The second hypothesis (H_{02}) stated that perceived ease of use has no significant effect on adoption of electronic banking. The regression coefficients for perceived ease of use was ($\beta = 0.226$, $p = 0.003$), since p is less than 0.05, it indicates that perceived ease of use significantly affects adoption of electronic banking, hence null hypothesis was rejected.

The third hypothesis (H_{03}) of the study was that Perceived compatibility has no significant effect on adoption of electronic banking, the regression results was ($\beta = 0.103$, $p = 0.114$), the p value is greater than 0.05, and therefore it shows that perceived compatibility does not significantly affect adoption of electronic banking, hence the null hypothesis was accepted.

The fourth hypothesis (H_{04}) stated that perceived reliability has no significant effect on adoption of electronic banking. The regression coefficients results was ($\beta = 0.116$, $p = 0.011$). The p value is less than 0.05, indicating that perceived reliability significantly affects adoption of electronic banking; hence the null hypothesis was rejected.

The fifth hypothesis (H_{05}) was that perceived self efficacy has no significant effect on adoption of electronic banking, the regression coefficient results for self efficacy was ($\beta = 0.023$, 0.586), since p is greater than 0.05, the null hypothesis was accepted.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter presents summary of the findings under; effects of perceived usefulness on adoption of electronic banking, effects of perceived ease of use on adoption of electronic banking, effects of perceived compatibility on adoption of electronic banking, effects of perceived reliability on adoption of electronic banking and effects of perceived self efficacy on adoption of electronic banking. The chapter also includes conclusion and recommendations.

5.2 Summary of the Findings

5.1.1 Effects of Perceived Usefulness on Adoption of Electronic Banking

All the respondents agreed that using electronic banking improve their efficiency in bank transaction. Similar proportion also agreed that using electronic banking enables them to do their work conveniently. Majority of the respondents agreed that using electronic banking services allows them to accomplish more banking activities than would otherwise be possible. On the statement that using electronic banking services enables me to accomplish banking activities more quickly most respondents agreed.

Majority of the respondents agreed on the statement that using electronic banking services gives them greater control over financial banking activities. Most of the respondents agreed that using electronic banking enables them to organize banking tasks.

Similarly, most of the respondents agreed that using electronic banking makes it easier to pay bills. On statement that I feel comfortable in changing and using electronic banking services for my financial activities most of the respondents. Similar proportion, agreed that the website offers them enough information to answer questions concerning electronic banking transactions.

Correlation results indicated a positive relationship between perceived usefulness and adoption of electronic banking. Regression results also indicated that perceived usefulness significantly predict adoption of electronic banking. The results concur with (Munyoki, 2011) who conducted a study on challenges of e-banking adoption among the commercial banks in Kenya who established that customers perceived usefulness has a positive impact on adoption of electronic banking (Mean = 4.14). It also concurs with the findings by (Mishar, 2014) who conducted a study on an investigation of factors affecting usage and adoption of internet and mobile banking in Pakistan. The regression results for perceived usefulness was ($\beta = 0.559$, $p = 0.00$) in which the conclusion was that perceived usefulness significantly predict adoption of internet and mobile banking.

5.1.2 Effect of Perceived Ease of Use on Adoption of Electronic Banking

All the respondents agreed that using electronic banking saves time. Most respondents agreed that using electronic banking requires little mental effort. On statement that using electronic banking services can be fun, a larger proportion of responded agreed with the statement. Most respondents agreed that learning to operate electronic banking is easy.

The study established that electronic banking is an easy way to conduct a banking transaction as indicated by majority of the respondents who agreed. Most of them also agreed that information displayed on the screen during electronic banking is clear, well

organized, unambiguous and easy to understand. Most respondents agreed that the electronic banking platform offers information in more than one language.

Correlation analysis established a significant relationship between perceived ease of use and adoption of electronic banking. Similarly, regression results indicated that perceived ease of use significantly predict adoption of electronic banking. The results agrees with (Mishar, 2014), the study established that perceived ease of use significantly affects adoption of internet and mobile banking in Pakistan ($\beta = 0.663$, $p = 0.00$).

5.1.3 Effect of Perceived Compatibility on Adoption of Electronic Banking

Majority of the respondents agreed that electronic banking allows them to carry out their business transaction conveniently. A larger proportion of the respondents agreed that using electronic banking services gives them more prestige among peers. Most respondents agreed that they trust the ability of electronic banking to protect their privacy. Likewise, most of the respondents agreed that they feel a sense of personal ownership about the use of electronic banking.

Most of the respondents agreed that using electronic banking services improves their performance, and also majority of them agreed that using electronic banking increases their free time. The study also established that using electronic banking makes it easier to pay bills. On statement that using electronic banking will enhance my effectiveness in my daily work a larger number of the respondents agreed.

Correlation results indicated a weak positive relationship between perceived compatibility and adoption of electronic banking. Regression results indicated that

perceived compatibility does not significantly predict adoption of electronic banking adoption.

5.1.4 Effects of Perceived Reliability on Adoption of Electronic Banking

The study established that majority of the customers believe that in the event an error occur during electronic banking session, they are confident that the bank will be able to rectify the error and no erroneous transaction will be made. Most of the respondents agreed that if transaction involves a huge amount of money, they prefer to use electronic banking. Most respondents agreed that when it comes to performing transactions such as transfer funds, they prefer to do electronic banking rather than conventional banking. On statement that the current security measures taken by banks to protect electronic banking transaction are sufficient, most of the respondents. Majority of the respondents agreed that electronic banking is just as secure as conventional banking, similarly, most of the respondents agreed that the bank provides the latest encryption technology to prevent unauthorized intrusion to electronic transactions.

Correlation analysis indicated a positive significant relationship between perceived reliability and adoption of electronic banking. Regression results indicated that perceived reliability significantly predict adoption of electronic banking.

5.1.5 Effects of Perceived Self Efficacy on Adoption of Electronic Banking

The study established that most respondents found interaction with electronic banking to be clear and understandable. Most of the respondents agreed that they are confident of

using electronic banking to perform financial transactions. Most respondents agreed that they will strongly recommend others to use electronic banking. Majority of the respondents agreed that they are very skilled at conducting electronic transactions. Almost similar proportion agreed that they consider themselves knowledgeable about good search techniques on the internet. On the statement that I know how to navigate financial electronic transaction platform, most respondents agreed.

Correlation analysis indicated a significant positive relationship between perceived self efficacy and adoption of electronic banking. Regression results indicated that, perceived self efficacy does not significantly predict adoption of electronic banking. The results concur with findings by (Yu, 2012), on the study; factors affecting individuals to adopt mobile banking, the study established that, self efficacy does not play a determinant role in adoption of electronic banking.

5.2 Conclusion of the Study

The study established that perceived usefulness significantly affect adoption of electronic banking. Perceived usefulness was second in prediction of adoption electronic banking.

Perceived ease of use significantly affects adoption of electronic banking. From the results, perceived ease of use was the major predictor of adoption of electronic banking.

The results indicated that compatibility does not significantly affect adoption of electronic banking

The regression results indicated that reliability significantly affects adoption of electronic banking

The study established that self efficacy does not significantly affect adoption of electronic banking.

5.2 Recommendations of the Study

1. Perceived usefulness was found to affect adoption of electronic banking, the researcher recommend that in the design of electronic banking services, perceived usefulness should be emphasized.
2. The study established perceived ease of use as the major predictor of adoption of electronic banking. The banks should adopt the electronic banking services that are easily understandable to the customers.
3. The study established a positive correlation between adaptability and adoption of electronic banking. The researcher recommends the bank management to consider customers lifestyles and design electronic banking services that are amenable with customer's lifestyles.
4. Reliability of electronic banking was found to significantly affect adoption of electronic banking. The bank management should ensure that electronic banking services should not inconvenience the customers, since electronic banking is intended to avail 24 hours services.
5. The study established that there is a positive relationship between self efficacy and adoption of electronic banking. The researcher recommends that, in rolling out electronic banking services, the bank management should consider the target customers level of understanding of the new technology.

5.3 Suggestions for Further Studies

1. Future studies to consider other variables such as perceived trust and perceived playfulness
2. Similar studies to be done in different banks to allow for generalization of the findings.

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APPENDIX I: QUESTIONNAIRE

Introduction

I am a Post graduate student undertaking Master of Business Administration in the school of Business and Economics, Moi University. I am carrying out a study on determinants of electronic banking adoption in Kenya. You have been selected as one of the respondents in this study. You are kindly requested to respond to the questions to the best of your knowledge. The information given will be used for academic purpose only and that will be handled with utmost confidentiality.

SECTION A: USEFULNESS

Indicate the extent in which you agree or disagree with the following statements using 5 – Point Likert Scale.

(Key: 5 = SA-Strongly Agree, 4 = A-Agree, 3 = U-Undecided, 2 = D- Disagree, 1 = SD- Strongly Disagree)

Statement	5	4	3	2	1
	SA	A	U	D	SD
Using electronic banking improve my efficiency in bank transaction					
Using electronic banking enables me to do my work conveniently					
Using Electronic banking services allows me to accomplish more banking activities than would otherwise be possible.					
Using Electronic banking services enables me to accomplish banking activities more quickly.					
Using Electronic banking services gives me greater control over financial banking activities.					

Using Electronic banking enables me to organize banking tasks.					
Using Electronic banking makes it easier to pay my bills.					
I feel comfortable in changing and using electronic banking services for my financial activities.					
The website offers me enough information to answer my questions.					

SECTION B: EASE OF USE

Indicate the extent in which you agree or disagree with the following statements using 5 – Point Likert Scale.

(Key: 5 = SA-Strongly Agree, 4 = A-Agree, 3 = U-Undecided, 2 = D- Disagree,

1 = SD- Strongly Disagree)

Statement	5	4	3	2	1
	SA	A	U	D	SD
Using electronic banking saves me time.					
Using electronic banking requires little mental effort.					
Using electronic banking services can be fun.					
Learning to operate electronic banking is easy for me.					
Electronic banking is an easy way to conduct a banking transaction.					
Information displayed on the screen during electronic banking is clear, well organized, unambiguous and easy to read.					

The electronic banking platform offers information in more than one language.					
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SECTION C: COMPATIBILITY

Indicate the extent in which you agree or disagree with the following statements using 5 – Point Likert Scale.

(Key: 5 = SA-Strongly Agree, 4 = A-Agree, 3 = U-Undecided, 2 = D- Disagree, 1 = SD- Strongly Disagree)

Statement	5	4	3	2	1
	SA	A	U	D	SD
Electronic banking allows me to carry out my business transaction conveniently.					
Using electronic banking services gives me more prestige among my peers.					
I trust the ability of electronic banking to protect my privacy.					
I feel a sense of personal ownership about the use of electronic banking.					
Using electronic banking services improves my performance					
Using electronic banking increases my free time.					
Using electronic banking makes it easier to pay my bills.					
Using electronic banking will enhance my effectiveness in my daily work					

SECTION D: RELIABILITY

Indicate the extent in which you agree or disagree with the following statements using 5 – Point Likert Scale.

(Key: 5 = SA-Strongly Agree, 4 = A-Agree, 3 = U-Undecided, 2 = D- Disagree,

1 = SD- Strongly Disagree)

Statement	5	4	3	2	1
	SA	A	U	D	SD
I trust the ability of electronic banking to protect my privacy.					
In the event that an error occurred during my electronic banking session, I am confident that the bank will be able to rectify the error and no erroneous transaction will be made.					
If transaction involves a huge amount of money, I prefer to use electronic banking.					
When it comes to performing transactions such as transfer funds, I prefer to do electronic banking rather than conventional banking.					
The current security measures taken by banks to protect electronic banking transaction are sufficient.					
Electronic banking is just as secure as conventional banking.					
The bank provides the latest encryption technology to prevent unauthorized intrusion to electronic transactions.					

SECTION E: SELF EFFICACY

Indicate the extent in which you agree or disagree with the following statements

(Key: 5 = SA-Strongly Agree, 4 = A-Agree, 3 = U-Undecided, 2 = D- Disagree,

1 = SD- Strongly Disagree)

Statement	5	4	3	2	1
	SA	A	U	D	SD
My interaction with electronic banking is clear and understandable.					
I am confident of using electronic banking to perform financial transactions.					
I will strongly recommend others to use electronic banking.					
I am very skilled at conducting electronic transactions.					
I consider myself knowledgably about good search techniques on the internet.					
I know how to navigate financial electronic transaction platform.					

SECTION F: ADOPTION OF ELECTRONIC BANKING

Indicate the extent in which you agree or disagree with the following statements

(Key: 5 = SA-Strongly Agree, 4 = A-Agree, 3 = U-Undecided, 2 = D- Disagree,

1 = SD- Strongly Disagree)

Statement	5	4	3	2	1
	SA	A	U	D	SD
I prefer using electronic banking over other available banking transactions					
I use ATM because I access my accounts conveniently					
I am willing to use electronic banking frequently					
I use electronic banking as the last resort					
I use electronic fund transfer to transact large amounts of money					
Electronic banking is only for people with large sum of money to transact.					
I use mobile banking to in paying my utility bills					
I will highly recommend my friends to use electronic banking					
I prefer using mobile banking in paying my shopping bills					
I use electronic fund transfer since it is cheaper compared to other international fund transfer					

Thank you

APPENDIX II: PROPOSED BUDGET

EVENT/ITEM	QUANTITY		AMOUNT (Kshs)
A. Preparation of Research			
Printing of the proposal draft	6 copies	250	1500
Binding of the proposal draft	6 copies	400	2400
Printing of the final proposal	6copies	400	2400
Photocopying of final proposal	6 copies	250	1500
Internet services	2000 mbs		3000
B. Piloting			
Printing of the questionnaire	40 copies	20	800
Photocopying of the questionnaire	60 copies	20	1200
Stationery	-		3000
Travelling expenses and	-		5000
C. Collecting of Data			
Printing and photocopying of questionnaire/ stationery	400 copies	10	4000
Travelling and miscellaneous	-		12000
D. Preparation of project			
Printing and photocopying of draft	6 copies	400	2400
Draft project loose binding	6 copies	125	1500
Printing and photocopying of final project for final defense	6 copies	400	2400
Final project loose binding	6 copies	200	1200
Printing of corrected final project	6 copies	300	1800
Final project hand binding	6 copies	1000	6000
Total			52,100

APENDIX III: WORK PLAN (TIME)

ITEM	March- July 2015	July 2015	August 2015	September 2015	October / November 2015
Proposal Development					
Proposal Defense					
Data Collection					
Data Analysis and Interpretation					
Project Defense and Final Submission					

APENDIX IV: TABLE FOR DETERMINING SAMPLE SIZE

TABLE 1
Table for Determining Sample Size from a Given Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size.
S is sample size.

Source: Krejcie and Morgan (1970)