

**Factors Affecting the Adoption of Internet Banking by Public Institutions in the Education
Sector**

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University in Partial Fulfilment for the Degree of Bachelor of Commerce in Strathmore
University**

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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, the proposal contains no material previously published or written by another person except where due reference is made in the proposal itself.

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ABSTRACT

Internet banking adoption as digital banking service platform is actually on the rise globally as most of the population want a banking service that is more convenient to them as opposed to the traditional 'brick and mortar' system. The purpose of this study was to examine the factors affecting the adoption of internet banking amongst public institutions in the education sector. The researcher opted to use a research framework that employed three theories namely; Theory of Perceived Risk, the Technology Acceptance Framework and the Innovation Diffusion Theory. The study was conducted amongst city 10 city campuses located in the Nairobi Central Business District, where questionnaires were distributed to the relevant financial officers. The data collected was then analysed using Microsoft Excel and tables where such techniques as Descriptive Statistics and Multiple Regression analysis were used. It was discovered that 100% of the organizations had already adopted Internet Banking and they have subsequently continued using the service for their organization's banking needs. The models used only explain about 5% of the variance in internet banking probably because of the fewer number of respondents. The technology acceptance model was found to be a positive predictor of internet banking adoption, the perceived risk factors a negative predictor of internet banking adoption while the innovation diffusion factors a positive predictor of internet banking adoption amongst the public institutions located in the Nairobi CBD. When conducting the research, the researcher aimed to fill the gap existing on the factors that would affect the adoption of internet banking and continued usage of internet banking. Therefore, such policy makers as the government, the Kenya Bankers' Association and the Central Bank of Kenya should institute stringent measures to curb any form of cybercrimes in order to increase the consumption of the internet banking service even amongst other customers of commercial banks. The researcher therefore recommends that other studies be carried out using other behavioural models so as to be able to identify other factors that may affect the adoption of internet banking. This is because the overall models employed by the researcher in this study only explained about 5% of the total variance in internet banking adoption amongst public institutions in the education sector in Kenya.

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ABBREVIATIONS AND ACRONYMS

IB	Internet Banking
EFT	Electronic Funds Transfer
RTGS	Real Time Gross Settlement
CBD	Central Business District
TAM	Technology Acceptance Factors
IDT	Innovation Diffusion Factors

DEDICATION

I dedicate this project to my parents Mr. and Mrs. George Ogeto for always believing in me and all the sacrifices that they have made for me.

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I will forever remain grateful to God for his graces in my life and the gift of inspiration during this proposal writing period.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Introduction

In the recent years, the internet has become a critical factor when it comes to service delivery as it gives businesses the ability to automate their transactions. In Africa particularly, studies have shown it is the fastest growing region in terms of the internet (Mborokoh, 2016). The internet which is among some of the web technologies, has been seen to have the ability to transform business models, organizational structures and processes and the inter-relationships between the business and its customers, suppliers and other business partners (Debabroto Chatterjee, 2002). Most of the African countries according to Mborokoh, (2016) have shown that the usage of the internet in businesses has led to both social and economic gains. Banks, one of the businesses that belong to the information intensive industry have been influenced by the development of information technology in particular the internet.

Many banks have thus decide to be quick in implementing the internet's capabilities as for them it has now become a critical factor because it provides them with the chance to differentiate their products as well as serve their customers better . Following the increased use of the internet, banks have added a new distribution channel to retail banking; internet banking to offer their customers a variety of online services conveniently. According to (Kombe & Wafula, 2015) there are two ways in which banks can offer internet banking which is one of the financial innovations that most banks are now adopting. First, an already existing bank with physical branches can put up a website to offer an online banking platform to its customers in addition to the 'brick and mortar' delivery channel. Second a bank may be established purely online that is a virtual bank that can be operated on the customers' devices connected to the internet.

The internet has rapidly been gaining popularity as one of the potential mediums for e-commerce as it now poses threats as well as a new host of opportunities. Banks should thus strive to ensure that they a conduct risk analysis for the new financial innovations so as to avoid incurring unnecessary costs that would affect them negatively (Ndungu & Okiro, 2013). Most countries, Kenya being one of them are now using the internet as an alternative channel in delivery of service in most sectors of the economy, the banking sector being one of them. Banks are now considering the internet as a strategic weapon that will change the way they operate,

deliver and also the competition against each other (C., 1997). Internet banking services are going to become crucial for the long-term survival of commercial banks because industry level changes will now push more banks in that direction. Those that will fail to respond to these changes are likely to lose their customer base (B., 1998).

Mutisya “Cybercrime losses surge above shs20 billion”, (2018) Online banking has redefined the relationship between the bank and their customers as opposed to the traditional ‘brick and mortar’ system where the bank’s information system was only accessible by the bank’s staff. This has been changed by online banking because now customers can access the bank’s information system provided they have devices connected to the internet and perform transactions such as paying their utility bills, checking their balances and funds transfers as per the needs of the accounts holder etc. Customers’ needs are increasing and they need to be met in order for a bank to remain relevant. They expect accuracy, security, transaction speed, user-friendly web pages and convenience as the most important attributes in perceived usefulness of internet banking. Moreover, the massive growth of smartphones makes it easier for banks to come up with collaborations between them and mobile service providers to serve their clients better (Ndungu & Okiro, 2013).

Research shows that despite all this efforts by banks to offer internet banking to their clients with all the advantages that comes with it, many retail customers have still not considered adopting it as compared to other technology based delivery channels such as mobile banking (Ndungu & Okiro, 2013). Human behaviour generally takes time to change. In as much as internet banking is quite a good bargain for banks in that they will save on costs of opening new branches. They need to identify the factors that are of vital importance to their customers and subsequently avail the cost effective services (Pallab Sikdar, 2014). Banks could maybe integrate interpersonal services and internet banking that would be essential in customer satisfaction (Rotchakimnatua & Speece, 2003). This study thus aims to determine the extent of adoption of financial innovations by public institutions in the education sector.

1.1.1 Evolution of Banking in Kenya

In Kenya, the financial journey dates back to the pre-colonial period where the pioneering banks only concentrated on financing international trade along the Europe, India-South Africa axis (Central Bank of Kenya, 2017). Soon enough, after they realised there was a growing

settler farming community the operations of the financial institutions was diversified to provide deposit and credit facilities. The first bank in Kenya was established in 1986 which was the National Bank of India and later the Standard Bank of South Africa came into being. It later on merged with the Anglo-Egyptian Bank Ltd to become Barclays Bank in 1926. The merger opened up for many other banks until the year 1968 when Kenya's first locally owned bank was established (Juma, 2015).

In Kenya, as at 2017 according to the Cytonn Banking Sector Report, there are a total of 40 commercial banks, 2 under receivership and 1 housing finance company (Cytonn Investments, 2017). Out of all the banks in Kenya, 31 are by the locals while 12 are foreign (Ndungu & Okiro, 2013). The banking sector in Kenya has undergone changes from the early times when it was a traditional system that entailed barter trade where people used to trade goods for goods (Banking in Kenya, n.d.). When the monetary system was introduced, the banks found it imperative to store the money thus the introduction of branches with safes. This system mainly involved the collection deposits and lending and customers would have to avail themselves to the banks physically in order to perform a transaction.

It was followed by the introduction of electronic banking which dates back to the 1970's (Maiyo, 2009). This changed with the introduction of agents and Automated Teller Machines such that a customer does not have to go the bank to transact (Mwaniki, 2016). However, a study noted that due to the increased number of mobile phone users, particularly the low income earners who could not hold accounts with banks prompted the development of Kenya's first mobile banking platform M-Pesa (Kenya Bankers Association, 2014). In March 2007, M-Pesa was launched by Safaricom, Kenya's telecommunications giant (Joseph, 2017). Internet banking which involves purely online transactions has also been present in Kenya from the early 2000's, however the number of online customers is very low (Njuguna, et al., 2012). Its development was prompted due to the fast growing internet population in Kenya. A bank thus offers banking services to their clients over an internet banking platform but at the convenience of the client (Ndungu & Okiro, 2013).

1.2 Problem Statement

Although internet banking has been in existence in Kenya since early 1990's (Njuguna, et al., 2012) it is quite evident that most customers are still reluctant to use internet banking services. Despite the range of benefits internet banking can offer a customer, a large population is still

not convinced when it comes to the using the internet to perform their daily banking transactions.

Traditional branch based retail banking remains as the most used method by customers in conducting banking transactions with mobile and agency banking that was adopted recently and even beating the traditional system to become the most widely used (Andrew, 2009). Banks want to shift from paper based operations to the electronic system rather than the costly branch offices to deliver services to their customers (Sundaram & Premalatha, 2014). By March 2019, Africa's internet penetration rate was at 11.2%, with that of Kenya being at 83% (Miniwatts Marketing Group, 2019). This shows that Kenyans use the internet more as compared to other developing countries in Africa. But this is not the case when it comes to internet banking as only 16% have adopted it for use in their banking transactions (Kenyan Bank Customers Prefer Human Tellers over Robots and Chatbots, 2019). For the clients they will perceive such an innovation as effective if they are satisfied (Rotchakimnatua & Speece, 2003).

Most of the studies done in Kenya (Njeru, Analysis of the factors influencing customer adoption of internet banking in nairobi, 2017) (Kamwibua, 2017) (Oluoch F. M., 2017) only focus on retail customers and the factors that affect their internet banking adoption. These studies are also focusing on certain banks or regions only. In like manner, studies done outside Kenya (Mborokoh, 2016) (Sundaram & Premalatha, 2014) (Alam, Musa, & Hassan, Corporate Customers' Adoption of Internet Banking: Case of Klang Valley Business Firm in Malaysia, 2009) are all focusing on retail and corporate customers from either a single location, firm or bank. A few researchers have advanced their study in the area of corporate customers as they are concerned with the safety aspect of internet transactions (Alam, Musa, & Hassan, Corporate Customers' Adoption of Internet Banking: Case of Klang Valley Business Firm in Malaysia, 2009). As a result of the increased cybercrimes and knowing that most of this cyber-attacks target the banking sector, a total of shs7 billion was lost according to the 2017 Kenya Cybersecurity Report, Mutisya "Cybercrime losses surge above shs20 billion", (2018) this in itself makes it hard to convince corporate customers to adopt internet banking fully. They are scared that the costs of switching to internet banking may not be as low as stipulated by banks in case where a cybercrime leads to substantial losses during online transactions. Convenience of this online transactions may lead to their adoption, but the major concerns are perceived risks and benefits and challenges that may affect the extent to which corporate customers have adopted IB. A good number of corporate customers transacting over the internet through both

Electronic Fund Transfers and Real-Time Gross Settlements. This funds transfer systems may be faced by such threats as cyber-attacks, data corruption, hardware and software component failures and natural disasters that would lead to downtimes that which may make a corporate customer to reject the innovation (Swift, 2014).

Despite the amount of benefits that internet banking can offer a customer, it still remains widely unused by customers. The reason in itself should prompt banks to look at some of the issues that would affect their customer's decisions to adopt IB and continue using .This study therefore aims to gain a deeper understanding of the factors that would influence internet banking adoption by corporate customers in Kenya while looking at the extent of IB penetration, risks and benefits from a corporate customer's point of view amongst the parastatals under the Ministry of Education.

1.3 Research Objectives

1.3.1 General Objective

To determine the factors affecting the adoption of internet banking by public institutions in the education sector.

1.3.2 Specific Objectives

1. To determine the extent to which technology acceptance factors affects the adoption of internet banking by public institutions.
2. To determine the perceived risk factors and how it has affected the adoption of internet banking by public institutions.
3. To establish the benefits and challenges that public institutions in the education sector have encountered in their adoption of internet banking.

1.4 Research Questions

1. How has technology acceptance factors affected the extent of adoption of internet banking by public institutions in the education sector?
2. How has perceived risk factors affected the extent of adoption of internet banking by public institutions in the education sector?
3. What are the benefits and challenges already associated with the adoption of internet banking and whether it has affected the extent of adoption?

1.5 Scope of the Study

This study will focus on the public institutions under the education sector which are located in Nairobi as at 2019.

1.6 Significance of the study

This study is of importance to the Kenyan banks as it will them understand the reasons why most corporate customers have not yet adopted internet banking. Banks will now have the ability to know how to market their products for corporate customers. In light of the above, banks will now know what considerations to have in mind when they are formulating their short-term and long-term strategies when it comes to technological innovations. Policy formulating bodies such as the Kenya Bankers Association will also be able to know what affects the banking sector in terms of internet banking and institute policies to protect corporate customers and other consumers in general.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

In this chapter, the relevant theories that intend to explain the factors affecting the adoption of new technology in Kenya and in various other countries across the world. It was then followed by a discussion of the key variables and how they relate with one another, the research gap(s), a brief discussion of the variables and lastly the chapter summary.

2.2 Theoretical Framework

A number of models have been used to explain user acceptance of new technologies and the actual usage of these technologies (Taherdoost, 2018). The models employed in this study were: Technology Acceptance Model (TAM) and the Perceived Risk Theory.

2.2.1. Technology Acceptance Model

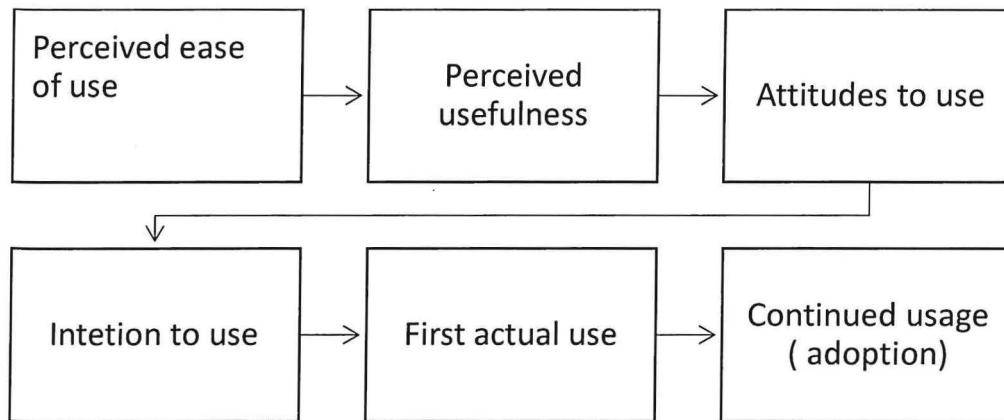
The Technology Acceptance Model was developed by Davis in 1989 (Surendran, 2012) and it is used to explain and predict how well an individual will accept a new technology. The technology acceptance model was derived from the Theory of Reasoned Action which proposes that the intent to perform (behavioural intention) and individuals' attitudes prompts the social behaviour.

In this model, there are two factors that could shape the attitudes in regards to the acceptance of a technology- perceived ease of use and perceived usefulness of the system. Perceived usefulness has been defined by Davis as the potential user's impressionistic probability that if they use a system then it will end up making their life or job performance easier. The perceived ease of can be interpreted as the degree to which the potential user expects the system to be effort free - convenient. These factors are prompted by other external variables and they include: social, cultural and political factors. User attitudes have to do with their assessment of the fascination to use a particular information system (Surendran, 2012) (Lules, Omwansa, & Waema, 2012).

The model is crucial in the study because the constructs of the theory can be applied in different circumstances due to its closeness and predictive power (Guriting & Ndubisi, 2006). Pragmatically the TAM model has been used in sections where a researcher finds it best to

employ either of the two fundamental constructs of the model. The constructs presented in this model will be used in the conceptual framework to project their results on the adoption of internet banking amongst listed banks in Nairobi.

Figure 2-1: Technology Acceptance Model



Modified version of TAM (The Literature Review of Technology Adoption Models and Theories for the Novelty Technology, 2017).

2.2.2 Theory of Perceived Risk

This theory was developed by Raymond Bauer in 1960 and it is grounded on the idea that any consumer purchase behaviour involves risks, they are either taking or reducing risk. According to (Bauer, 1960), there are two cardinal elements – one relating to uncertainty and another associated with consequence (Liao, Lin, & Liu, 2010). Bauer further argued that an individual's actions involves risks if their behaviour will lead to consequences that they cannot predict with anything corresponding to certainty and some which probably unpalatable. Therefore, perceived risk in internet banking has been defined as the personalized determined expectation that a loss will occur when performing a transaction online (Karimi, 2017).

Most of the researchers have described risk as a multi-dimensional approach with facets consisting of social, psychological, privacy, time-loss/opportunity, physical, performance and financial aspects (Cunningham, Gerlach, Harper, & Young, 2005). The physical threat aspect will not be applied in this study as internet banking does not harm individuals physically. The facets of risk will be discussed below as:

Social risk according to (Clemes, Gan, & Du, 2012), is about the possibility that if an individual uses internet banking then it may result to reproof from one's social circles. This is because it can be that the societies have different perceptions, either positive or negative, that affect their attitudes towards those who decide to adopt internet baking. The privacy risk on the other hand is that where cybercrime issues come into play, a hacker may gain unauthorized access to a bank's online system and illegally acquire information relating to the online bank's customers. That information could be used to commit fraud such as stealing funds from the customers and in turn result to significant loses (Clemes, Gan, & Du, 2012).

Performance risk can be referred to as the unanticipated system breakdowns that would cause the internet banking systems to become ineffective. This risk leads to the time-loss risk as now a customer's transactions, if urgent, will not be performed with the urgency that they deserve. It leads to inconveniences and also the time that would be spent in learning how to operate the online systems (Mitchell, 1992). In the case that something goes wrong when an individual is transacting online, frustration is inevitable, psychological risk comes into play here as a customer's morale may be affected. An individual's self-image does not portray consistency with the results from an online transaction (Chen & He, 2003).

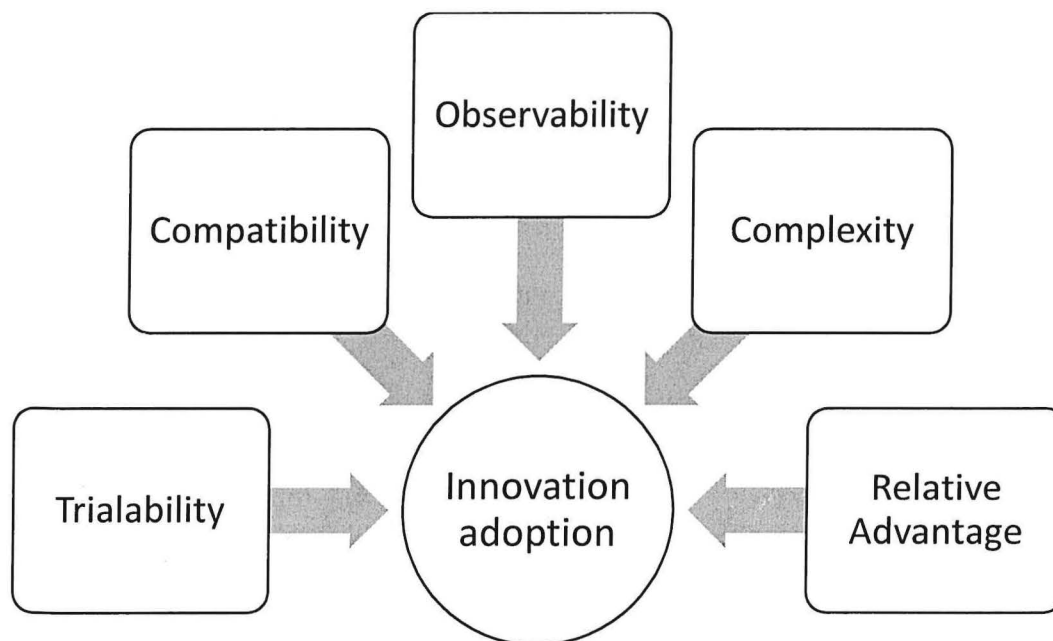
Lastly, financial risk that can be explained as the probability of losing money as a result of transaction failures or cyber thefts. Presently, banks or even the units in charge of cybercrime in Kenya have not been able to come up controls to deal with cyber thefts so it is one the major drawbacks that affects customers' decisions when it comes to internet banking (Oluoch F. M., 2017).

2.2.3 Theory of Innovation Diffusion

This theory was founded by E.M. Rogers in 1962 and it is used to explain how a new product or proposition spreads over time in a specific society. In the end, if the members of that society think of it as innovative, then they will use it (LaMorte, 2018). Rogers suggests that there are five constructs that will contribute to the rate in which the innovation will spread. They are compatibility which can be explained as the extent to which the idea is considered to be in line with the prospective customer's current needs, values and previous experiences. Trialability on the other hand is the degree to which the innovation can be explored on a restricted basis. Observability can be associated with how individuals visualize the results – the upsides and

downsides. Complexity is the perceived difficulty of using the innovation and lastly relative advantage which is the notion that the innovation is better than all other alternatives (Lee, Hsieh, & Hsu, 2011).

Figure 2-2: Innovation Diffusion Model



2.3 Empirical Review

2.3.1 Technology Acceptance Factors and the Technology Acceptance Module

Studies have shown that the perceived ease of use and usefulness are the most integral factors that affect customers' decisions to adopt internet banking. Some studies even suggest the extent to which an organization will employ web services is influenced by the management's attitudes, knowledge issues and resource constraints. The negative attitudes of managers may make them oppose change thereby they do not see the need to commit resources to aid in the development and usage of the new innovations - hardware, software and even funds (Rotchakimnatua & Speece, 2003). The extent of penetration will depend on the internet banking modules that the corporate customers would choose for their organization. According to the Danske Bank Group, they have three basic covers which include the accounts information which allows the customers access to their account balances and any other information relating to their transactions for up to 2 years; the payments module for internal transfers, local and foreign payments; thirdly the file transfer module that allows sharing of

files between the bank and the customers. The other modules will be chosen to suit the organization's needs and they are the collection services, trade finance, markets online trading, liquidity management and corporate cards modules (Danske Bank Group, 2019).

Additionally, Alam, Musah, & Hassan, "Corporate Customers Adoption Of Internet Banking", (2009) opted to go for the some of the factors in the TAM model to gain a deeper understanding of the considerations that organizations, will have in mind when making the decision on whether or not to opt for internet banking services to satisfy their banking needs. Their study found out that the perceived ease of use which is one of the constructs in the TAM framework, is a crucial factor from a customer's perspective that will influence their decision on whether or not to adopt the new and innovative internet banking service, how frequently they will use IB and to what extent. The individual that has been empowered by the organization to perform either the EFT or RTGS, should find it easy to perform the online transaction.

Al-Hyari and Alnsour, (2011) mentioned in their study that 'the greater the perceived ease of use and perceived usefulness, then the greater the chances that individuals will form positive attitudes about the innovation and the greater the chances that they will adopt the innovation and continued usage. It was also found out that, for an institution which will normally be represented by the organization's managers, the perceived usefulness is greatly affected by the trust they have in the bank and its online banking system. Trust in this context will normally be influenced by the manager's security concerns. Alam, Musah, & Hassan "Corporate Customers Adoption Of Internet Banking", (2009) found out that a large proportion of corporate customers already used internet banking over the traditional branch-based banking (91.47%). The customers in this case had most of the necessary requirements so IB was convenient for them. These findings also suggest that knowledge constraints are not a significant factor that would affect the customers' decisions. As it was discovered that about 48.87% of the study's respondents knew of internet banking through print media and about 41.70% from mass media advertisements. This study will thus try to establish the extent to which public institutions are using IB as a financial innovation.

2.3.2 Online Transactions Perceived Risk Factors and the Perceived Risk Theory

A study in Australia established that security concerns were found out to be the main factors that contributed to the slow growth of internet banking in the country. Similarly in Kenya (Gikonyo, 2014) states that the improvement of the security of the internet banking system could actually boost its adoption in Kenya. The assumptions made in this study is that social risks, privacy risks, performance risks, psychological risks and lastly financial risks would influence corporate customers' internet banking adoption decisions negatively. The reason being that if security breaches occur, it would lead to losses in terms of finances and maybe even an organization's resources such crashed operating systems (Rotchakimnatua & Speece, 2003). Financial risks will thus affect the customers' decisions to adopt internet banking negatively. The customer, would consider the existence of such factors as well established telecommunications systems, operational efficiency levels - costs and revenues, legal and commercial infrastructure to determine if they can adopt and continue incorporating the IB system as an additional banking channel (Jaruwachirathanakul & Fink, 2005).

According to Alam, Musa, & Hassan "Corporate Customers Adoption Of Internet Banking", (2009) perceived risks related to security, financial, performance and physical risks were found out to be the main cause lower internet banking penetration among customers. In the case of internet banking, lack of clearly defined legal support issues, may make the customers lack confidence in any of the bank's IB platform. The customers will become hesitant to adapt the system fully as for them it poses a huge risk which they are not assured compensation for. Rotchakimnatua & Speece, (2003) acknowledged that there is just too much at stake. The privacy risks affects corporate customers' adoption decisions negatively.

On the other hand social risks may either affect the customers' decisions to adopt internet banking positively or negatively. The probability that a manager would actually consider using internet banking for their organization's banking needs might be influenced by the fact that another organization uses and it is working for them (Clemes, Gan, & Du, 2012). They would not consider it if it is not being used by other organizations surrounding them. For many Kenyan banks involved, the risks are just too many as the benefits that banks may perceive for the customers are not what the customers perceive. It is thus critical for banks to understand the risk behaviour of their customers so that they can offer their products in a way that would result to a win-win situation for both themselves and their prospective customers (Njuguna, et al., 2012).

2.3.3 Innovation Diffusion Model and the Benefits and Challenges of Internet Banking

The innovation diffusion factors will affect the adoption of internet banking as one of the financial innovations by customers. The range of IB services that customers use will thus depend on the amount of benefits and challenges that the customers come across. Customers are already using IB for cash and account management services, loan applications, business to business payments and commercial wire transfers. This for them has amounted to a number of benefits considering that they are transacting a large amount of funds. Some of the benefits include:

For customers, their relative advantage would be convenience as the major benefit since customers can perform every transaction using their organization's computers without going to a physical branch. For instance, if the customer wants to make account transfers, loan applications, or check account activity etc, they can do it at any time of the day (Ndungu & Okiro, 2013). On the other hand, it allows for improved productivity in the organization such that, the employee who have been empowered to act for the organization can automate regular monthly expenses, so it results to saving of time since you will not have to do the same process time and again. Additionally, it leads to lower costs as compared to branch-based banking because in the case commercial wire transfers, if the customer went to a teller and they required more assistance, then the customer would have to pay for this service. Since internet banking will also allow the customer to review their account activity, chances are that errors in this case will be minimised and lastly it will curb fraud in the organization as employees will not be able to modify the system without alerting the management (Money and Banking: E-Banking, n.d.). Karimi, (2017) in her study found out that relative advantage at 80% is one of the major factors that affected the adoption of internet banking. Hence, for customers to adopt IB, then it should have benefits that surpasses that of alternatives, they should be given the chance to try it and if they observe its usefulness then the customers would be willing to adopt IB.

Challenges on the other hand majorly relate to the IB platform operational risks which would affect the relative advantage and observability constructs negatively. In their findings Driga & Isac, (2014) stipulated that although banks have beefed up their security systems, phishing and pharming still remain a problem. Alam, Musa, & Hassan "Corporate Customers Adoption Of Internet Banking", (2009) discovered that 82.06% of corporate customers in Klang Valley area felt much more when using IB. The customer also considers the availability of the necessary information technology resources and if employees have been trained on how to use them.

Complexity was not seen to be a major factor that would affect IB adoption as 85% of the respondents disagreed that it was complex (Karimi, 2017).

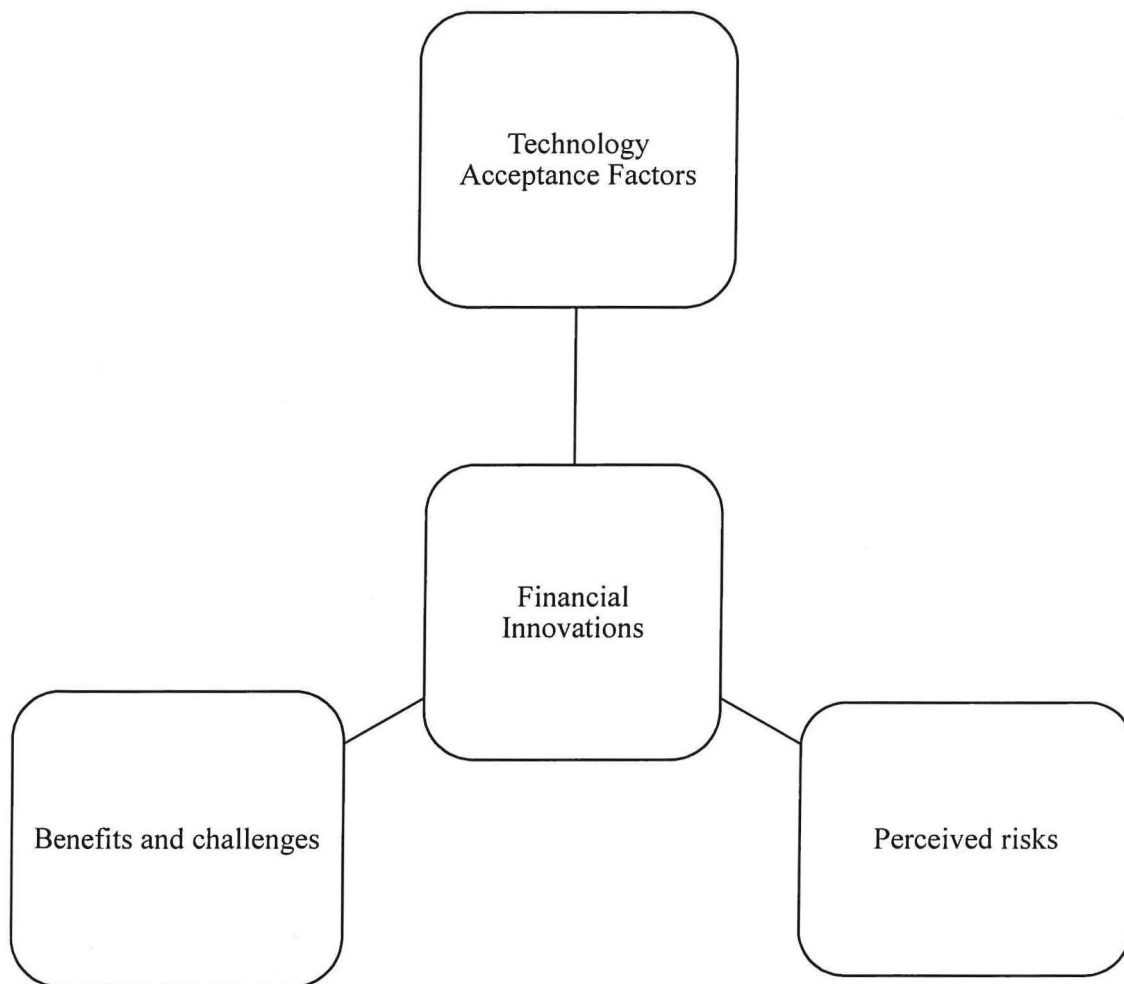
2.4 Research Gap

Until now there has been little research in Kenya and the world at large looking into the factors that would affect customers' decisions in adoption of internet banking. According to Alam, Musa, & Hassan, "Corporate Customers Adoption Of Internet Banking", (2009) a large proportion of corporate customers would deem it best to use internet banking instead of the traditional branch-based retail banking in Klang Valley, Malaysia. But this customers were mostly locally owned firms and relatively small in size. For most of them, they perceived internet banking as a system that would benefit them as they already had access to the internet and knowledge about the existence of the financial innovation. Still in the same case of Klang Valley, (69.95%) of the corporate customers showed that they would switch to the internet banking system if the local banks offered the service. The study was conducted in 2009 and it has been a decade since then and a lot has changed in terms of technological advancements.

In Kenya, most of the studies focus only on retail customers and on how internet banking has impacted on the performance of banks. This study however seeks to understand what aspects of internet banking would influence the way customers' in particular the public institutions under the education sector perceive the innovation and their extent of adoption. Banks ought to take the security of their internet banking systems into serious consideration (Alam, Musa, & Hassan, Corporate Customers Adoption Of Internet Banking, 2009). They should also try to raise concerns to the bankers' associations to draft legal issues related to cyber thefts. This might help encourage customers to deepen the use of the service as they have some assurance that in case a cyber-attack occurs, they will at least be compensated for any loses that could occur (Mutisya, Cybercrime losses surge above shs20 billion, 2018). For the corporate customers themselves, to encourage them to continue using the internet banking system, banks should try to understand the customers' concerns and coming up with products that match their customers' needs. They can also try to ensure that for the customers costs involved in online transactions are relatively lower as compared to those involved in branch-based banking (Alam, Musa, & Hassan, Corporate Customers Adoption Of Internet Banking, 2009).

2.5 Conceptual Framework

Figure 2 – 3



Source: Author (2019)

Dependent variable

Financial innovations

Independent variables

Benefits and challenges of IB as a financial innovation from the customers' perspective

Perceived risk factors

Technology acceptance factors

2.5.1 Discussion of the Variables

The suggested models comprise of three sets of independent variables and one dependent variable. The technology acceptance model has looked into two variables: perceived ease of use and perceived usefulness, they seek to explain the attitudes the adoption of internet banking among corporate customers – while paying specific attention to all the parastatals under the Ministry of Education (Huang, 2009). The theory of perceived risk on the other hand seeks to explain how the several risk constructs affect the customers' decisions to adopt internet banking. They include: perceived social risks, perceived privacy risks, perceived performance risks, perceived time-loss risks, perceived psychological risks and lastly perceived financial risks (Lingying Zhang, 2009). As a general overview, the benefits and challenges of adoption of IB by corporate customers will also discussed.

The dependent variable is influenced by the independent variables. The perceived risk factors that in turn make individuals or organizations to decline the adoption of the web-based services as they lack clearly defined legal support services- what happens when they are attacked by cyber thieves that ends up resulting to substantial losses (Guriting & Ndubisi, 2006). The dependent and independent variables will be measured using the Five-Point Likert Scale.

2.6 Conclusion

To sum up with, this study suggests to look into two crucial models that would help to explain the factors influencing customers' decisions to adopt internet banking. The study will also seek to understand the benefits and challenges that customers have encountered that would affect the extent to which they have adopted internet banking.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter intends to explain how data relevant to the study was collected and examined in order to realize the study's objectives. It is thus divided into the research design, population and sampling methods, data collection methods, data analysis techniques and the ethical considerations in data collection.

3.2 Research Philosophy

It constitutes beliefs about the development of knowledge in a specific study area (Saunders, Lewis, & Thornhill, 2009). A researcher will try to transform their beliefs and assumptions into known ideas. The main influence of a research philosophy depends on how the researcher views the world and can either be subjective - there are several interpretations or objective- the number of truths is limited (Research Philosophy and Research Design). In this study, the research philosophy principle of subjectivism will be employed. This is because the researcher was concerned with working on a reality that is socially observable. A subjective approach suggests that a researcher can reach full understanding through an experimental and observational analysis and the respondents will each have their own interpretations (B.Ryan, 2008).

3.3 Research Design

This researcher used a survey design and it was preferred as the method is best used to explain developing trends or evident effects in the present. This design at times considers already existing influences or events and the way they relate to the current conditions. Since this method gathers data from a relatively smaller population at a given time, then it is essentially a cross-sectional survey design (Best & Kahn, 1986). A cross-sectional survey design was thus considered here due to the fact that data was collected from a small population at a given time as only thirteen (13) public universities in the Nairobi CBD were this study's respondents, only the persons responsible for the Internet Banking system will be required to answer the questionnaire.

3.4 Population

3.4.1 Target Population

It refers to the people from whom the researcher aims to study in order to draw conclusions from hoping that their research results will apply (Vonk, 2017). In this study the target population included all the public institutions located in the Nairobi CBD. According to (Team Study in Kenya, n.d.) there are a total of ten (13) public university institutions, the full list will be given in the appendix.

3.5 Data Collection Methods

In data collection a researcher aims to gather information that is relevant to their study area and that which will be used to answer the researcher's questions. For the purposes of this study primary data was collected through administering of questionnaires as the researcher wanted to pick up the factors that prompted customers to consider the adoption internet banking as an additional channel for their banking needs. This method was considered as it is in most cases free from interviewer bias (Kothari, 2004). The questionnaire method was considered due to the constraints of time and funds. For this case structured questionnaires were used in order to enable the researcher collect as much relevant information related to IB as possible.

3.6 Data Analysis

After the collection of data, it has to be processed and analysed. Data processing operations include editing, coding, classification and tabulation to add meaning to the data before the researcher can now proceed to analysing the data. Analysis will then be done after to enable the researcher identify the existing relationships between the variables (Kothari, 2004). The researcher opted to go for descriptive statistics analysis to determine the relationship between the three independent variables and one dependent variable. The researcher opted to use these since in descriptive statistics a researcher aims to develop certain indices from the collected data. Statistical averages methods, skewness, and relationship measures were considered.

3.6.1 Multiple Regression Analysis

According to (Kothari, 2004) this method is normally used when there are two or more independent variables and the main objective is to make determine the correlation relationship

between the one dependent variable and the several independent variables. This method was thus chosen as there is only one dependent variable here and several independent variables.

The multiple regression models are thus as follows:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon \dots \dots \dots \text{equation 1}$$

$$Y = \beta_0 + \beta_2 X_2 + \varepsilon \dots \dots \dots \text{equation 2}$$

$$Y = \beta_0 + \beta_3 X_3 + \varepsilon \dots \dots \dots \text{equation 3}$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_0 + \beta_2 X_2 + \beta_0 + \beta_3 X_3 + \varepsilon \dots \dots \dots \text{equation 6}$$

Where:

Y = Internet banking adoption

X₁ = Technology acceptance factors

X₂ = Perceived risk factors

X₃ = Innovation diffusion factors

ε = Error term

β₁, β₂ and β₃ are the beta coefficients of the independent variables X₁, X₂ and X₃ respectively.

3.7 Data Validity and Reliability

Validity is that process of ensuring the accuracy and trustworthiness of any research study (Chapter 3: Validity and Reliability). The researcher therefore conducted a pilot study on a few respondents to just test the validity of the content that will be collected before proceeding to collect data from all the thirteen public universities with campuses in the Nairobi CBD. Reliability on the other hand is to ensure the sample individuals to be tested actually represented the population's characteristics accurately when uniform testing procedures were employed (Ngugi, 2013).

3.8 Ethical Issues in Research

In administering the questionnaires - to ensure voluntary participation in the data collection process, an introductory letter was issued to the study's intended participants. In the letter, the researcher's name and contacts, the institution name, the objectives of the study and a request of participation as well as a promise of confidentiality was included.

CHAPTER FOUR

4.0 PRESENTATION OF FINDINGS

4.1 Introduction

The transformation data into a brief format so as to establish any existing links between the research objectives and the summary of the findings (Thomas, 2016). In this chapter, the analysis and presentation of the findings gotten from the research's respondents will be set forth. This chapter is thus showing the response rate from the target population then followed by descriptive statistics and lastly regression analysis.

4.2 Response Rate

The studies respondents were thirteen (13) public institutions under the Ministry of Education all of which have branches in the Nairobi CBD (Team Study in Kenya, n.d.). Out of the 13 questionnaires issued out, only 10 qualified for analysis as the researcher was not able to get data from the other 3 universities as they had closed their Nairobi town campuses. The response rate thus being 77% and is acceptable as more than half of the targeted institutions participated in the survey.

4.3 Descriptive Statistics

This section discussed the results based on the descriptive characteristics of the target population.

4.3.1 Descriptive Analysis

Out of the 10 institutions that participated in the study, it was discovered that all of the institutions had been in existence for over 4 years and they all operated on a gross monthly budget of over Kshs 130,000,000, thus making it 100% in both cases. When it came to how the organization's received and made their payments, the researcher noticed that most of the institutions have used EFT and banker's cheques. Real Time Gross Settlements on the other hand was majorly used by the big institutions in terms of the numbers. Mobile money also followed closely as these days M-Pesa is readily available for use by all and it is quite fast and convenient for the customer. The breakdown of percentages is as shown on the bar graph below:

Table 4-1 Descriptive Characteristics

VARIABLE NAME	CLASSIFICATION	FREQUENCY	PERCENT
Existence	Below 1 year		-
	1-2 years	0	-
	2-3 years	0	-
	3-4 years	0	-
	Over 4 years	10	100%
Monthly Budget	Below Kshs 10,000,000	0	-
	Kshs 10,000,000 – Kshs 50,000,000	0	-
	Kshs 50,000,000 – Kshs 90,000,000	0	-
	Kshs 90,000,000 – Kshs 130,000,000	0	-
	Over Kshs 130,000,000	10	100%
Receiving and Making payments	EFT, Banker's cheques	2	20%
	Banker's cheques, Mobile money, EFT	2	20%
	EFT, RTGS, Banker's cheques, Mobile money	3	30%
	EFT, RTGS, Banker's cheques	2	20%
	Banker's cheques only	1	10%

Source: Author (2019)

4.3.2 Internet Banking Adoption

Results indicate that as of October 2019, 100% of all the institutions had already adopted internet banking either by using online electronic fund transfers or real time gross settlements. 90% of the institutions had used the internet for over 4 years while 10% had used IB for 2-3 years, 20% for 3-4 years and 70% for over 4 years. In the past one month, 70% of the

institutions indicated that they had used IB for more than 4 times, 20% for 3-4 times and 10% for 2-3 times. Further, an analysis was conducted and it was found out that 60% of the respondents used internet banking to file transfers, online electronic fund transfers, real time gross settlements and accounts information services while only about 10% used IB for liquidity management. See table 4-2 and figure 4-1 for more details.

Table 4-2 Internet Banking Adoption

VARIABLE	CLASSIFICATION	FREQUENCY	PERCENT	MEAN	SD
Length of time of IB use	Below 1 year	0	0	4.3	1.35
	1-2 years	0	0		
	2-3 years	1	10%		
	3-4 years	0	0		
	Over 4 years	9	90%		
Years of IB use	Less than 1 year	0	0	3.15	2.7
	1-2 years	0	0		
	2-3 years	1	10%		
	3-4 years	2	20%		
	Over 4 years	7	70%		
Frequency of IB use	Not at all	0	0	3.15	2.7
	1-2 times	0	0		
	2-3 times	1	10%		
	3-4 times	2	20%		
	More than 4 times	7	70%		
	Total	10	100%		

Source: Author (2019)

4.3.3 Technology Acceptance Model

A five-point Likert Scale (1-5) was used where; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree were used to measure the institutions apprehension on the technology acceptance factors that affect the adoption of internet banking. 80% of the institutions agreed that internet banking contributed to improved performance of their institution while 40% indicated that they perceived internet banking as easy to use. Descriptive statistics are as shown below in Table 4-3.

Table 4-3 Technology Acceptance Model

		FREQUENCY	PERCENT	MEAN	SD
Perceived ease of use	Strongly Agree	8	80%	4.1	8.04
	Agree	2	20%		
	Neutral	0	0		
	Disagree	0	0		
	Strongly Disagree	0	0		
Perceived usefulness	Strongly Agree	4	40%	3.6	0.83
	Agree	3	30%		
	Neutral	3	30%		
	Disagree	0	0		
	Strongly Disagree	0	0		
Total		10	100%		

Source: Author (2019)

4.3.4 Perceived Risk Factors

A five-point Likert Scale was also used here where; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree were used to measure the institutions' perception on risk factors that affected their internet banking adoption decisions. 50% of the study's respondents failed to agree that social risk influenced their adoption of internet banking. More than 80% of the institutions on the other hand agreed that security risk in terms of hackers gaining unauthorized access to an institution's accounts affected their adoption of internet banking. Performance risk on the other hand was at 60% while financial risk at more than 80% as per the respondents, psychological risk had low ratings as only 30% indicated that potential losses of substantial amounts during transactions by employees could affect them psychologically. More descriptive characteristics are as per Table 4-4.

Table 4-4 Perceived Risk Factors

VARIABLE	CLASSIFICATION	FREQUENCY	PERCENT	MEAN	SD
Social risk	Strongly Agree	0	0	1.4	1.14
	Agree	2	20%		
	Neutral	0	0		
	Disagree	3	30%		
	Strongly Disagree	5	50%		
Performance risk	Strongly Agree	6	60%	3.7	1.07
	Agree	1	10%		
	Neutral	2	20%		
	Disagree	1	10%		
	Strongly Disagree	0	0		
Security risk	Strongly Agree	3	30%	3.4	1.12
	Agree	5	50%		
	Neutral	1	10%		
	Disagree	0	0		
	Strongly Disagree	1	10%		
Financial risk	Strongly Agree	3	30%	3.6	0.7
	Agree	5	50%		
	Neutral	2	20%		
	Disagree	0	0		
	Strongly Disagree	0	0		
	Total	10	100%		

Source: Author (2019)

4.3.5 Innovation Diffusion Factors

A five-point Likert Scale was used to measure the respondents' perception on three of the innovation diffusion factors on the compatibility, trialability and perceived benefits of the adoption of internet banking. The scale was represented as follows; 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree. 80% of the institutions agreed that the adoption internet banking was consistent with their needs. 80% of the respondents also agreed that they had accrued some benefits when using IB while more than 50% of the

institutions disagreed that their banks had provided them with an opportunity to try out IB before adopting it. See Table 4-5 for more details.

Table 4-5 Innovation Diffusion Factors

VARIABLE	CLASSIFICATION	FREQUENCY	PERCENT	MEAN	SD
Compatibility	Strongly Agree	8	80%	4.2	0.64
	Agree	1	10%		
	Neutral	1	10%		
	Disagree	0	0		
	Strongly Disagree	0	0		
Relative advantage	Strongly Agree	8	80%	4.2	0.64
	Agree	1	10%		
	Neutral	1	10%		
	Disagree	0	0		
	Strongly Disagree	0	0		
Trialability	Strongly Agree	1	10%	2.0	1.43
	Agree	2	20%		
	Neutral	2	20%		
	Disagree	1	10%		
	Strongly Disagree	4	40%		
	Total	10	100%		

Source: Author (2019)

Regression Analysis

The researcher further conducted a linear regression analysis with the technology acceptance factors as the independent variable and internet banking adoption as the dependent variable.

4.3.6 Technology Acceptance Factors and Internet Banking Adoption

The table 4-6 below represents a summary of the linear regression results on the dependent variable, internet banking adoption and the independent variable technology acceptance factors. The Multiple R from the results was 0.011, R Square = 0.004, adjusted R Square = 0.004, $F(1, 9) = 1.690$ and the significance was 0.000. The Multiple R in this case explained how well the TAM model describes 1.1 % of the analysed data. R Square on the other hand explains the extent of the variability of the dependent variable with the independent variable

which was 0.42% of internet banking adoption was explained by technology acceptance factors. To ascertain the assumption that TAM factors is a positive predictor of internet banking adoption, the researcher further conducted an analysis of variance that generated a 0.000 significance making the model quite insignificant in explaining internet banking adoption.

To complete the previously formed regression model, the Beta coefficients generated were used. The model generated was as follows:

$$Y = 0.05 + 0.012X_1 + \varepsilon$$

Where:

Y = Internet banking adoption (dependent variable)

X₁ = Technology acceptance model factors

0.005 = The constant value for IB adoption when the value of TAM is equal to zero

0.012 = The TAM coefficient

Table 4-6: Excel Regression Output for the Technology Acceptance Factors

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0.011
R Square	0.004
Adjusted R Square	0.004
Standard Error	0.022
Observations	10

ANOVA					
	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.9649	0.9649	1.689	0
Residual	9	5.6779	0.0166		
Total	10	0			

Model	Coefficients		t Stat	Significance
	Beta	Standard error		
Constant	0.005	0.006	0.2391	0.000
TAM Factors	0.012	0.006	0.2216	0.000

Source: Author (2019)

4.3.7 Perceived Risk Factors and Internet Banking Adoption

The table 4-7 below represents a summary of the excel regression analysis where the dependent variable was internet banking adoption and the independent variable was the perceived risk factors. The results showed that Multiple R = 0.007, R Square = 0.002, adjusted R Square = 0.002, F (1, 9) = 0.5612 and the significance 0.000. The model in this case described 0.7% of the analysed data, while the R Square explains the extent to which the perceived risk factors affects the variability of the dependent variable, internet banking adoption. Therefore, 0.2% of IB adoption is explained by the perceived risk factors.

In order for the researcher to ascertain that the model was fit, an analysis of variance was also carried out and it was found out that the significance was 0.000 meaning it has no significant value as a predictor in IB adoption. The researcher thus rejected this as the perceived risk factors have been seen to be a negative predictor of internet banking adoption. The Beta coefficients to complete the regression model were:

$$Y = 0.1190 - 0.009X_2$$

Where:

Y = The dependent variable that is internet banking adoption

X₂ = Perceived risk factors

0.1190 = The constant value of IB adoption when the value of the perceived risk factors is zero

-0.009 = Perceived risk coefficient

Table 4-7 Excel Regression Output for the Perceived Risk Factors

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R		0.007			
R Square		0.002			
Adjusted R Square		0.002			
Standard Error		0.023			
Observations		10			
<i>ANOVA</i>					
	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.355	0.355	0.561	0
Residual	9	6.288	0.0184		
Total	10				

Model	Coefficients		t Stat	Significance
	Beta	Standard error		
Constant	0.1190	0.0054	0.641	0.000
Perceived risk factors	-0.009	0.0019	-0.1277	0.00

Source: Author (2019)

4.3.8 Innovation Diffusion Factors and Internet Banking Adoption

To explain the relationship between the innovation diffusion factors and internet banking adoption, a linear regression was conducted. It was seen from the results that the Multiple R = 0.010, R Square = 0.0031, adjusted R Square = 0.0031, F (1, 9) 1.2033 and a 0.000 significance. R Square explains the extent to which internet banking adoption varies with the innovation diffusion factors, which is at 0.31%. To further predict the overall significance of the innovation diffusion model, an analysis of variance was carried out and since the significance was 0.000, which according to the ANOVA model does not have any explanatory power. The researcher did not agree to this as the innovation diffusion factors affect the adoption of internet banking.

The Beta coefficient values generated for the model's regression equation was:

$$Y = 0.044 + 0.015X_3$$

Where:

Y = Internet banking adoption

X₃ = Innovation diffusion factors

0.044 = Internet banking adoption constant value when the value of IDT factors is zero

0.015 = Innovation diffusion factors coefficient

Table 4-8 Excel Output for the Regression of Innovation Diffusion Factors

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0.01
R Square	0.0031
Adjusted R Square	0.0031
Standard Error	0.022
Observations	10

ANOVA					
	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.7172	0.7172	1.203	0
Residual	9	5.9603	0.0173		
Total	10				

Model	Coefficients		t Stat	Significance
	Beta	Standard error		
Constant	0.0435	0.0083	0.1534	0.000
Innovation diffusion factors	0.0150	0.0024	0.1870	0.000

Source: Author (2019)

The multiple regression model was thus as follows:

$$Y = 0.024 + 0.005X_1 - 0.1190X_2 + 0.0435X_3 + \varepsilon$$

Where:

Y = Internet banking adoption

X₁ = Technology acceptance factors

X₂ = Perceived risk factors

X₃ = Innovation diffusion factors

0.024 = The value of IB adoption when the values of TAM, IDT and perceived risk factors is equal to zero

0.005 = Technology acceptance model coefficient

-0.1190 = Perceived risk factors coefficient

0.0435 = Innovation diffusion factors coefficient

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter a summary of the conclusions and recommendations for future research was presented; having in mind the overall objective of the research which was examining the factors that affect the adoption of internet banking amongst public institutions in Nairobi. This was then broken down into three other objectives which were: to determine the extent to which the technology acceptance factors affect the adoption of internet banking, to determine the extent to which the perceived risk factors has affected the adoption of internet banking and lastly to establish the benefits and challenges that public institutions have encountered in their adoption of internet banking.

5.2 Conclusions of the Findings

5.2.1 Adoption of Internet Banking

The research found out that 100% of the respondents were already using internet banking and that in the past month, 70% of the public institutions had used internet banking for more than 4 times. This indicates that actually most of the public institutions actually use internet banking. The adoption of internet banking amongst public institutions is relatively higher as most of the respondents (90%) have been using IB for more than 4 years. Based on these findings it can be concluded that about 60% of the public institutions in the education sector are already using IB for online electronic fund transfers, real time gross settlement, file transfers and accounts information services between the institution and their bank. Further, only 10% used internet banking for liquidity management.

On the other hand, the multiple regression model showed a strong relation between the adoption of internet banking and the technology acceptance factors, innovation diffusion factors and the perceived risk factors. They are the major factors that have been contributing to the adoption of internet banking amongst public institutions under the ministry of education.

5.2.2 Technology Acceptance Factors and Internet Banking Adoption

The results of this research shows that most of the study's respondents perceived internet banking to be a useful innovation and also easy to use. 100% of the public institutions either

strongly agreed or agreed that internet banking was easy to use while over 70% either strongly agreed or agreed that internet banking was useful in their institutions. The researcher therefore concludes that IB positively affects internet banking adoption amongst public institutions in the education sector. The regression analysis also indicated that there is a strong relationship between the technology acceptance factors and internet banking adoption as the P-Value was below 0.005. The Multiple R value was 1.1%, with an F value of 1.689 Therefore, according to the study's results, most of the respondents perceive internet banking as a useful and an easy to use innovation. The conclusion is thus that not only will the technology acceptance model affect the adoption and continued usage decisions but also other factors as will be discussed below.

5.2.3 Perceived Risk Factors and Internet Banking Adoption

The public institutions had different perceptions to the different risk facets. Most of the institutions clearly outlined that performance risk, financial risk and security risk greatly influences their decisions for continued usage of internet banking. Majority of the institutions on the other hand did not perceive social and psychological facets as a risk that affected their adoption and continued usage. Only 30% of the respondents perceived psychological risk as a potential risk and 80% either strongly disagreed or disagreed that social risk affected their adoption decisions. From the regression analysis, there was a strong negative relationship between the perceived risk factors and internet banking adoption. This is because the institutions agreed that they would not consider using internet banking if the security standards were low also the constant threat of being exposed to hackers that would lead to losses of substantial amounts. The regression analysis showed a 0.000 significance which indicated a very strong relationship between the risk factors as a negative predictor of internet banking adoption. Multiple R also indicated that 0.2% of the perceived risk factors explain 0.2% of internet banking adoption.

5.2.4 Innovation Diffusion Factors and Internet Banking Adoption

This research indicated that from the three facets that were examined over 90% of the respondents either agreed or strongly agreed that relative advantage is a crucial factor that affected their internet banking adoption decisions. A further 10% of the respondents only agreed that their bank gave them a free trial period for the internet banking services that greatly affected or influenced their decision to adopt the innovation. Most of the respondents that is

about 50% of the public institutions strongly disagreed and disagreed that trialability was a factor that affected their adoption decision. Almost all of the institutions agreed that the internet banking service was compatible with their organisation's finances. For the respondents they were to continue using internet banking if the benefits of this service were actually more than the challenges of the service.

From the regression analysis that was carried out, the P-Value was below 0.005, thus indicating a very strong relationship between innovation diffusion factors and IB adoption and the Multiple R results have shown that 1% of internet banking adoption is explains 1.1% of internet banking adoption amongst the public institutions under the ministry of education.

5.3 Recommendations

Perceived risk has been found out to be one of the critical factors that negatively affects the adoption of internet banking amongst public institutions. The banking regulatory authorities and the government should therefore should come up with high security measures to mitigate any risks that may affect the adoption of Internet Banking amongst all customers.

Secondly, other studies should be carried out in order to determine other additional factors that may affect the adoption of internet banking as most of the organizations nowadays consider it as a cheaper and convenient service. Studies should also be conducted on a larger population so as to get more accurate results. The banks should also educate their customers continuously on how the internet banking system works.

5.4 Limitations of the Study

During data collection, the researcher due to constraints of time decided to do walk-ins to the various public institutions located in the Nairobi central business district in order to speed up the process. Most of the financial representatives were not quite reliable as they just rushed through giving answers to the questionnaire and the researcher was also not able to answers from the respondents. The responses from this research may also have not been very conclusive as the researcher conduct a research from only 10 public institutions as opposed to the 13 institutions as earlier said because some of them had closed their Nairobi city campuses.

5.5 Suggestions for Further Research

More studies should be conducted using other behavioural models to determine other additional factors that would affect the adoption of Internet Banking in Kenya because the internet is here to stay and new issues will always emerge.

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APPENDIX

APPENDIX 1: Public universities located in the Nairobi CBD.

Cooperative University College Kenya

Dedan Kimathi University of Agriculture and Technology

Egerton University

Jomo Kenyatta University of Agriculture and Technology

Kenyatta University

Kisii University

Laikipia University

Maasai Mara University

Masinde Muliro University of Science and Technology

Moi University

South Eastern Kenya University

Technical University of Kenya

Nairobi University

(Team Study in Kenya, n.d.)

APPENDIX 2: Questionnaire
QUESTIONNAIRE

The purpose of this questionnaire is to examine the factors affecting the adoption of Internet Banking amongst public institutions under the Ministry of Education. The researcher therefore kindly requests for your participation in answering the questions below.

Instructions: Please answer all the questions

PART I: GENERAL INFORMATION

1. For how long has the organization been in existence?
 - Below 1 year
 - 1-2 years
 - 2-3 years
 - 3-4 years
 - Over 4 years
2. What is the organization's monthly gross budget? (optional)
 - Below Kshs 10,000,000
 - Kshs 10,000,000 – Kshs 50,000,000
 - Kshs 50,000,000 – Kshs 90,000,000
 - Kshs 90,000,000 – Kshs 130,000,00
 - Over Kshs 130,000,000
3. How does the organization receive and make payments?
 - Cash
 - Mobile money
 - Electronic fund transfers
 - Real time gross settlements
 - Banker's cheques
 - Other

PART II: INTERNET BANKING ADOPTION

Please tick the answer that best suites the organization.

4. How long has the organization been using the internet?
 - Below 1 year

- 1-2 years
 - 2-3 years
 - 3-4 years
 - Above 4 years
- 5. Does the organization use Internet Banking?
 - Yes
 - No
- 6. If the answer above is Yes, for how long has the organization been using Internet Banking?
 - Less than a year
 - 1-2 years
 - 2-3 years
 - 3-4 years
 - Above 4 years
- 7. How many times has the organization performed an online banking transaction in the last 3 months?
 - Not at all
 - 1-2 times
 - 2-3 times
 - 3-4 times
 - More than 4 times
- 8. The organization uses Internet Banking for the following transactions: (please indicate with a tick on as many transactions as it suites the organization)
 - File transfers between the organization and their banks
 - Electronic fund transfers
 - Real time gross settlements
 - Accounts information services such as checking the organization's accounts balances
 - Liquidity management for the organization
 - If others, please specify.....

PART III: FACTORS THAT INFLUENCE THE ADOPTION OF INTERNET BANKING

- Please tick in the most appropriate answers that best describes the organization's perceptions or reasons for that prompted the adoption of Internet Banking.
- Please answer all the questions.

Technology Acceptance Model	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Use of online banking improves the performance of the organization					
Internet banking usage makes the life of the individuals tasked with banking in an organization easier					
Learning how to use the online banking system was easy					
Perceived Risk Facets					
Using online banking was a result of observations that others organizations were using it					
Learning how to use the online banking system took a lot of time					
There is constant fear that hackers may gain unauthorized access to the organization's account					
There are hidden costs associated with online banking					
Potential loss of money due to cybercrime is there					
Potential money loss due to a mistake					

There are downtimes that may end up delaying a transaction					
A transaction by an employee that led to substantial money losses may affect the individual psychologically					
Innovation Diffusion Factors					
Using online banking is in line with the organization's needs					
There are benefits that the organization has accrued to itself as a result of using the Internet Banking					
The organization's bank provided an opportunity to try out the new system and it greatly contributed to the adoption					
Internet banking is a better way to bank for the organization					

Please add any other comments important comments:

Please confirm that there are answers to all the questions

***** Thank You For Taking Your Time To Answer The Questions*****

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