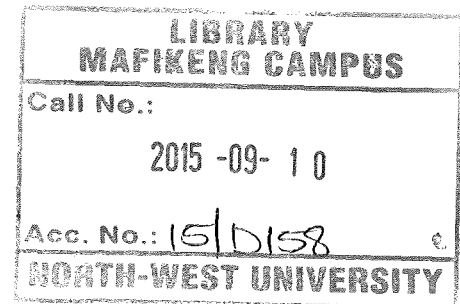


**ANALYSIS OF INTERNET BANKING ADOPTION IN  
GABORONE'S WORKING CLASS AND UNIVERSITY  
STUDENTS**

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**BY**



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**Declaration**

I declare that this report is my own unaided work. It is being submitted in partial fulfilment of the degree of Masters in Business Administration to the North West University

Chengetai Chibonda .....

..... day of.....2014

## **Abstract**

Internet banking is strongly making a mark in our day to day life, especially in the developed countries where there is high internet connectivity. This study looked into the level of internet banking adoption in Gaborone`s working class and university students. It went further to find out factors which promote and those which hinder internet banking adoption. This study found that the level of internet banking was just over 32% in both working class and university students, which is reasonable for a developing nation. The findings were extrapolated to the whole nation to just over 2% internet banking adoption. This was mainly due to very low internet connectivity in the small villages and rural areas. Factors which promote internet banking adoption were perceived ease of use, perceived usefulness, and compatibility. Hindering factors were lack of trust and awareness about internet banking. The promoting and hindering factors were almost similar to findings in previous studies.

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## Chapter 1

### 1.0 Introduction

This chapter provides an overview of internet banking, general information about Botswana, mainly demographics, economic environment, literacy and telecommunication structures. It also provides a summary of banking in Botswana and the use of internet banking. Global and local internet penetration is also outlined. The problem statement, research questions, objectives, goals, deliverables, and budget are outlined in this chapter as well.

Wide internet availability has resulted in new market offerings in business. The internet has transformed supply chain management and this is pronounced in the manufacturing sector in which good integration between suppliers, producers and customers is evident. The services sector has not been left behind. The internet is used in areas such as customer relationship marketing (CRM), offering products online, this involves internet banking. The transformation that the internet brings to the service industry such as banking is considerably greater, considering that it depends on information and commands which can be easily sent through the internet.

Internet banking has experienced huge growth and has transformed traditional banking practices which previously entailed the customer visiting a bank. Financial institutions prefer internet banking as it lowers operational costs, improves banking services, retains customers and expands the customer base (Cheung, Chang & Lai, 2006). This in turn, increases profitability and customer loyalty.

Internet banking services involve the use of technology to communicate instructions to customers and for customers to receive information from the financial institutions where the accounts are held. This service includes a system that enables financial institution customers, individuals or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network (Prakash and Malik, 2008,).

The range of services varies from bank to bank and also in different countries. In the developed world, countries like Japan and Australia (UBank), the USA (ING Direct, Ally, USAA and Fidor) have complete online banks, in which all transactions from opening an account to cash withdrawals can be done without walking into a bank branch (Bankwatch, 2006). Some countries have not progressed so well regarding internet usage and have opted

for a mixture of internet and branch banking. This combined banking is what is being done in Botswana as well. Other USA states require a minimum of one branch, so there are almost 500 banks with a single physical branch and the rest online (Bankwatch, 2006).

The success of internet banking is generally dependent on bank and government support as well as acceptance by clients. Internet banking has high start-up costs and it requires a critical mass (a good number of customers) for there to be a reasonable return on investment. Government has to implement supportive legislation and help with the infrastructural setup. Internet banking acceptance is also important as the costly investments will go to waste if not used.

At this point, it is important to define infusion, diffusion and adoption of internet banking. Infusion (act of adding something) refers to internet banking being put in place; diffusion (spreading) is people being made aware of the services, and adoption (start using) is the actual uptake of the services (Online Oxford dictionary, 2012). In other words, the bank must first see to it that the internet banking services are available, then people have to be made aware of them before they can actually use them.

Electronic services were increased from the mid 1990s to 2001 when their growth encountered problems which were called 'bursting of the internet bubble' (TechWeb news, 2005). Many businesses struggled for survival and some dropped electronic channels completely, but internet banking recovered quickly and has grown steadily in some developed countries such as Australia (TechWeb news, 2005)

Banks adopted internet banking to gain a competitive edge, improve distribution and delivery management, while some waited to see if the early adopters would succeed. Technological development in computing and communications also catalysed the e-banking adoption process (Jayawardhena & Foley, 2000). Customer demands have also risen and banks cannot afford to rest on their laurels. Some new entrants into banking came in technologically sharpened, so the traditional banks had to adjust quickly, otherwise they were set to lose market share. (Jayawardhena & Foley, 2000)

In other words, there is need to satisfy customers, deal with increased competition, address pressure on the supply chain to deliver services quickly and continuously develop new and innovative services for differentiation from competitors (Jayawardhena & Foley, 2000). In 2000 Hong Kong and Shanghai Banking Corporation (HSBC) and Merrill Lynch committed

to join forces to spend \$1 billion dollars on online premium and share dealings and within a matter of months several other banks followed (Larsen 2004).

E-banking in developed markets is maturing and some emerging markets are adopting the western e-banking models. Success is registered against the backdrop of continuous economic, legal, technological, political and banking reforms. With these reforms in place and strong information and communication technology (ICT) infrastructure, e-banking will succeed as well and this will enable economic benefits to accrue within countries and globally (Simpson & Evans, 2003).

## **1.2 General information about Botswana**

### **1.2.1 Population**

As of July 2011, the population of Botswana was estimated to be 2 065 398 (Indexmundi, 2011). Age breakdown was as follows: 0 to 14 years 33.9% of the total population (male 356 346 and females 343 452). Age group of 15 to 65 years had a bigger portion at 62.2% (male, 649 931 and female, 634 998). The remaining 3.9% were over the age of 65 years (male, 32 542 and female, 48,129). The median age was at 22,3 years in general; 22,2 years for males and 22,4 years for females (Indexmundi, 2011). Life expectancy is 58 years, which is reasonable for a developing country and considering that Botswana has a very high human immunodeficiency virus (HIV) infection prevalence of 24.8% from 2009 estimates (Indexmundi, 2011).

Indexmundi (2011) also showed a net inflow of migrants at 4.82 migrants per 1 000 population. These were mainly Zimbabweans who came in search of better economic opportunities. Few Botswana leave the country. Those who leave, do so mainly for educational purposes and some opt to remain, especially in Australia and Europe, after their training. Yet others look for employment opportunities in South Africa.

About 61% of the population live in urban areas or modernised villages, where infrastructural developments are available as in towns (Indexmundi, 2011). The rate of urbanisation was estimated at 2.3% annually from 2010 to 2015.

Tswanas are the main ethnic group at 79%, followed by Kalangas at 11% and Basarwa at 3%. The remaining 7%, comprises the minorities which include Kgalakgadis, Indians, Chinese and whites (Indexmundi, 2011).

## **1.2.2 Size of the Country**

The total surface area of Botswana is 581 730 square kilometres (sq km), almost close to the size of France. The land size measures 566 730 sq km while water covers the remaining 15 000 sq km. (Indexmundi 2010). Generally people are located in the southern and eastern areas and the bigger section in the central, western and Northern part of the country has very few people and is mainly devoted to farming and wildlife.

## **1.2.3 Economy**

Botswana is a middle income developing country with a Gross Domestic Product (GDP) per capita of over US\$ 5 000 (Indexmundi, 2011). The economy is mainly dependent on diamonds, although as of late there have been efforts to diversify into service industry, tourism and agriculture to name a few.

## **1.2.4 Geographic Distribution**

Botswana is sparsely populated with more than 75% of the population in the Southern region of the country. This is the area with arable land and where major towns and villages are located. The rest of the country is fairly dry, so it is mainly used as cattle farming areas and wildlife conservation.

## **1.2.5 Literacy**

Many of the people over the age of 15 years are able to read and write, though mainly in their local languages. Literacy rates were estimated around 81.2% in 2003 (Indexmundi, 2011).

## **1.3.1 Overview of banking in Botswana**

There are only 10 commercial banks with branches all over the country (towns and villages). Four of the banks take more than 94% of the market share (Standard Chartered, Stanbic, First National Bank (FNB) and Barclays). The other six commercial banks (Bank Gaborone, Capital Bank, Bank of Baroda, Bank ABC, and ABN AMRO's two subsidiaries) are all less than ten years old with very few branches only found in the capital city, Gaborone and the second largest city, Francistown (Banks in Botswana, 2012).

### **1.3.2 Internet Banking in Botswana**

Internet banking in Botswana is in its infancy as can be seen on the banks' websites and brochures. The services which are generally offered include checking balances and statements, transferring monies only within the same bank. Some banks (Stanbic, FNB, Barclays and Standard Chartered) have recently introduced payment of utility bills such as electricity and pay television (DSTV) subscriptions. Barclays bank has also introduced online transfer of monies to other banks and internationally (Barclays Botswana, 2012).

The banks are currently on a drive to encourage customers to use internet and only get into a banking hall when it is necessary. This can be seen on brochures, advertisements on television, in the banks and even via some telephone answering machines when one is kept on hold awaiting connection. This helps the bank to reduce queues especially at month-end when many people make withdrawals and deposits. FNB has progressed to the point of providing computers in almost the same set-up as automatic-teller machines (ATM), but dedicated to internet banking. This enables customers without internet access to do their transactions at any time, but very few people are using them, as many people still prefer to get into the bank even for a balance enquiry.

All the four main banks have formed alliances with cellular companies, utilities, and shops especially those which offer hire purchase to facilitate on-line bill payment. This is done as a way of reducing queues when bill payment is due. Little progress has been made so far, as only few people are making use of this facility (Banks in Botswana, 2010).

### **1.4.1 Internet Penetration in Botswana**

As of December 2011, Botswana had just over 167 000 (8.1% penetration) internet users and this was a big jump from 15 000 in 2000 and a marginal growth from 120 000 (6%) users in 2009 (ITU, 2012). The government has liberalised the internet market in the past five years and this has given birth to many internet service providers (about 30 have been licensed). Connectivity has improved with the country's access to the international bandwidth through the fibre backbone network and new submarine fibre optic cables off Africa's east and west coasts. Broadband internet is now widely available and it is fast.

By December 2012, penetration of mobile phones is expected to be at 164%, fixed phones at 7.4% and internet at 9.7% (ITU, 2012). Mobile network operators (Mascom, Orange and Be mobile) have embarked on promoting smart phone usage, mainly Blackberries and Iphones.

Ipads and mini-computers have also been part of these promotions in order to increase internet access. Electronic wallets (e-wallets) have also become popular.

#### **1.4.2 Information and Technology Infrastructure in Botswana**

In 2005, Botswana had very little in terms of internet technologies. This all changed in 2006 after a ministerial directive to revamp the information and technology infrastructure. The Botswana Telecommunications Authority (BTA) worked tirelessly to bring in all the necessary equipment which conformed to international standards. Voice on Internet Protocol (VoIP), Wi-fi, Wimax, to name a few, were made available (BTA annual report, 2008).

Some developments included expansion of the numbering policy to include short codes and VoIP numbers and also development in spectrum management strategy, which entails, among other things management of a national frequency plan and aligning it to international plans (BTA, 2010). These developments brought Botswana recognition from international organisations such as International Telecommunications Union (ITU) and attracted many private telecommunication investors.

#### **1.5 Success of Internet Banking in other Countries**

On 23 May 2012, a scholarly debate was held at University of Oxford, with the motion, “are the bank branches obsolete?” This debate brought to the surface a wealth of information on how technology, specifically the internet, is overtaking traditional banking. It highlighted the cost effectiveness of internet banking in simple items such as sending bank statements by ordinary mail versus online statements. Overwhelming votes and comments supported the motion with some delegates commenting that they had not stepped in a bank for over a year, since they did all their transactions online (Economist, 2012). This clearly shows that developed countries have progressed greatly in promoting and adopting internet banking. Japan and Australia are some of the countries with complete internet banks. Some USA states have a requirement of at least one physical bank and have seen over 500 such one-branch banks and the rest being online. This shows a paradigm shift towards internet banking.

Generally though, many banks still maintain some branch banks, mainly because not all customers prefer internet banking. The older generation generally maintains traditional banking habits but generation ‘Y’ (people born from 1980-onwards) gravitate towards internet banking.

## **1.6 Factors for Internet Banking Adoption**

Many researches done in this area suggest six main success factors for the adoption of internet banking services: perceived ease of use; perceived usefulness, compatibility (similarity to what one is already doing); triability (having a chance to test before use); trust (being sure that it is safe) and awareness (being informed of its existence) ( Sohail & Shanmughan, 2003; Yu & Lo, 2006; Yiu, Grant & Edgar, 2007). Many of these studies have been done in developed western countries, Middle East, Australia and Asia. Despite considerable diffusion and adoption of consumer internet banking in many countries, banks still seek further market expansion. Market expansion is needed more in developing countries such as Botswana where the diffusion and adoption appears to be low.

## **1.7 The future of internet Banking**

Dr Melodie de Jager (2008) commented on the emerging new generation (generation Y) which mainly comprises students and young professionals. These were born between 1980 and 2001, they are technology savvy (well used to ipods, facebook, blogs and youtube). 95% of the generation own a computer and cell phone, and 76% own an instant messaging service. Of these, 34% use websites as the primary source of news. In other words, the Y generation is shaped by technology and they are or will be future customers of business and they will form the workforce and be leaders. The Y generation also influences the older and the younger generations in the use of technology.

Technology is no longer an option for any organisation and has to be fully grasped for efficiency and survival. An essential role is played in automating business processes, finding networking business and providing information for management decision-making and planning. These changes are not leaving banking behind but will grow even faster considering that most banking services can easily be offered online.

## **1.8 Problem Statement**

Financial services form the backbone of a strong economy, because they facilitate economic transactions, from individual, organisational, and national to international level. The advent of the internet, and internet banking in particular, and its exponential growth, means Botswana has to implement internet banking as well. Despite there being a good number of products which can be transacted via internet banking, uptake appears to be low in Botswana.

Not much is done as regarding the adoption of internet banking in Gaborone. This research discovered the level of internet banking adoption in Gaborone and then tried to extrapolate to the whole country. The other sub- areas to be addressed were the factors that promote and those that hinder the adoption of internet banking in Gaborone. This was the starting point in planning for successful internet banking in the country. A comparison was made between adoption and hindrance factors in other countries in an endeavour to establish whether remedies given to other countries could apply in Botswana as well.

In developed countries, Australia has been found to be successful in the use of the internet. Among developing nations, Malaysia, Thailand, Brazil and Estonia are realising huge growth and in Africa, Nigeria is leading in the adoption of internet banking. Although all these countries, have grasped the benefits of internet banking in terms of cost and convenience, there have been concerns on security and difficulty of use. This study researched whether the same factors applied to Botswana.

For Botswana to make a regional and global economic impact, it needs to benchmark with global best practices, so that it aligns its economic models with those of the best including financial services and internet banking in particular. This research helped to show how Botswana differs from best practices in relation to internet banking. This is important in order to institute appropriate remedies for the Botswana situation.

### **1.9 Research Questions**

The questions to be addressed in the research are:

1. What is the level of internet banking adoption among Gaborone's working class and university students?
2. Which factors influence the customers' propensity to use internet banking?
3. Which factors hinder people's use of internet banking?

### **1.10 Project Scope**

Since internet banking is proving to be a strong determinant of modern day bank survival, it is crucial for the banks to know how to implement it successfully. In this regard, they need to know factors which support as well as hinder internet banking diffusion (availability) and adoption (uptake) regarding their customers or prospective customers. In short, the research discovered the levels of internet banking adoption, as well as important factors that promoted

or hindered internet banking adoption in Gaborone. This was important for the banks, telecommunication companies, government and even individuals for future planning purposes.

This research was conducted in Gaborone, the capital city of Botswana and covered mainly people with bank accounts, whether they use internet banking or not. The findings were extrapolated to the whole of Botswana, since they provided a fairly reasonable representation. They could also be extrapolated to other developing countries with conditions fairly close to those in Botswana.

### **1.11 Project Objectives**

The main objective of this research was to find the levels of internet banking adoption among university students and the working class in Gaborone. The research further discovered the supporting factors and the hindrances to the adoption of internet banking. This provided a wealth of information available for use by banks, telecommunication companies and the government in their future plans especially in relation to banking.

### **1.12 Definition of Target Population**

The target population was customers of Botswana retail banks of all races, residing in the greater Gaborone area (city and surrounding villages). The people were roughly from the age of 18 to 60 years and included those who used internet banking and those who did not.

### **1.13 Research Design**

This study was quantitative in nature. A questionnaire was developed, pre-tested and necessary corrections and clarification done. A stratified random sample was used with two strata, university students and the working class. This helped to capture a wide variety of responses which provided a good representation. These segments of the population were the ones who were most likely to use internet banking. The study was cross-sectional, information being collected once, with no follow-up.

### **1.14 Sampling Method**

Stratified random sampling was conducted, involving two strata. The questionnaire was randomly distributed to students during lunch times. For the working class, organisations

were randomly identified and not more than ten questionnaires randomly given to the workers, and even owners of mainly small organisations.

### **1.15 Research Approach**

This was a quantitative analysis in which questionnaires were distributed randomly to 30 students during lunch time. They were given about 20 minutes to complete the questionnaire and return them. Those in the organisations were given the questionnaires which were collected the following day. This enhanced the return of completed papers. All 30 of the questionnaires given to students were returned but 5 of the 70 questionnaires given to the working class were not returned. Data collection took about a month to cover the many respondents.

The questionnaires covered demographic data, general usage of the internet, usage of internet banking, factors that support and those that hinder adoption of internet banking. The questionnaires were pre-tested and clarifications or corrections were dealt with accordingly. Two research assistants were trained to help in the gathering of data. The data was analysed using the Statistical Package for Social Sciences (SPSS).

### **1.16 Delimitations**

The study was limited to Gaborone and it focused on bank account holders in the working class and University students. Gaborone is the largest city with a population of over 300 000. Botswana is very big with many villages close to, and over 1000km from Gaborone but with small populations averaging 5000 people, most of whom are unbanked, so it was not very economical to include them in the study.

### **1.17 Limitations**

1. There might be inaccurate answers to some of the statements in the questionnaire, especially those which require salaries or income.
2. Limited time and resources to cover different areas in Botswana to avoid bias and have better representation

### **1.18 Research Study Layout**

The following structure was used in this dissertation:

- Chapter 1 – Introduction
- Chapter 2 – Literature Review
- Chapter 3 – Research Methodology
- Chapters 4 – Results
- Chapter 5- Discussion of Results
- Chapter 6- Conclusion and Recommendations

### **1.19 Rationale for the study**

The internet has brought changes in the way organisations deal with customers so for banks to have a competitive edge, they have no option but to go online. Internet banking is playing a big role in global business dealings and Botswana banks need to expand internet banking usage in order to take part in the global changes.

Consumer acceptance and use of internet banking appear to be low and very little research has been conducted in Botswana to determine the actual adoption levels, factors influencing consumers to use internet banking. An understanding of demographic characteristics, perceptions and attitudes towards internet banking will enable banks to increase market share by creating solutions and strategies that attract consumers.

### **1.20 Chapter summary**

Chapter 1 provided a general picture of the study and what was to be expected. The next chapter discusses the relevant literature of the study. It explores adoption of internet factors and outlines the research framework.

## **Chapter 2 Review of Literature**

### **2.0 Introduction**

This section discusses in detail the literature pertaining to internet banking. A couple of models in technology adoption were analysed and relevant constructs adopted to give the research framework. Common factors which lead to internet banking adoption and people not adopting internet banking are examined in detail.

### **2.1 What is internet banking?**

Electronic banking (e-banking) includes systems (websites) that enable financial institution customers, both individuals and businesses, to access accounts, transact business, or obtain information on financial products and services (Oxford Online dictionary, 2012). This can be done through a public or private network, including the internet or mobile phone. Customers access e-banking services using an intelligent electronic device, such as a personal computer (PC); personal digital assistant (PDA); automated teller machine (ATM); kiosk, or cell phone.

According to the Basel Committee Report on Banking Supervision (1998),-

“e-banking refers to the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit – taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money.”

The emergence of e-banking has made, and is making many banks rethink their Information technology (IT) strategies in competitive markets. The banks that fail to integrate e-banking are likely to lose customers as the cost of offering e-banking services is low compared with that of traditional banking. This is supported by a study done by Jasmuddin (2004), examining the role of e-banking services in Saudi Arabia. He suggests that if the Saudi Arabian banking industry wishes to be successful in the global economy, it needs to integrate internet technology into its banking strategy.

## 2.2 Theoretical Framework

This section helps to clarify on the theoretical background that the research was based on. It includes the classical models that have been used in technology adoption and some of the modifications to the models.

### 2.2.1 Technology Acceptance Model (TAM)

TAM is a widely used model in technology acceptance. It proposes that perceived ease of use and perceived usefulness of technology are predictors of user attitude towards using the technology, subsequent behavioural intentions and actual usage. First comes the perception that in turn influences the behaviour and the actual uptake. Perceived ease of use is also considered to influence perceived usefulness of technology (Davis, 1989). Fishbein and Ajzen, 1975 posit that TAM is derived from theory of reasoned action (TRA), which proposes that individual behaviour is driven by behavioural intention where behavioural intention is a function of an individual's attitude toward the behaviour and subjective norms surrounding the performance of the behaviour.

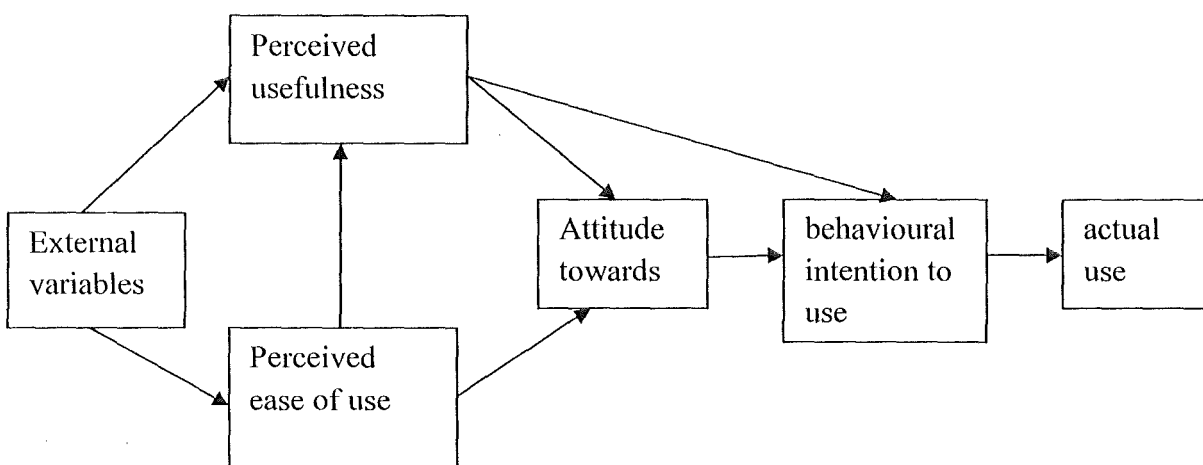


Figure 2.1: Original TAM (Davis, 1989)

In TAM, perceived usefulness refers to the degree to which the user believes that using the technology will improve his or her work performance, while perceived ease of use refers to how effortless he or she perceives using the technology will be. Both are considered distinct factors influencing the user's attitude towards using the technology, though perceived ease of use is also hypothesized to influence perceived usefulness and attitude towards using the innovation (Davis, 1989).

### 2.2.2 Modifications to TAM

Over the years many researchers have modified TAM as they were saw fit. Flavian, Guinalin & Torres (2006) modified TAM to suit internet banking absorption by adding security and trust to the ease of use and perceived usefulness. The ease of use and usefulness aspects were further broken down into perceived benefits in service, resistance to change, price, availability of technology, image, comparative advantage and compatibility (Flavian *et al.* 2006)

In 2010, Hosein devised his generic framework on the key factors in internet banking adoption. This framework contains aspects of TAM but it is now broken down and tailored to internet banking adoption as shown in figure 2 below. Internet experience, internet usage, knowledge and support align well with the ease of use aspect in TAM. Convenience also accompanies the perceived usefulness. Attention awareness, which means being told of the availability of the service and the ability to access it is also important for one to actually adopt internet banking.

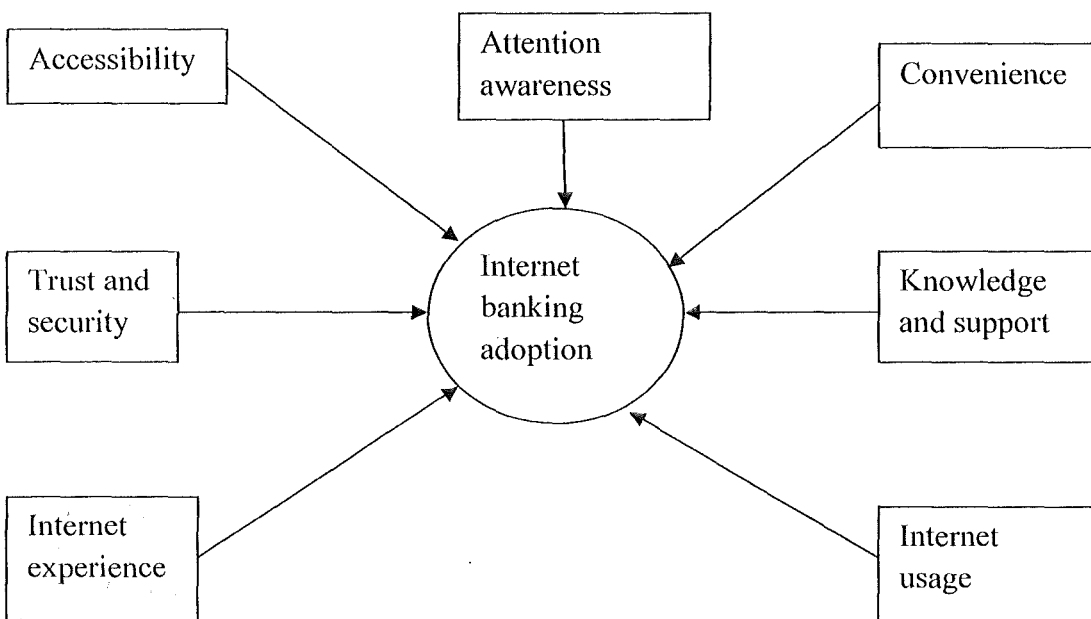


Figure.2.2: Consumer adoption of internet banking, a generic theoretical framework (Hosein, 2010)

Other modifications to TAM include an extended TAM (Venkatesh & Davis, 2000; Wang, Wang & Tang, 2003). The Venkatesh and Davis modification adds the subjective norm construct and it is known as TAM 2. These modification help to tailor make the models to the situations that will be in place, but the basics of perceived usefulness and ease of use seem to

be upheld. TAM has been used in many researches, mostly concerning technology adoption, like adoption of online learning, adoption of ATMs, and it has been the main model in internet banking adoption. This is the main reason that TAM was adopted in this study, but with some modifications.

### 2.2.3 Innovation Diffusion Theory

The Innovation Diffusion Theory (Rogers, 1983; Tornatzky and Klein, 1982) has also been used in some researches. This model states that determinants of behavioural intention are relative advantages (benefits), compatibility (similarity with what one uses), complexity (level of difficulty), observability (ability to see as one uses it) and triability (time to test) (Rogers, 1983). Rogers' Innovation Theory has its own extensions and one was done by Moore and Bensen (1991) who added constructs of image and voluntariness of use. These extensions bring in more clarity and explanatory power to the models (Cheng, Lam & Yeung, 2006)

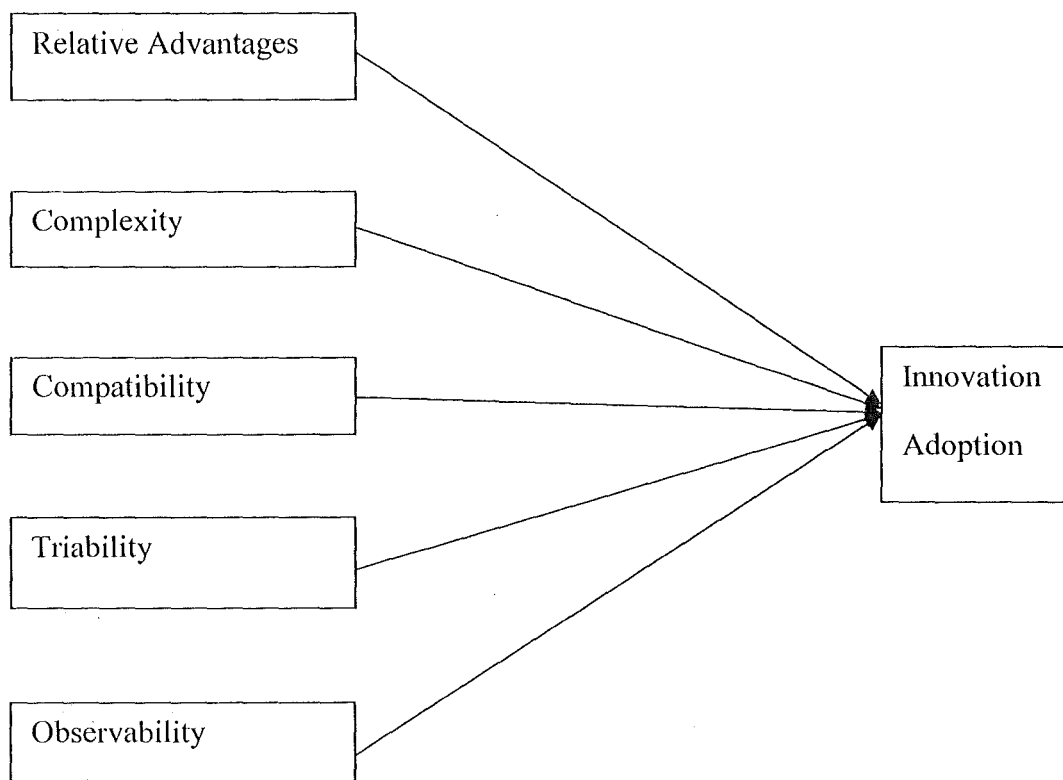


Figure 2.3: Innovation Diffusion Theory (IDT), Rogers, 1983

### 2.2.4 Other models

Some researchers opt to combine different models in their studies. Hernandez and Muzzon (2007), in their study of internet banking adoption in Brazil, combined characteristics from the IDT, subjective norms and perceived behavioural control. The combined model offers superior models to explain adoption.

Wang *et al* (2003) also combine TAM with constructs of perceived credibility (security and privacy concerns) in their study of the adoption of internet banking in Taiwan. The added dimension enables them to get more information about adoption factors in internet banking.

### 2.2.5 Adopted research framework

This research used a framework which combines constructs from TAM, perceived usefulness and perceived ease of use with constructs from the IDT. There have been adjustments so that the framework is more specific to internet banking adoption.

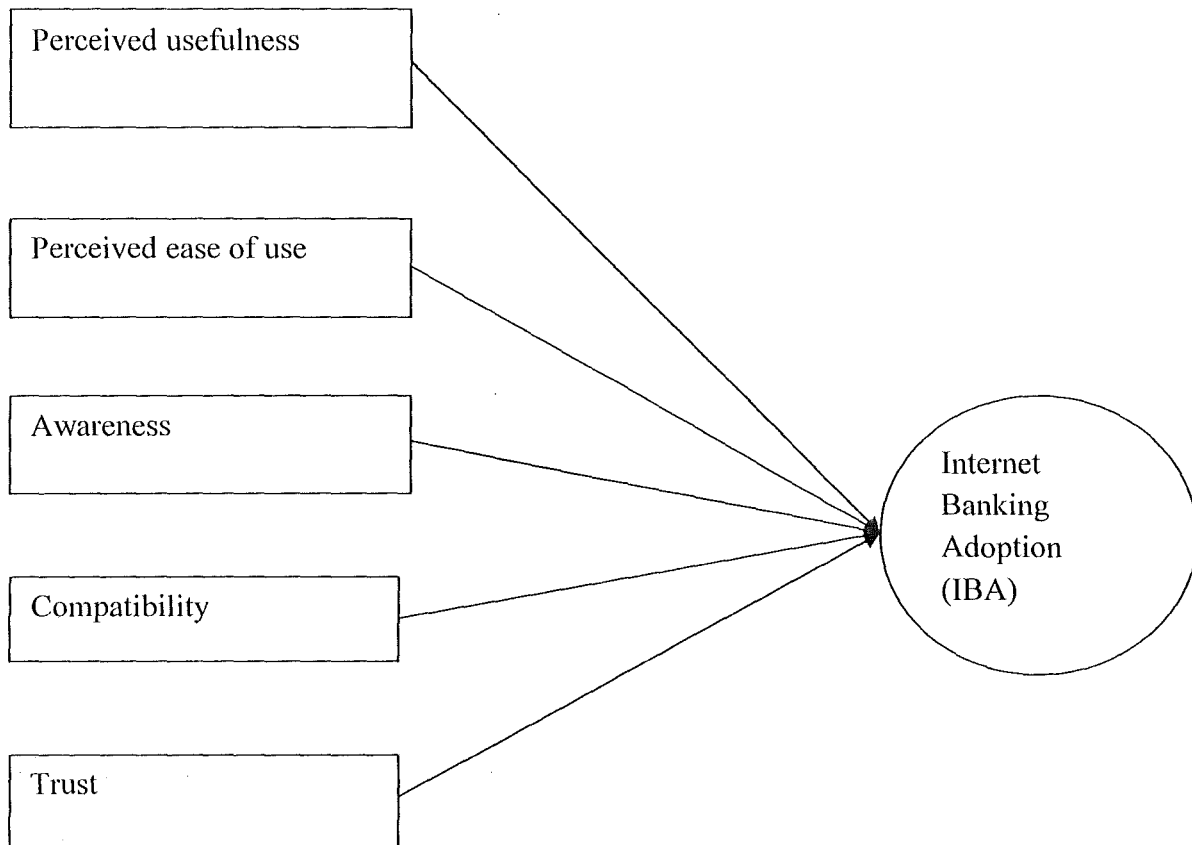


Figure 2.4: Research framework

## **2.3 Hypotheses.**

This section outlined the hypotheses to be used in this study to test the link between independent variables and internet banking adoption.

### **2.3.1 Perceived usefulness (PU)**

Perceived usefulness is defined by Davis (1989) as “the degree to which an individual believes that using a particular system would enhance his or her job performance.” Many previous studies found positive significant linkages with internet banking adoption (Pikkarainen, Pikkarainen, Karjaluoto & Pahlila, 2004; Eriksson, Kerem & Nilsson 2005; Yiu, Grant & Edgar, 2007; Gounaris & Koritos, 2008; Ozdemir, Trott & Hoeicht, 2009). This study hypothesised positive linkage as follows:

*H1: Perceived usefulness has significant and positive influence on internet banking adoption (IBA)*

### **2.3.2 Perceived ease of use (PEOU)**

This construct, adopted from TAM, is defined by Davis (1989) as “the degree to which an individual believes that using a particular system would be free of physical and mental effort”. In this study, this has been related to the use of internet in general and accessing the services on the bank’s website. Past studies have found a significant relationship of perceived ease of use and internet banking adoption (Sohail & Shanmughan, 2003; Yu & Lo, 2006; Yiu, *et al.*, 2007; Gounaris & Koritos, 2008; Ozdemir, *et al.* 2009). This study hypothesised positive linkage as follows:

*H2: Perceived ease of use has significant and positive influence on IBA.*

### **2.3.3 Compatibility**

Compatibility plays a big role in the diffusion of innovation. In another classic on innovation, Tornatzky & Klein (1982) found out that an innovation is more likely to be adopted when it is compatible with the individual’s job responsibilities and value system. Internet banking has been viewed as a delivery channel that is compatible with the profile of a modern-day banking client, who is likely to be computer literate and familiar with the internet. Compatibility can even spread to group values and beliefs. This is evident in large numbers

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of US customers who shop online. Internet banking services are therefore very compatible for them.

According to Rogers (1983;), compatibility refers to “the extent to which the innovation is perceived as superior to all other options”. It has been found to be a determinant in technology adoption in general and IB adoption specifically (Kolodinsky & Hilgert, 2004; Hernandez & Mazzon, 2007; Eriksson *et al*, 2008). Hence, the hypothesis:

*H3: Compatibility has a significant and positive influence on IBA.*

#### **2.3.4 Trust in IB services**

The internet is an open network and there is high security risk involved with financial transactions (Han & Noh, 1999-2000). Communication of such threats mainly through media, scares clients. Currently strides have been made to ensure security mainly at software and hardware levels but threats continue to come although with less impact than before.

Studies done by Chiemekwe, Ewwiekpaete & Chete (2006) on adoption of e-banking in Nigeria, identify insecurity as the major inhibiting factor to internet banking adoption. Security risks or perceived security issues with internet banking keep coming up as the main hindrance in the adoption of innovation in general and internet banking in particular. Perceived risk refers to the expectation of suffering a loss in pursuit of a desired outcome. It includes areas such as performance, physical, financial, psychological, social loss and time (Greatorex & Mitchell, 1994).

According to Stewart (1999), the failure of the internet as a retail distribution channel has been attributed to the lack of trust customers have in electronic channels and in the web merchants. Casalo, Flavian & Guinalin (2007) point out that trust is therefore critical in developing online banking.

Security, privacy, trust and risk have also been compounded by phishing attacks targeted at financial services. IDC (2005) reported that 80% of global phishing attacks in the first quarter of 2005 targeted financial services. Chung and Paynter (2002); Black *et al* ; Siu and Mou (2005) and Hain *et al* (2003) also report fears regarding transaction security as an inhibitor to internet banking adoption.

Gartner (2003) believes that it is important for one to build trust through long-term usage of internet in general; this then makes it easy for one to adopt internet banking. Wang *et al*

(2003) report that trust may be related to consumer judgement on security and privacy. Suh and Han (2002) identify trust as an important factor in the adoption of internet banking.

Trust is probably the most common factor which recurs in many researches on internet banking adoption. Customers fear that other people will gain access to their sensitive information and even take away their monies electronically (Alsajjan & Dennis, 2006, Suh & Han, 2002). Several studies find a strong relationship between trust and internet banking adoption (Liao & Cheng; Sohail & Shanmughan; 2003, Eriksson *et al*, 2005; Yu and Lo, 2006; Guerrero *et al*, 2007). This prompted to hypothesise positive linkage as follows:

*H4: Trust has significant and positive influence on internet banking adoption.*

### **2.3.5 Awareness of internet banking services**

People need to be aware of the availability of internet banking services before they can start to use them. This was found to be a significant factor in studies done by Sohail and Shanmughan (2003). Lack of awareness was also found to be a main factor leading to customer reluctance in using online banking (Hamilton and Hower, 2002). These findings lead to discovering the relationship between awareness and IBA.

*H5: Awareness has a significant and positive influence on IBA.*

## **2.4 Other Factors Promoting Internet Banking Adoption**

Research has over the years discovered a number of attributes which are important in the adoption of innovation in general and this study made use of them but with specific emphasis on internet banking. Taylor and Todd (1995) suggest five attributes (relative advantage, compatibility, complexity, triability and observability) - to measure attitude towards innovation. One considers the benefits of using the new innovations as compared with the traditional means. Compatibility ushers in an aspect of close relationship with what one is already used to, so if the innovation has similarities, it then becomes less complex. Triability (an opportunity to test innovations first before full use) and observability (opportunity to see someone using something) are also crucial to gain trust of the change to be taken.

### **2.4.1 Relative advantage**

Agarwal and Prasad (1998) showed that relative advantage of an innovation is positively related to its rate of adoption. With internet banking, this advantage comes in having access

to the bank account at any time and from anywhere as long as there is connectivity. This is an advantage compared to the limitations in visiting a branch for any transaction. Rogers (1962) in his classical diffusion of innovation theory, also points out that one adopts innovation where there is relative advantage, even though there are some elements of difficulties in taking it up.

#### **2.4.2 Convenience**

This is an aspect which is closely related to relative advantage, but it is placed separately in this study because it is very important especially in the adoption of internet banking. The ability to carry out banking transactions when one needs to, brings a great deal of freedom and flexibility to people. There is no need to be restricted to the normal banking hours which may work out to be very inconvenient for busy people. One can bank at the end of a busy day or during the course of a day while occupied with daily activities. No limitations of time, space and geographic location are imposed as long as there is internet connectivity.

#### **2.4.3 Triability**

Agarwal and Prasad (1998) point out that potential adopters of new technology, who are allowed to experiment with it (triability), feel comfortable and then adopt it. This basically lowers the unknown fears, so banks need to have a facility for a trial run before one fully uses internet banking. In other words, more diffusion occurs when consumers can have a low-cost or low-risk trial of service.

#### **2.4.4 Resistance to change**

Rogers (1962) in his innovation diffusion theory, also highlights that people adopt innovation at different speeds. He suggests five categories of adoption which include innovators (2.5%); early adopters (13.5%); early majority (34%); late majority (34%) and laggards (16%). This clearly shows that people adopt at different rates. A large proportion waits to see the results of those who adopted first. In a way there are elements of resistance in many people until they are fully convinced that what they are adopting is very good for them.

Rogers (1962) also indicates that individual adoption has five stages, which are knowledge, persuasion, decision, implementation and confirmation. Awareness comes first, but many people will not quickly take up what they have heard or seen; they may need some persuasion. Some may make a decision whether to take it up, to wait and see or just reject it.

Those who take it up may then implement it but there will be some room to drop it if they are not convinced. Lastly those who are happy with the innovation will then confirm it by continuing to use it and also letting others know about it.

#### **2.4.5 Availability**

Setting up online banking is a long process which demands a lot of resources in the first place, but this is a critical step, otherwise there will not be anything to talk about. Zhu *et al.* (2003), confirm this point by saying that lack of trading partner readiness is a significant adoption inhibitor. This partnership goes over and above the banks themselves to include telecommunication service providers, government and regulators to name a few.

#### **2.4.6 Institutional involvement**

In this section emphasis is placed on the crucial institutions that make online banking possible. Government agencies, national and global standardisation organisations and industry associates all play a crucial role. Andersen *et al.* (2003) acknowledge the main role of information infrastructure (telecommunication, wireless and internet infrastructure). They provide the basis for internet banking to be operational.

In their study of internet banking adoption from consumers' perspective, Shi & Fang (2008) emphasize that support institutions' readiness is important to draw people into adoption. The required infrastructure includes telecommunication network, internet connectivity, availability of computers and other hardware and software. The telecommunication and electronic environment is noted to be closely correlated with internet banking adoption (Dholakia & Kshetri, 2004).

#### **2.4.7 Inaccessibility/ operational facilities**

Studies conducted by Chiemekwe *et al.* (2006) on adoption of e-banking in Nigeria, identify the major inhibiting factors to internet banking adoption as insecurity, inadequate operational facilities including telecommunications facilities and electricity supply. The report also shows that internet banking is done at the basic level of interactivity with most banks having mainly information sites and providing few internet transactional services.

#### **2.4.8 Complexity**

Cheung *et al.* (2000) consider complexity as the exact opposite of ease of use, which they found to negatively influence the adoption of the internet. It is crucial for banks to have easy-to-navigate websites and simple follow-up to links on the site. If a customer has sufficient knowledge of computers, complexity is lowered or eliminated leading to higher adoption. This is closely related to the level of education as the highly educated find internet banking easy to use (Cheung, *et al.* 2000).

#### **2.4.9 Internet banking set-up cost**

Switching costs also influences the change of delivery channels and influences customer retention (Burnham, Frels & Vijay, 2003) Switching costs are identified as procedural, financial and relational, which are further divided into categories of: economic risk; evaluation; learning; set-up; benefit; monetary loss; personal relationship loss; brand relationship loss; complexity; heterogeneity; breadth of service use; personal modification; alternative experience and switching experience. (Burnham *et al.*, 2003)

Despite the start-up costs, internet banking has become an important channel for selling products and services and is perceived to be a necessity for businesses in order for them to stay profitable and successful. There is growing interest in understanding the users' experience, as internet banking is observed to be a larger concept than user satisfaction. (Pyun, Scruggs & Num; 2002). Customers have started perceiving the services of a bank through the internet as a prime attractive feature, based on the convenience and comfort it provides to them (Salehi, Ali & Zhila, 2008).

Research carried out to explore the rate of adoption of e-banking in rural areas in South Africa, discovered that e-banking accessibility was hindered by poor internet penetration, customer inflexibility to new technology, low educational levels and computer literacy to broad-based adoption and constructive use of internet services. Some of these characteristics include lack of information, motives and finance, for electronic banking success (Cloete & Ramburn, 2006) Some non-users of internet banking complain about lack of a social dimension online as compared with the face-face situation at a branch.

#### **2.4.10 Consumer behaviour**

Generally some people are reluctant to conduct their financial transactions online. A study conducted in 10 countries reveals that two-thirds of consumers do not consider online services important. Almost 30% have no idea whether their bank offers Web-based services (Regan & Macaluso, 2000). It takes time to change consumer behaviour and this can be accelerated by aggressive marketing and high value-added features (Franco & Klein, 1999). This is complicated by security issues, perceived difficulty of use, perceived usefulness and functionality (Cheng *et al*, 2006).

#### **2.4.11 Language and culture issues**

Most of the websites are written in English, and this has been noted as a hindrance to non-English speaking communities. On the other hand, it is very difficult and costly to translate website information into other languages. The cultural dimension also comes into play, because the website has to adapt to the different cultures as well (Turban *et al*, 2000). In some countries like South Africa, language barriers have been addressed with some websites providing instructions in local languages.

#### **2.4.12 Adverse industry trends**

Banks may have other developments to focus on and for some banks, internet banking may be low on their priority list. The effects of the 2008-2009 recession are still being felt by some banks three years down the line, so recovery and stability may be their focus. Some banks might be at a level at which they need to consolidate their market share, so they may focus on that.

#### **2.4.13 Fear of competition**

E-banking has high start-up costs and for some small banks, it may be a lot of money and there may be fear that they may not quickly gain the required critical mass. They may divert to other options such as product differentiation that may give competitive advantage. However, as observed by Mols & Benbasat (1999), not offering e-services is not an option. At some point, they will have to do it for survival.



## **2.5 Growth of internet banking**

Estonia realised a rapid growth of internet banking absorption and this was based on the rapid adoption of new technology. The World Bank (2003) report on leapfrogging in e-finance points out that three countries with impressive progress in information technology in this sense are Estonia, Republic of Korea and Brazil (Claessens, Glaessner & Klingebiel, 2003). Important features which supported this growth were government support, liberalisation of telecommunication and lower internet connectivity costs.

In Estonia, internet banking services were introduced gradually. In 1996, there was a possibility of viewing account balances. A year later, security features; international payments; viewing credit card statement; deposits and account history; sending messages to the bank and viewing loan accounts were added. From 1999, customers have been able to manage their contact information and apply for loans; and third party services and shopping options were added. (Sahlem, 2002)

South Eastern Asian countries (Malaysia, Hong Kong, Vietnam, Singapore and Philippines) have noted a commendable growth in internet banking as reported by comScore (2012). All six countries recorded a double digit growth which averaged 16% in internet banking adoption from January 2010 to January 2012. Internet usage for the same period also grew from 35% to 72% in Indonesia. The study did not include internet access through mobile phones or handhelds and public computers such as internet cafes. This therefore means there is great potential for even higher growth in internet banking. This huge growth has been ascribed to a need for convenience (comScore, 2012).

IBM have expressed their vision of the future of financial services, complete with biometrics, state-of-the-art branch offices, enterprise risk management systems and advanced customer interaction (Marlin, 2005). E-banking is also going more mobile with internet connectivity and this enables instant payments, and helps people to manage their multi-bank financial portfolio, simultaneously as they go. Marlin (2005) predicts that internet banking will become common as internet knows no boundaries and banking systems are increasingly harmonised across borders (Marlin, 2005).

Banks need to educate their customers about how to use and the benefits of internet banking for them to gain critical mass faster (Clarke, 2008). Banks such as Union Bank of Switzerland (UBS) offer useful financial management tools which in addition to the usual e-

banking functions, provides for other financial functions (UBS, 2008). These include UBS Pay: allows entry and management of payments, UBS BESR e-list: for individual, small to medium enterprises that need a simple accounts receivable system with integrated invoicing functions. A web calculator for the stock exchange: helps to figure out quickly and easily the brokerage fees for transactions planned, or already executed. In other words e-banking is making tremendous inroads in the financial service sector.

Smart cards are also making a mark in e-banking and are expected to grow exponentially. It is a credit card-sized plastic with an embedded chip that provides power for multiple uses (Identification Document card; SIM cards for mobile phone;, credit/debit cards; benefit claim; health cards). The card is enhanced by personal identification number (PIN) verification and cryptography (M<sup>o</sup>-Chirgui & Channel, 2007)

Some of the hardware and the software for all these technologies are already in use and all that is left is for wide expansion to gain a critical mass. The future of e-banking is secure owing to ever-increasing adoption, wide broadband availability, low internet connectivity cost and the arrival of new technologies to address the shortcomings encountered so-far. (Schneider, 2005).

Major innovations in mobile banking employ mobile phones, security provisions and improved customer service. Technologies such as biometrics help to resolve many existing problems. National and international regulations need to be loosened for e-banking growth to gain momentum (Sergeant, 2000).

## **2.6 Institutional Stimulation Of Technology Uptake**

Adoption of technology can be a multidisciplinary approach, in which other institutions like telecommunications play an important part. The role of institutional involvement has been documented in various studies (Tomatzky & Fleisher, 1990; King *et al*, 1994; Andersen *et al*, 2003). King *et al*, advocate six institutional intervention which can stimulate information technology adoption. These are knowledge building, knowledge deployment, subsidy, mobilisation, standard setting and innovation directives . Government through its parastatals has a big role to propel these six factors, especially in developing nations like Botswana. Montealegre, (1999), also points out that institutions can influence in several ways which include enacting rules and regulations or creating demand for innovative product and processes.

## 2.7 E- Banking Technologies

Internet availability is essential for e-banking and it can make a significant contribution to a company's value. The internet dramatically lowers communication costs and eliminates obstacles created by geography, time zones and locations (Tan & Teo, 2000). There is need for reliable telecommunication systems to be available and it is in this area that collaboration with the government is critical.

The availability of mobile devices and their continuous growth, now coming with improved functionality, is enhancing and will enhance availability of internet banking. These mobile devices are becoming cheaper, so a substantial proportion of the population can now afford them, thus catalysing the distribution of mobile technologies and amplifying the growth of the worldwide mobile market. In countries in which traditional telecommunication infrastructure is not well developed, mobile technology is transforming accessibility to the internet services.

The two main technologies used in mobile banking are Wireless Application Protocol (WAP) and Wireless Internet Gateway (WIG). WAP is an application environment and set of communication protocols designed to enable independent access to the internet and advanced telephone services. WIG is a short message services (SMS)- based service, in which a menu of available banking options is initially downloaded from the bank to the phone device (Brown *et al.* 2003). These services enable users to browse bank accounts and conduct other banking- related tasks.

To promote adoption, the enabling technology platform needs to run at affordable costs to reach as many people as possible. Customers need to be made aware of the availability of the services, how they are used, and their advantages. They also need an opportunity to try the banking services or see demonstrations at the branches or through the electronic media. Awareness will be raised, people will have a better understanding and from there many other people will know through the ripple effect, where current users will inform others.

Implementation of the latest security technologies is also important to reduce perception of risk. New versions of WAP use encrypted digital signature to enhance security. The functionality and user interface of mobile devices is improving and the cost of internet connectivity is going down and this promotes widespread internet banking adoption. (Gaech 2007)

Kenya has registered huge successes in mobile banking through M-pessa, a financial services application installed on a mobile phone. A new generation SIM card is embedded with M-pessa software. Older SIM cards can be upgraded as well. It was launched to improve the efficiency of Microfinance by using mobile technology to make financial transactions cheaper, quicker and accessible to as many people as possible (O`Sullivan, 2012). Other countries like South Africa and Botswana have adopted a similar technology.

M-pessa enables users to perform person- to- person transactions, individual- to- business transfers and cash withdrawals at the registered outlets. One can also receive cash and make payment for loans. Account balances can be checked in real time as well as ordering of statements. All these functions are executed by SMS text messages (O`Sullivan, 2012).

## **2.8 Website Development**

In Internet banking, the website takes the role of the branch, so there is need for high levels of interaction which simulates the actual bank. The site should be easy to use, customer friendly and have access to a wide range of operating systems and web browsers. The website should be able to manage as many customer requirements as possible, just as in a non-web experience. This requires a shift from website usability alone to interactivity and ability to positively engage a customer (Coughlan, *et al*, 2006).

In other words, the website has to be customer -focused and emphasize how communication with customers can be improved by using a rich variety of available media. In order to come up with these customer- focused websites, it is crucial to understand the day- to- day customer interactions in the branch then design and evaluate websites that can simulate the real-life experience more closely (Coughlan, *et al.*, 2006).

## **2.9 Organisational Strategy, Objectives**

Internet banking needs to be well integrated into the overall bank strategy for it to be successful. Strategies adopted need to be customer-oriented rather than transaction-oriented. Integration with other systems which support different service delivery channels such as branches or the internet are vital.

Organisational strategies and objectives are greatly influenced by variables such as size of bank; types of decision-making; differentiation levels; technical staff; infrastructure; innovation on the part of decision-makers, international exposure and risk aversion.

National strategy issues, for example that on telecommunications and those pertaining to the bank's function need to be taken into consideration. Banks can take advantage of telecommunications advances spearheaded by governments. The recent undersea fibre optic cables which some southern African countries are tapping into to enhance the speed of internet connectivity is an example (BTA annual report, 2008). National plans to regulate telecommunications, banking or internet banking in particular need to be noted. National strategies pertaining to telecommunication and banking directly impact the success and sustainability of internet banking.

Internet banking brings drastic changes to organisations depending on how the bank implements them. Some banks might need complete re-engineering if they have to make many changes. The whole process of change has to be well planned, pretested, implemented, continuously checked and any additional changes amended. The change process has to be well communicated in the organisation for it to gain enough support, especially from the leadership.

Security should be a major priority since this has been one of the main reasons for people not using internet banking. Some of the current effective security systems use biometric technology and this can be in the form of retinal scans, finger prints or voice recognition. Security can also be outsourced if the bank does not have the capacity to do it in-house (Casalo *et al* 2007). Outsourcing may lead to the bank not having full control of the information, so some banks might partially outsource so that they remain in control of very critical information for the organisation. There are many security threats in the form of viruses, spyware, hacking to name a few which may need to be dealt with effectively and timely by those with specialised skills and capacity.

### **2.10.1 Project Management**

Internet banking requires serious project management, spanning from alignment with the bank's strategy, planning, implementation to monitoring and evaluation. Deficiencies at any of these stages may lead to failure of the whole process. There is need for communication, high skills in software systems and good coordination within the project teams (Appleton 1997). The teams have to make their decisions on time so that deadlines are met.

### **2.10.2 Project Management Issues**

Internet banking should be taken as a big project with small projects within, all working towards one common goal. Feasibility studies have to be carried out first, followed by determination of objectives, planning, implementation, monitoring and evaluation. Project management involves the application of knowledge, skills, tools and techniques to a broad range of activities to achieve a common goal (PMI, 2008). Necessary competences and skills have to be put together with the right tools and technologies to achieve Internet banking success.

### **2.11 Availability of Resources**

This is one of the main stumbling blocks for the banks especially if they have limited financial and human resources to get the project running sustainably. Internet banking has been noted to require major changes in IT infrastructure which may be very costly (Walczuch *et al.*, 2000). The other cost comes in the organisational change that normally goes alongside internet banking.

### **2.12 Return on Investment**

Thorough analysis of viability needs to be done to ensure profitability, so a detailed investment appraisal is essential. This is mainly due to the high set-up cost which is not easy to recover if the project fails. Proper return on investment is only realised after a critical mass has been reached which ensures recovery of the cost incurred.

### **2.13 Lack of Promotion of E-Banking within Banks**

Internet banking is fairly new as it has been in existence for just over 15 years, so a great deal of educating still needs to be done until it is well grasped. Customers may need to be persuaded and in some cases encouraged with incentives to move from traditional banking to e-banking (Sohail & Shanmugham, 2003). The promotion has to start with bank employees, so that they can pass the data on to their customers as they serve them within the traditional channels.

Internet banking information pamphlets should be available. In-house demonstrations on how to use internet banking and also computers should be available inside the bank for people to use for self service (Sohail & Shanmugham, 2003). At these times staff can ask about

customers' problems and with time people will become accustomed to and utilise e-banking more. This will go a long way to dispel the myths surrounding internet banking usage.

#### **2.14 Benefits of Internet Banking to the Customer**

Despite the disadvantages in the use of internet banking, the benefits far outweigh the disadvantages, especially now that advanced security systems have been put in place and many people have good internet connectivity. A customer can have all accounts aggregated, so that all accounts (current, savings, mortgage accounts) will be presented on a single page. This enables customers to have a quick glance at their financial portfolios. In most cases, funds can be transferred from one account to another in the comfort of a customer's home or anywhere where there is connectivity.

Internet banking brings convenience, banking at any time, anywhere and this is very important for people with busy schedules. One can sit down at the end of a busy day and do one's banking transactions or payment of bills. Now with internet connectivity through mobile phones, banking transaction can be done while on the go.

Internet banking accounts are easy to open and use especially on a well- designed and interactive website. This is done by answering a few questions on an online form. Security measures such as username and passwords should be established for access to an account. The form has to be signed and sent to complete the set-up. The same procedure can also be done in the branch.

Internet banking costs less than branch banking, since there are fewer buildings to maintain and less involvement of salaried employees. All these savings allow the bank to offer higher interest rates on savings and lower lending rates. Some banks are now offering free bill-paying services to encourage customers to do their banking online.

With internet banking customers can easily compare offers from several banks within a short time to get best deals, high interest rates on savings and low rates on lending. Other services which can be easily checked are availability of credit cards, loan terms and banks' own rating.

Internet banking users can easily check their bank balances before writing cheques, so refer-to- drawer cheques should decrease thus avoiding the penalty fees that banks charge.

Bank reconciliations are made easier with internet banking. Monthly statements can be downloaded onto software such as Microsoft Money or Quiken and reconciliation done with just a few clicks. Convenience of capturing data is much better compared to traditional paper statements. It is also easy for the customer to budget and track where the money has gone. Some banks have a facility that allows customers to view copies of the cheques, they have written each month.

Ability to view accounts anytime makes it easier to catch any fraudulent activities early. This is more so with accounts that send alerts each time a transaction takes place in an account. Unauthorised withdrawals can be detected immediately and appropriate remedies instituted rather than waiting for the monthly statement, which might be too late.

These benefits have encouraged banks to provide an increasing range of easy- to- use services via the internet. Customers cannot resist the convenience that internet banking provides. It is simple and gives customers better control over their money.

### **2.15 Benefits of Internet Banking for Banks**

Internet banking has many benefits for the bank as well and profitability is one of the major benefits. Operations can be easily expanded without needing branch expansion. In other words there is avoidance of the huge costs which accompany managing branches, since there are lower infrastructure costs and fewer salaried employees. Banks will be able to reach customers in areas which are not feasible for them to set up a branch.

Internet banking tends to attract high value customers who have potential to promote the bank as well: young professionals, managers, executives and the elite who have access to internet connectivity. These people have higher than average incomes and some have many streams of income. They are the ones who also tend to save or even just have high bank balances which boost bank's credit creations. These customers tend to have a high demand for banking products. Most of them use online channels regularly for a variety of purposes, so they quickly adopt internet banking (Berger & Gensler, 2007) Increases in bank profitability, after adding internet banking come mainly from increases in non-interest income from service charges on deposit (Young Lang & Nolle, 2007).

Internet is playing a more central role in most companies' business plans and this applies to the financial and banking sectors in particular. It has been proven that online banking is the cheapest delivery channel for banking products once established (Giglio, 2002). Banks can

easily enter new geographic markets even across national borders without acquiring existing banks or of starting up new branches, further increasing growth potential.

Banks can reduce their bank networks and downsize the number of service staff, which opens a way for online banking as many customers feel that branch banking requires too much of their time and effort. Time, cost savings and freedom from place have been found to be the main reasons underlying online banking acceptance (Howcroft, Hamilton and Hewer, 2002)

Banks can derive additional revenue over their offline revenues by charging online services and value added services, such as providing a portal for financial services linked to short-term and long term insurers, links to stock brokers, and links to foreign banks.

Banks can make savings from the reduction in branch sizes and reduction in consumable cost such as paper, ink cartridges, and other stationery. Internet banking offers opportunities for acquiring new customers especially those looking for flexibility and convenience. It is easy to sell products that existing customers do not have in their portfolio such as a second credit card, life insurance and home loans.

Banks that have successfully implemented internet banking have recorded increases in revenue because of possible increase in the number of customers, retention of existing customers and cross selling opportunities. Electronic channels have allowed banks to diversify their value creation activities. It is now also possible for banks to sell and manage services offered by other banks (often foreign banks). This promotes small banks with limited product range (Young *et al.*, 2007).

E-banking has resulted in increased credit card lending, since these transactional loans can easily be delivered over the internet. Electronic bill payment has also been rising rapidly (Young *et al.*, 2007). These e-banking related banking practices have rapidly expanded revenue streams.

### **2.15.1 Easier expansion**

Banks have become easier to expand with the advent of internet banking since it bridges the high start-up and maintenance costs. Now a bank with a traditional customer base in one part of the country or world can attract customers from other parts, as most of the transactions do not require a physical presence.

## **2.16 Load Reduction on other Channels**

Internet banking has brought about relief to other delivery channels such as enquiries to branches and call centres. E-channels are largely automatic, and most of the routine activity such as account checking or bill payment can be done electronically. People do not necessarily have to queue for long hours to perform these transactions. Month-ends have been a hustle for many people because they have to go stand in long queues in the bank and elsewhere to pay bills, but all this can now be done at one's convenience. This in turn reduces maintenance cost in the various areas where the bills were supposed to be paid traditionally (Clarke, *et al.* 2008). It also brings in a security dimension since people are no longer required to carry lots of cash around.

This trend is likely to continue as more sophisticated services such as asset finance or mortgages are offered using electronic channels. In some countries, routine branch transactions such as cash/cheque deposit related activities are also being automated, hence further reducing the workload of branch staff, and enabling the time to be used for providing better quality customer services.

## **2.17 Customer Relationships**

With the advent of the internet, customers have become more demanding, since they now have more access to information and that empowers them. With a few clicks, customers can find better quality services at an unbeatable price. To meet these demands, businesses need to develop innovative ways of creating value and this requires innovative thinking, planning and investment.

## **2.18 Marketing**

E-banking alongside data mining technologies can better understand customers' needs and customise products and services according to those needs. E-marketing builds on e-channels' ability to provide detailed data about customers, financial profiles and purchasing behaviour. This enables customised advertising, products and enrichment of the relationship with customers. There is also a huge reduction of errors with the use of e-channels and this is very welcome to both customers and the bank. Building customer profiles and data collection on certain groups of people can be used to customise existing products, or designing new ones (Wind, 2001).

## **Chapter 3 Methodology**

### **3.0 Method Sections**

This section outlines the whole process of how the sample was chosen, how data was collected and the validity of the data. It goes to greater depth in clarifying the whole procedure, so that any other researcher can use the same tools in almost similar conditions and be able to come up with a comparable set of results.

#### **3.1 Target Population**

This study targeted the banked people in Botswana in general with special attention on Gaborone. The banked roughly translate to the people between the ages of 18 and 65. There are very few banked people below the age of 18 and over 65 years of age in Botswana, and this is why they were not targeted. The banked population in Botswana, that is. Those with bank accounts and access to banks as well, comprises 45% of the whole population, which translates to over 900 000 people. Indexmundi (2011) estimates the 15 to 65 age group to be about 62,2% of the population, which is roughly 1 280 000 persons. This helps to confirm the total target population after eliminating the unbanked and those between 15 and 18 years of age.

Special emphasis was placed on Gaborone because that was where the research was carried out then an attempt was made to try to extrapolate to the whole nation. The target population was divided into mainly- the employed, the employers and tertiary education students. In Botswana almost all the people who are employed have a bank account, because that is the medium through which they receive their salaries. Over 90 % of the tertiary education students are sponsored by the government and they also receive their allowances through bank accounts. The remaining 10% are not on government sponsorship but most likely have bank accounts as well because they come from well- off families who know the importance of having a bank account.

The great majority (93%) of the Botswana population are blacks (Indexmundi, 2011), so this also affected the target population and eventually the sample. In terms of gender, the target population had an almost balanced female to male ratio.

## **3.2 Study Sample**

The study was a cross-sectional one conducted on simple stratified samples selected in Gaborone. Originally a sample size of 200 was aimed for but owing to some constraints and private issues limitations, a sample size of only 100 was finally used. The original 200 were meant to include 100 bank clients queuing for service, 25 from each of the four main banks in Botswana; 50 from university and college student; another 25 from people in organisations and the remaining 25 from among small business owners. This was done as an effort to cover as wide a range of people as possible. They were also the people who were most likely to use internet banking.

The bulk of the participants were expected to come from those who still used traditional banking methods, but very possibly used internet banking as well. It was appropriate to find both. This stratum was conducive to obtaining a good mix for the study.

It was very important to obtain the views of the students' stratum, because they were generally knowledgeable about technology, so finding their internet banking adoption status would help in predicting into the future. This would also help for comparative purposes in terms of age, income levels and internet usage.

There were some purely internet bank users who visited the branch very rarely, so to get them, the appropriate way was to go into organisations and their work places. This was the main reason why some questionnaires were taken into organisations and small businesses.

The banks did not guarantee permission to carry out the study on their clients, mainly on the basis of security and fear of taking information to competitors. Some were stated that they had other questionnaires from many other students, so they were working on the ones they had. This forced a change on the major component of the research. Finally, participants were mainly bank account holders between the ages of 20 and 50. There were 30 tertiary education students and 70 working class respondents from Gaborone.

### **3.2.1 The sample in relation to the research goals**

This sample gave a better picture as it covered people from various age groups and social status. The research aimed to find out the levels of internet banking absorption as well as reasons for uptake and reasons for not taking up internet banking. A wider sample would give varied responses to these questions as well as a better representation of the target population.

The composition of the sample was appropriate for finding internet and non-internet bank users. This ensured that all the research goals were met, since this group is technologically knowledgeable, and use internet a lot and most likely used internet banking.

### **3.2.2 Selection criteria**

To cater for the research goals, the sample framework had to involve people with bank accounts and these were normally between the age of 18 and 65, though there were a few outside this range. The framework had to capture both internet banking users and non-users. This would help to find the reasons for use or non-use. The sample also had to be random to reduce bias.

Taking the above into consideration, it was appropriate to have a quota of tertiary education students because they almost all had bank accounts, into which the government deposited their allowances. There are three main universities in Gaborone (University of Botswana, Botho college and Limkokwin). Ten students were randomly given questionnaires during lunch time from each of the three institutions.

Almost all employees in big organisations and all public servants in Botswana have bank accounts. Organisations were randomly chosen and not more than 10 questionnaires were randomly distributed to the employees of each of the organisations depending on the size (number of people in an organisation). This was done to cover as many organisations as possible.

### **3.2.3 Demographic characteristics of participants**

The participants were mainly blacks, Batswana, mostly and mainly between the ages of 20 and 35 years. In terms of gender, there were more males than females in the tertiary education stratum but it was the reverse in the working class with more females than males. Over all there was a fair male to female balance. Socioeconomically, the sample was mainly comprised of medium- income earners. Students have low government allowances but most of their upkeep is taken care of by the government, parents or relatives and this places them at a reasonably good socioeconomic status.

### 3.3 Exclusion criteria

As the study only required people with bank accounts, this eliminated all those without bank accounts. Further, the sample was only for those aged between 18 and 65 with sources of reasonable income. Reasonable here is qualified as enough income for someone to deposit it in the bank and for the flow to be fairly regular.

### 3.4 Informed consent

As the study was a simple social one without an invasive procedure or too sensitive information required, there was no need for a signed consent form. The only form of consent needed, was the agreement of the people to fill in the questionnaire. Each questionnaire had a covering letter from the North- West University to show that it was for academic purposes.

### 3.5 Research Tool

A simple questionnaire was used in this study, consisting of five segments: demographic, internet usage, internet banking usage, perceptions and attitude on internet banking and lastly the comments section. The demographic information section looked into age, gender and educational status, monthly earnings and occupation. The internet usage section looked into knowledge about the internet, accessibility and frequency of usage. The internet banking usage section probed knowledge and usage of internet banking. The perceptions and attitudes regarding internet banking section dealt with security, convenience and general customer perceptions of internet banking.

Table 3.1: Summary of Questionnaire

Section	Items
Part 1 Demographics	Age, race, gender, highest educational qualification, occupation, monthly income
Part 2 Internet usage	Internet: knowledge, access, frequency, access mode, where it is accessed, what it is used for, ease of use and necessity
Part 3 Knowledge and use of internet banking	Internet banking (IB): knowledge, where knowledge came from, if banks are marketing IB well, usage, intention to use, necessity, frequency of use, services accessed, website navigation.
Part 4	IB: security, trust, completion of transactions, convenience,

Perceptions of and Attitudes to internet banking	cost, recommendations to others
Part 5 Comments	General comments

### 3.6 Independent and Dependent Variable(s)

The study had five independent variables and one dependent variable (internet banking adoption) as shown in the figure below. Each of the independent variables had items from the questionnaire that it related to as shown in the descriptive statistics variables' diagram below.

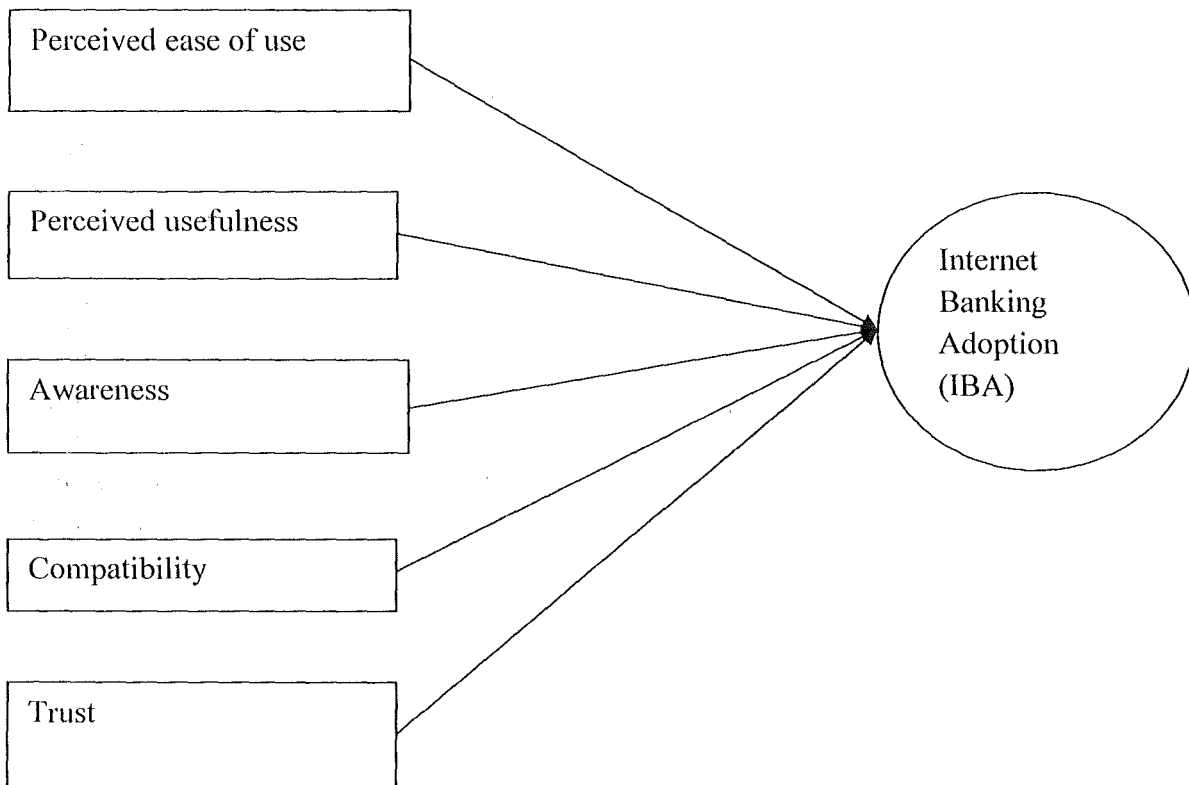


Figure 3.1: Research framework

#### Descriptive statistics variables

The descriptive statistics variables table below shows the codes for each variable (for ease of analysis), and the number of items from the questionnaire. The mean and reliability values (Cronbach's alpha) were determined statistically and provided in the results section.

Table 3.2: Descriptive statistics variables

<u>Variable</u>	<u>Code</u>	<u>No. items</u>	<u>Mean</u>	<u>Reliability</u>
Perceived ease of use	PEOU	2		
Perceived usefulness	PU	4		
Compatibility	COM	4		
Trust	TRUST	4		
Awareness	AWARE	3		

### 3.7 Hypotheses

The five hypotheses were formed as a link between the independent variables and the dependent variable. The results section in the next chapter shows if the hypotheses were negative or positive, in other words, not confirmed or confirmed. The five hypotheses of this study are as follows:

H1: Perceived usefulness has significant and positive influence on Internet Banking Adoption (IBA)

H2: Perceived ease of use has significant and positive influence on IBA

H3: Compatibility has significant and positive influence on IBA

H4: Trust has significant and positive influence on IBA

H5: Awareness has significant and positive influence on IBA

### 3.8 Research Design

This study was a cross-sectional descriptive one. It just explored the state of affairs at a single point in time, without any follow up or retrospective analysis of the participants. This design was sufficient for the study because it examined only the current internet adoption levels and reasons for adopting or not adopting internet banking. The only groups in this study were the tertiary education students and members of the working class (employers, employees and self-employed). They were grouped on the basis of occupation.

Table 3.3: Research constructs

Variable Code	Item code	Items
PEOU	PEOU1	Do you think the internet is easy to use?
	PEOU2	Is your bank website easy to navigate?
PU	PU1	Do you think the internet is necessary?
	PU2	Do you think it is necessary to use IB?
	PU3	Do you think IB is convenient?
	PU4	Do you think IB is cost effective?
COM	COM1	Do you know what is the internet?
	COM2	Do you have access to the internet?
	COM3	How often do you have access to the internet?
	COM4	How long do you use the internet?
TRUST	TRUST1	Do you think IB is secure?
	TRUST2	Do you trust IB security?
	TRUST3	Do you think your transaction can be completed very well through the IB?
	TRUST4	Would you recommend IB to others?
AWARE	AWARE1	Do you know about IB?
	AWARE2	Would you want to use IB?
	AWARE3	Do you think banks are doing enough to make people aware of IB?

The table above shows the variables codes and the items with their corresponding codes.

### 3.9 Validity

Validity pertains to correctness and accuracy, so that the instrument measures what it is supposed to measure (Oppenheim, 1984; Baines and Chansarkar 2002; Parasuraman, 1991; Peterson, 2000). Valid measures are believed to be free from error, which makes it critical for research. In this study, validity is ensured first by the alignment of the questionnaire with tried and tested innovation models, TAM and the innovation diffusion theory. These models have been used a great deal in internet banking adoption. The questionnaire items were also

comparable to some TAM- based questionnaires and to the one used by Tan and Teo (2000) in their study on internet adoption in Malaysia. Questionnaire items have also been aligned with the research goals. Validity was also tested statistically and this will be shown in the results section in chapter 4.

### **3.10 Reliability**

Reliability is concerned with consistency regarding obtaining the same results again and again (Oppenheim, 1984; Peterson, 2000). If another researcher does the same study, he or she should arrive at reasonably close results. Reliability is closely related to validity because if a measure is valid, it will give reliable results. This study used sets of questions to measure different aspects of the same concept. Litwin (1995) points out that using several items makes the data set richer and more reliable. Results of the pre-test and the actual study showed consistency, which also aided on the reliability. Internal consistency was also tested statistically by Cronbach`s coefficient alpha and the results will be given in the next chapter.

### **3.11 Chapter summary**

This chapter clearly laid out the method and tools that were used for the research. The sampling technique and the overall research design were clarified as well. The research tool (questionnaire) was dissected to show its components and how its items would feed into the research constructs (independent variables).

## Chapter 4

### 4.1 Research Results

The focus of this chapter is on summarising the research results. 91 of the 100 questionnaires were returned, which is a 91% return rate, but 6 were not fully completed or were spoiled. The results, therefore, pertain to the 85 respondents who completed the questionnaires in full.

Table 4.1: Profile of respondents

		Students		Working class	
		Frequency	Percentage	Frequency	Percentage
Gender	Male	21	70,0	19	35,0
	Female	9	30,0	36	65,0
Age	20-25	28	93,3	17	28,7
	26-30	2	6,7	23	39,0
	31-35	0	0,0	15	25,4
	36-40	0	0,0	3	5,1
	41-45	0	0,0	4	6,7
	46-50	0	0,0	3	5,1
Race	Black	29	96,6	50	93,0
	Arab	0	0,0	1	2,0
	Indian	1	3,4	1	2,0
	Coloured	0	0,0	2	3,0
Monthly income	<P2 000	28	93,3	3	5,1
	2 001- 5 000	2	6,7	11	18,6
	5 001- 10 000	0	0,0	15	25,4
	10 001- 15 000	0	0,0	12	20,3
	15 001- 20 000	0	0,0	8	13,5
	>20 000	0	0,0	6	10,1
Highest educational qualification	Junior certificate	0	0,0	1	1,7
	'O' Level	18	60,0	5	8,5
	Certificate	5	1,7	6	10,1
	Diploma	7	2,3	16	27,0
	Degree	0	0,0	24	40,7

	Masters	0	0,0	3	5,0
Occupation	Labourer	0	0,0	6	10,2
	Professional	0	0,0	45	76,1
	Self employed	0	0,0	4	6,7
	Student	30	100	0	0,0

#### 4.1.2 Demographics

Of the 30 students, 28 (93.3%) were in the 20 to 25 years age group and only 2 (6.6%) were between the ages of 25 to 30. No students were older than 30. This is consistent with the ages of many university students. The working class respondents were mainly in the 26 to 35 age group. No participants were younger than 20 or older than 50.

Only one student was Indian and the rest were blacks. The students' highest attained educational qualification were as follows: 60%- 'O' Level, 23% - diplomas and 17% - certificates.

Most of the working class have a diploma or a degree as their highest qualification. There were 11% with 'O' Levels and a certificate as highest qualification. Close to 82% of the working class were professionals, 10% were labourers and the remaining 8% were self-employed. The self-employed were mainly owners of small business organisations.

Over 93% of the students had a monthly income below P2000, mainly from government allowances. The remaining 6.6% had monthly incomes between P2001- 5000. Probably these were students sponsored by their employers and they continued to receive salaries.

The bulk of the working class (69%) earned between P2001 and P15 000. A quarter (25.5%) earned salaries over P15 000 and the remaining 5.5% had income below P2 000.

#### 4.1.3 Internet knowledge and access

All the participants in this study knew about, had access to and used the internet. Numbers of participants who had access to the internet using either wired or wireless devices, were almost equal, with a slight inclination towards wireless devices. A proportion of the working class (39%), had access to the internet on both wired and wireless devices.

The working class mainly had internet access at work (60%); 58% accessed the internet through mobiles and only 20% at internet cafés. Some overlapping occurred as some participants had internet access in more than one mode. More than half (63%) of the students accessed the internet through their mobiles (laptops, phones and tablets) mostly using university wi-fi system; 23% had internet access at home and only 6% accessed the internet at their work places. Probably they were part-time students. There were overlaps as well as some could access internet in more than one mode.

Among the working class participants, internet usage was as follows; 23.7% used it for business; 91.5% for entertainment; 45.8% for study and 3.7% for banking. Among the students, 6.6%, used the internet for business; 83.3% for entertainment, 86.6% for study and 33.33% for banking. Overlapping occurred in usage in both working class and tertiary education students.

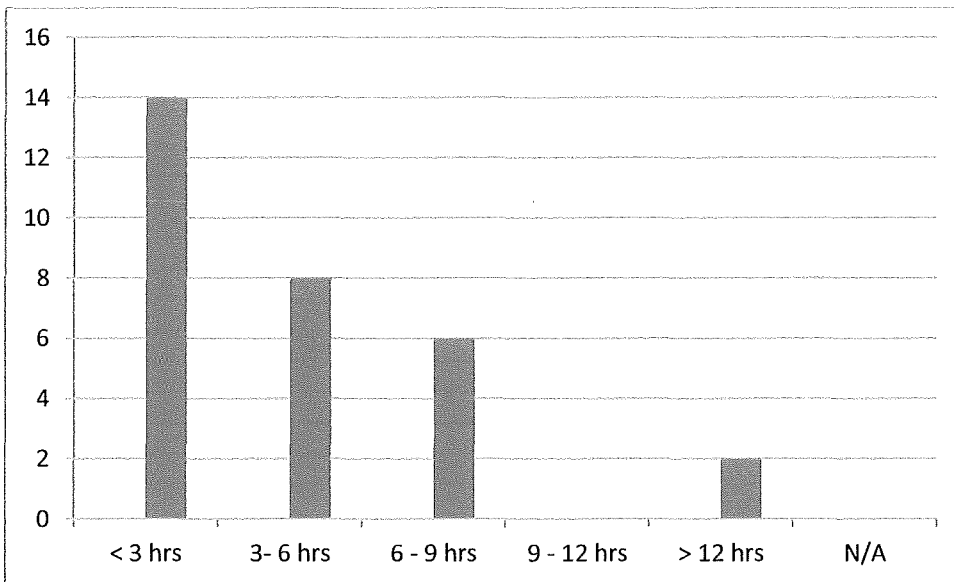


Figure 4.1: Duration on internet per day (students)

Almost half of the students (46.6%) accessed the internet fewer than three hours per day; 26.6% between 3 and 6 hours and 20% for 6 to 9 hours. The remaining 6.6% spent over 12 hours on the internet. The working class spend between up-to 6 hours on the internet, with very few spending more than 9 hours.

#### 4.2 Internet Banking

A high proportion (84.7%) of the working class participants expressed knowledge about internet banking while 15.3% had no idea, 66.6% of tertiary education students knew about

internet banking and the remaining 33.4% did not know. The sources of knowledge about internet banking among working class participants were as follows: 44% from banking staff; 18.6% recommendations from others; 35.6% advertisements and 6.7% from the internet among working class. The students' main source of knowledge was advertisements (56.6%), followed by the internet (33.3%), banking staff (20%) and recommendations from others (6.6%).

Of the tertiary education students, 33.33% and of the working class respondents, 32.7% used internet banking. Almost all non- users intended to use internet banking except for 6.7% from the working class who indicated that they did not want to use internet banking. All of the internet banking users in both the working class and the students used it for checking balances; 60% of the working class respondents and 50% of the students use it for bank statements and transfers. No one used internet banking for cheque requests. 40% of the working class participants and no one among students used it for online buying. 40% of working class and 10% used it for paying bills.

### 4.3 Reliability Analysis

Table 4.2

Variable	Code	No. items	Mean	Cronbach's alpha
Perceived ease of use	PEOU	2	2,124	0,781
Perceived usefulness	PU	4	2,204	0,823
Compatibility	COM	4	2,052	0,814
Trust	TRUST	4	3,524	0,852
Awareness	AWARE	3	3,423	0,782

Cronbach's alpha was used to assess reliability of the measures. It evaluates the degree of variance attributable to the true score of the variables to be measured. Reliability focuses on the instrument used in the study, by showing consistency of the measure. It is recommended that Cronbach's alpha should be over 0.5 but there is more reliability if it is over 0.7. The reliability for this study is shown in the table above and all the variables have values over 0.7, which shows that they have sufficient reliability.

#### 4.4 Validity

Validity refers to the degree to which a study accurately assesses the specific concept that is to be measured. It focuses on the success in measuring what the research intends to measure. This was ensured through using well established models such as TAM and IDT.

#### 4.5 Correlation matrix among constructs

Table 4.3: Correlation matrix

	PEOU	PU	COM	TRUST	AWARE
PEOU	1	0,345	0,231	0,123	0,211
PU		1	0,430	0,324	0,362
COM			1	0,311	0,234
TRUST				1	0,341
AWARE					1

The correlation matrix shows whether there are correlations between the independent variables, since they are supposed to be independent of one other. This is very important to do when a construct has multiple items. According to Field (2005), the correlation coefficient should not go beyond 0.8 to avoid multicollinearity. The highest correlation coefficient in this study is 0.430; which is far below 0.8; so there was no multicollinearity among the independent variables.

#### 4.6 Multiple Regression Analysis

Table 4.4: Multiple regression analysis

Model	Beta	Error	Sig
PEOU	0,235	0,045	< 0,05
PU	0,241	0,051	< 0,05
COM	0,213	0,055	< 0,05
TRUST	0,451	0,062	< 0,05
AWARE	0,153	0,060	<0,05

Multiple regression analysis was used to test the hypotheses. This was the most appropriate method since there was a need to analyse the relationship between a single dependent variable and several independent variables. The table above shows the standardised regression coefficients ( $\beta$ ) which will be on the “path”. These values are very important in confirming or rejecting the hypotheses. All the hypotheses were supported.  $R^2$  for internet banking absorption was found to be 0.752, which shows a strong relationship between the independent variables and the dependent variable.

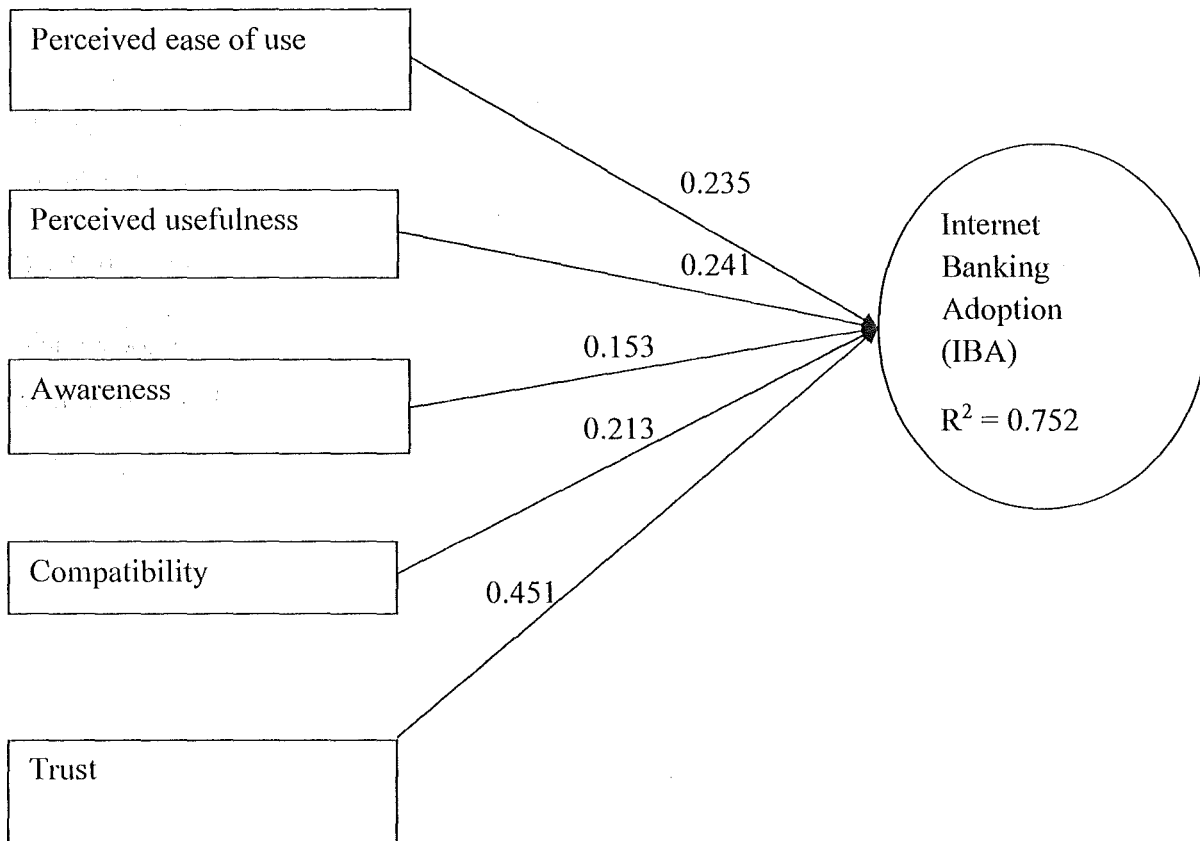


Figure 4.2: Hypotheses results on the framework

The figure above, shows that all the hypotheses were supported through the positive  $\beta$  values on the paths from independent variables to the dependent variable.  $R^2$  of 0.752 (75.2%) also shows that IBA is explained mainly by the five variables; only about 24.8% will be explained or related to other variables which are out of these five.

#### 4.7 Comments

The respondents made many comments which are summarised in this section. The comments will help to add strength and confirmation to the collected and analysed data.

The most expressed comment was regarding security and trust issues in internet banking. Below are some of the comments made by the respondents:

*Internet banking is a very useful and necessary way of banking. My only fear is how safe and secure it can be. Banks guarantee that it is secure but there are evident reports of people who crack systems and have access to peoples` information and end up doing unlawful transactions.*

*I really haven` t used internet banking at all, mainly because of security fears/concerns*

*Internet banking is not safe at all because there are some internet password crushers that may invade the account very easily*

*I would like to use internet banking but before I take the risk, I would like to know more about its safety to personal information*

*Even though it is a very convenient service, it carries high security issues because even the bank notifies you as their client that they are not responsible if a hacker accesses your account and misuse your funds.*

Security appeared to be the main hindering factor to the adoption of internet banking. This confirmed the statistical findings as well.

Other comments show lack of full awareness of internet banking. People often have shallow information on internet banking, and many only know about the advertisements that they see. These are some of the comments that were made:

*Banking staff should advertise it more*

*Banks need to advertise and educate their customers on internet banking*

*I think people need more clarification on internet banking, because I think most people do not know about it.*

There were also few comments on poor internet access, but referring to areas outside Gaborone where people have problems to carry out their transactions.

*There is poor internet access in remote areas*

There were also positive comments mainly from the internet bank users. Some even requested internet banking products expansion, so that they would not need to go to a bank at all.

*Banks should increase the number of internet banking products like opening an account, interbank and international money transfer*

*It is very convenient*

*Internet banking is a necessity*

*Internet banking is more effective and I recommend it*

*I would appreciate it if everyone were given chance or opportunity to access internet banking because it is very important and one can use it while one is at home*

*Internet banking is secure but one still has to be cautious about using the internet. The best security is the person using the internet*

*Internet banking, in my opinion is more convenient than necessary. It helps people avoid queues, thus saves time. I never heard of any fraud and have never been a victim of any malpractice. I think it is safe.*

*Internet banking has revolutionised the way banks offer services. This scenario creates a win-win situation for banks and their customers. Banks are able to manage their costs to provide services to customers and the latter can curb and manage their time.*

#### **4.8 Chapter summary**

This chapter summarised the research findings from the profile of the respondents, internet usage in general to internet banking adoption. Statistical analysis of reliability, hypotheses and correlation of the independent variables was provided. The chapter ended with a summary of the comments given by the respondents.

## **Chapter 5**

### **5.0 Discussion of Results**

This section evaluated the results of the study, from profiles of the respondents, descriptive statistical analysis, the support or non-support of the hypotheses to the comments made by respondents. The implications of the findings were weighed up as well. The interpretation was done in relation to the theory and other previous studies. Limitations of the study will be acknowledged and suggestions for future research pointed out.

#### **5.1 Confirmation or Rejection of Hypotheses**

The study results showed that all five variables were significant at 0.05 significance level as shown by the beta values.  $\beta$ PEOU was 0.230;  $\beta$ PU was 0.241;  $\beta$ COM was 0.213;  $\beta$  TRUST was 0.451; and  $\beta$  AWARE was 0.153. This therefore showed that the independent variables: perceived ease of use; perceived usefulness; compatibility; trust and awareness, have a positive influence on internet banking adoption. At  $R^2$  of 0.752 (75.2%), internet banking adoption is highly explained by these five variables.

#### **5.2 Answers to Research Questions**

This section focuses on the answers to the research questions

##### **5.2.1 Internet Banking Adoption**

Internet banking adoption among the working class respondents and university students in Gaborone was over 32%: 33.33% in tertiary education students and 32.7% of the working class respondents. Almost all non-users indicated that they intended to use internet banking except 6.7% of the working class respondents who indicated that they did not want to use internet banking. This is very reasonable for a developing country but there is still room to increase that adoption level. Internet connectivity in Gaborone is very high and almost all participants have access to and make use of the internet. This creates a good platform for internet banking.

##### **5.2.2 Factors that Promote Internet banking**

This section focused on factors that promote internet banking adoption; in other words, the factors that help to draw people into using internet banking.

### **5.2.2.1 Perceived ease of use**

Perceived ease of use, perceived usefulness, compatibility and awareness were all confirmed in the hypothesis as having a positive impact on internet banking adoption with a  $\beta$  of 0.23. This is consistent with studies conducted by Davis (1989), Vanio (2006) and Vankatesh and Davis (1996). The perceived ease of use construct had ease of internet use and ease of website navigation as items. The implication is that those who found internet ease to use would most likely adopt internet banking. Ease of website navigation was also considered very important for people wishing to make use of the website. This is important for banks to take note of, so that they make the website user friendly. Clients should find it easy to open and perform their transaction on the website. The website must simulate the interaction offered in the branch as much as is possible to encourage clients to use it for most of their banking needs.

### **5.2.2.2 Perceived usefulness**

The perceived usefulness construct had necessity of internet and internet banking, convenience and cost effectiveness as items. The hypothesis was supported with a  $\beta$  of 0.241; which was consistent with studies by Tan and Teo (2000): relative advantages would draw people to adopt internet banking. Perceived usefulness was found to have positively influenced the consumers' behavioural intention to use computer systems (Ha & Stoel, 2009; Hsu, Wang & Chiu, 2009; Norazah, Ramayah & Norbayah, 2008). Convenience was found to be important as well in studies by Nielsen (2005) and Munene *et al.* (2002).

It is important for one to realise the importance of internet banking before one can actually adopt it; this is driven by the difference that internet banking will bring into one's life. Convenience and cost were also seen as critical for one to adopt internet banking. Internet banking convenience means being able to do banking at anytime, anywhere. This was confirmed in the comments section with comments like: *Internet banking, in my opinion is more convenient than necessary. It helps people avoid queues, thus saves time.* The cost saving comes in lower bank charges, transport and time and it is also a huge saving to the bank in overheads and expansion costs.

### **5.2.2.3 Compatibility**

Compatibility construct items include knowledge and access of internet, frequency of access and duration of time spent on the internet each day. A person who knows and uses the

internet often and for a long time, will not find internet banking adoption to be very difficult, since internet banking uses almost the same tools. The hypothesis was supported with a  $\beta$  of 0.213; these conformed to earlier studies by Black *et al* (2001) and Polatoglu and Ekin (2001). All these researches concluded that past experiences and values of consumers had significant impact on their willingness to adopt internet banking

This was probably the reason for there being an almost equal number of university students and working class participant internet bank users despite students having very low income. Students make uses of the internet very often in their school work and for entertainment purposes, so they could easily transfer these skills to internet banking.

### **5.2.3 Factors that Hinder Internet Banking Adoption**

This section discusses factors that hinder internet banking adoption and relates them to previous studies.

#### **5.2.3.1 Trust**

Trust has been confirmed as being positively linked with internet banking adoption with a  $\beta$  of 0,451. The items in this section included security of internet banking, confidence that transaction will be completed and recommendation of internet banking to others. This was consistent with studies by Bhimani (1996); Cockburn and Wilson(1996); Quelch and Klein (1996)and Sathye 1999. Security, privacy and trust concerns appeared to be the main hindering factors to Internet Banking Adoption.

Security issues caused many people to doubt the capabilities of internet banking and stopped them from using it. Confidence in completion of transactions would make people trust the service and later recommend it to others. Lack of this trust would stop many people from adopting internet banking. This was confirmed by the comments:

*Even though it is a very convenient service, it carries high security issues because even the bank notifies you as their client that they are not responsible if a hacker accesses your account and misuse your funds.*

*I really haven't used internet banking at all, mainly because of security fears/concerns*

*Internet banking is not safe at all because there are some internet password crushers that may invade in to the account very easily (student)*

Rotchanakitumnuai and Speece (2004) pointed out that banks should continue to improve their security and privacy measure and keep reassuring both internet bank users and non-users. This is very important since internet security is challenged time and again and there is need to keep upgrading in order to maintain total security.

### **5.2.3.2 Awareness**

The awareness construct includes knowledge about internet banking; intention to use it; perception on the level of advertisement and making people aware of internet banking. The hypothesis for this variable was supported with a  $\beta$  of 0.153; which showed its importance in internet bank adoption. This was consistent with the studies done by Sohail and Shanmugham (2003) and (Hamilton and Hewer, 2002). Customers therefore need to be fully aware of what internet banking is all about. Promulgation of knowledge has to go further than just an advertisement on a billboard or simply brochures. This was also confirmed by the comments that were given by the respondents:

*Banking stuff should advertise it more*

*Banks need to advertise and educate their customers on internet banking*

*I think people need more clarification on internet banking, because I think most people do not know about it.*

Banks have to realise that there are some hindrance factors which need to be dispelled by providing clients with full explanations, rather than waiting for them come and enquire.

### **5.3 Importance of the Research findings**

The research findings confirmed many previous findings in other studies conducted in countries like South Africa, Australia, Malaysia. This therefore means that not much difference was found in the supporting and hindering factors regarding internet banking adoption in the urban areas of developing nations as long as internet connectivity and internet banking services were available. In other words, the study was done in conditions comparable to those in the countries mentioned above.

This in a way supported the same measures which were taken to promote internet banking adoption in the other countries. The results might be lightly different if the study is done to

cover all the social classes in Gaborone as well as in the small villages with low or no internet connectivity. This opens up opportunities for further research.

The research was also important to show that efforts done to expand internet connectivity and access to broadband are already bearing some results in the financial sector. This will encourage the authorities and policy makers to continue the internet connectivity process.

#### **5.4 Limitations of the Findings**

The study was confined to university students and working class participants, who had a high degree of internet access and formed the banked component of the society. It was also conducted only in Gaborone, so it cannot be generalised to the whole country, since the conditions are different. One way to extrapolate to the whole nation is to use the 8% national internet access and say, if at 100% internet connectivity, internet bank adoption is 32%, therefore for the whole nation it should be about 2.56% ( $\frac{32}{100} \times 8$ ) %. This would need to be confirmed by a study that would cover larger areas in the whole country if the researcher is given more financial resources and time is available.

#### **5.5 Further Studies**

With availability of resources and time, the same research on internet banking absorption needs to be extended to cover as many areas in Botswana as possible, including even the small villages. Internet connectivity is very different between Gaborone and the other small towns and villages. Nationwide research will give a very close estimate of adoption of internet banking in Botswana. There will probably be more differences in the factors for adopting and not adopting.

Studies can also be conducted on the rate of internet adoption and the comparisons involving age groups, income and social status. This will be important for planning purposes at a national and corporate level for the banks and telecommunication companies in particular.

#### **5.6 Chapter summary**

This chapter further analysed the research findings regarding interpretation and implications. The findings on the supporting and hindering factors were also related to previous studies on internet banking adoption. Some of the comments were related to the appropriate independent

variable analyses. The chapter ended with an attempt to extrapolate to the whole country, given the prevailing limitations of the study, which provides opportunities for further studies.

## **Chapter 6- Recommendations and Summary**

### **6.0 Introduction**

This chapter provided recommendations based mainly on the research findings and provided the summary of the study. The internet banking adoption by the working class and tertiary students in Gaborone is very reasonable at over 32% especially for a developing country. This is mainly due to the availability of internet connectivity in the city and more specifically for these two strata. The working class respondents and the students also make use of the internet in their everyday lives, so they are well used to the technology involved. The banking staff also educate them about internet banking, since they are the most likely to make use of it.

### **6.1 Recommendations**

Banks have a lot of potential for increasing internet bank usage as has been noted by almost all those not using internet banking but intending to use it. Generally people seem to be concerned about the security aspect of internet banking, since it is fairly new and they have heard of some fraud cases. The banks need to educate their clients about internet banking, mainly in connection with the security systems that they have in place for safe-guarding clients' money.

On the same aspect of security, instead of just reassuring customers, banks need to ensure that their internet security systems are good enough and are kept up to date. If the banks do not have internal capabilities for maintaining the needed levels of security, they can outsource to capable organisations which will keep tight security. With technological advances these days, this is very easy to do even with organisations outside the country. Customers also have to be informed that they have a role to play in the security of their banking details.

An awareness campaign would also give clients more information about the products that they can make use of on the internet and the benefits that they will give to the clients. Internet banking users, seem to use it mainly for balance and statement requests and make very little use of the other products that are available. There is therefore need for people to be made aware of the products that are available and to be taught how to make use of them. The bank also has to expand the products they offer to cater for almost all services and products that are offered in the branches. Some current internet bank users point that in the comments section.

The website has to be interactive, easy to navigate and simulate the branch as much as is possible.

Banks can also set up stations within the banks to train clients or demonstrate internet banking until they are fully aware of it and can confidently use it. This may take time and resources but it is worth it for the banks in the long run. The demonstrations will also help to allay fears about internet banking. In general, bank employees should be knowledgeable about internet banking and tell clients about it when an opportunities arise.

Banks should also offer incentives to internet banking users, perhaps by completely removing bank charges for internet banking transactions for some time. This will help in attaining a critical mass as quickly as possible. Later the bank charges could be restored but at lower level than those for branch transactions. This will enable banks to maintain the internet banking users they already have.

## **6.2 Summary**

Internet is part and parcel of modern life and it brings efficiency and simplicity as part of a whole host of benefits. Internet banking enjoys some of these benefits, but not everyone is taking advantage of them. This study's main purpose was to look at the adoption of internet banking among Gaborone's working class and university students and also explore the supporting and hindering factors regarding internet banking adoption. Internet adoption was found to be almost the same between the working class and university students at just over 32%. These findings could not be directly extrapolated to the whole country because the internet connectivity is not uniform, it is very poor in villages and small towns. An attempt to extrapolate to the whole country could make use of 8% national internet adoption, so it translates to about 2.5% if the target group has 100% internet adoption. This opens up opportunities for further studies representing the whole country

The main factors which were found to support internet banking were perceived ease of use, perceived usefulness and compatibility. As internet banking uses almost the same platform as general internet usage, and this target group has high internet access and usage, it was possible for them easily to adopt internet banking. Internet banking comes with convenience and lower costs, which also encourages people to adopt it.

Hindering factors to internet banking adoption were lack of trust and awareness. Internet banking is not fully trusted regarding security of personal information and the ability to

complete a transaction without problems. Many people are adopting a wait-and –see attitude. If the current adopters do not experience problems, they will also try internet banking. Awareness programmes of internet banking are limited to advertisement and do not broadcast a wide range of products and benefits. Banks have a lot of work to do in dispelling the fears and making people aware of internet banking. This will eventually benefit the banks as well. Banks have a huge opportunity to tap into.

These findings were very consistent with previous studies done in Malaysia, Australia, and South Africa to name a few, which show that measures to address the low adoption rate are almost similar. There should be some similarities in the same target population in cities and towns with the same conditions as Gaborone. Some differences will emerge if the same study is conducted with full representation of the whole country.

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## Appendix

### Analysis of Internet banking adoption in Gaborone's working class and University Students.

#### Part 1: Demographic Information

This section is for collection of demographic information of the respondent

Age:  Race

Gender: M  F

Highest educational qualification : Junior Certificate  'O' Level  'A' Level   
Certificate  Diploma  Degree  Masters  PhD

Occupation: Labourer  professional  self employed  Student

Gross monthly earnings: < P2000  2001-5 000  5 001-10 000   
10 001- 15 000  15 001- 20 000  > 20 000

#### Part 2: Internet usage

This section is for assessment of general knowledge and usage of internet

1. Do you know what is internet? Yes  No

2. Do you have access to internet? Yes  No

3. How often do you access internet? (1 is not at all and 5 is daily)

1	2	3	4	5
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4. How do you access internet? (tick all applicable)

Wired technologies (e.g desktop)  Wireless technology (e.g tablet, cell phone)

5. How long do you use internet on average per day?

< 3hrs	3 – 6 Hrs	6 -9 hrs	9- 12 hrs	>12 hrs
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6. Where do you access internet? ( tick all applicable)

Work  home  Internet café  mobile devices  other

7. What do you use internet for? (tick all applicable)

Business  social network & entertainment  study  banking   
others  .....

8. Do you think internet is easy to use? (1 is very easy and 5 is very difficult)

1	2	3	4	5
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9. Do you think using internet is necessary? (1 is very necessary and 5 is not necessary)

1	2	3	4	5
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### Part 3: Habits with regard to internet banking

This section is to find out respondent's knowledge and use of internet banking

10. Do you know about internet banking? Yes  No

11. How did you know about internet banking? (Tick all applicable)

Banking staff  Recommendation from others  Advertisements   
Internet  Others  .....

12. Do you think the banks are doing enough to make people know about internet banking? (1 doing very well, 5 not doing well)

1	2	3	4	5
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13. Do you use internet for banking? Yes  No

14. Would you want to use internet banking Yes  No

15. Do you think it is necessary to use internet banking? (1 is very necessary and 5 is not necessary)

1	2	3	4	5
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16. How many internet banking transactions do you carry out per month?

<3	3-6	6-9	9-12	>12
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17. What services do you access through internet banking? (tick all applicable):

- Balance enquiry  request for statements  cheque book requests   
money transfer  buying online  payment of bills

others .....

18. Is your bank website easy to navigate (look for products and services) (1 for very easy and 5 for very difficult)

1	2	3	4	5
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**Part 4: Perceptions and attitudes about using Internet banking**

19. Do you find internet banking is secure? (1 is very secure and 5 is not secure)

1	2	3	4	5
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20. Do you trust internet banking security? (1, trust completely, 5- do not trust at all)

1	2	3	4	5
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21. Do you think that your transaction can be completed very well through the internet? (1 very confident, 5 not confident at all)

1	2	3	4	5
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22. Do you think internet banking is convenient? (1 is very convenient and 5 is not convenient)

1	2	3	4	5
---	---	---	---	---

23. Do you think internet banking is cost effective? (1 is very cost effective and 5 is not very cost effective)

1	2	3	4	5
---	---	---	---	---

24. Would you recommend internet banking to others: (1 is definitely and 5 is not at all)

1	2	3	4	5
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**Part 5: Comments and clarification:**

**You can write any comments or clarifications on internet banking or questions asked above:**

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