Factors Influencing Adoption of Internet Banking by Customers of National Bank of Malawi: a comparison with South African customers.

A research report presented

To

The Graduate School of Business
University of Cape Town

In partial fulfilment
Of the requirements for the Masters of Business Administration Degree

by
Leonard Malemia
Exam No. 247

Supervisor:
Lance Stringer
# Table of Contents

PREFACE ............................................................................................................................................ III  
ABSTRACT ........................................................................................................................................ IV  
GLOSSARY........................................................................................................................................... V  

1. BRIEF INTRODUCTION ...........................................................................................................1   
1.1 INTERNET BANKING: A PERSPECTIVE .................................................................2  
1.2 INTERNET BANKING IN MALAWI...........................................................................3  

2. AREA OF STUDY .....................................................................................................................5   
2.1 STATEMENT OF THE PROBLEM..............................................................................5  
2.2 PURPOSE OF THE RESEARCH..................................................................................6  
2.3 SIGNIFICANCE OF THE STUDY .................................................................................6  

3. RESEARCH FRAMEWORK......................................................................................................8  
3.1 LITERATURE REVIEW ...............................................................................................8  
3.2 VARIABLES AND HYPOTHESES ..............................................................................11  
3.2.1 ATTITUDE:...............................................................................................................14  
3.2.2 SUBJECTIVE NORMS.............................................................................................18  
3.2.3 PERCEIVED BEHAVIOURAL CONTROL .............................................................18  

4. RESEARCH DESIGN ................................................................................................................20  
4.1 THE QUESTIONNAIRE ...............................................................................................20  
4.2 POPULATION AND SAMPLING ................................................................................21  
4.3 ADMINISTRATION .......................................................................................................21  
4.4 SPONSORSHIP.............................................................................................................22  
4.5 ADVERTISING .............................................................................................................22  
4.6 RESPONSE RATE .......................................................................................................22  

5. FINDINGS AND ANALYSIS ................................................................................................24  
5.1 FINDINGS ON HYPOTHESES ................................................................................27  
5.2 OTHER FINDINGS ......................................................................................................31  
5.2.1 PREFERRED INTERNET BANKING SERVICES AND PRODUCTS ..................31  

6. LIMITATIONS OF THIS STUDY .......................................................................................35  

7. RECOMMENDATIONS............................................................................................................37  

8. DISCUSSIONS AND CONCLUSIONS ..............................................................................39  

9. BIBLIOGRAPHY.......................................................................................................................41  

10. APPENDICES........................................................................................................................43  
10.1 APPENDIX A QUESTIONNAIRE ..............................................................................43  
10.3 APPENDIX C PROCEDURE AND TIME FRAME ..................................................49  
10.4 APPENDIX D GRAPHICAL ILLUSTRATIONS .......................................................50
Preface

This report is not confidential. It may be used freely by the Graduate School of Business.

I wish to thank Lance Stringer of the Graduate School of Business for acting as my supervisor and for his valuable guidance and insights throughout my research.

I also wish to thank Esmie Sokosa and Pilirani Kazembe for co-ordinating data collection from Malawi and all officers of National Bank of Malawi who participated in my research.

I certify that this report is my own work and that all references are correctly and accurately reported.

Signed

Leonard Malemia
Abstract

Internet banking is a technology that has been around in the developing world for a long time now. For developing countries like Malawi, internet banking is still a novel way of conducting banking business. Many factors can lead to the success or failure of customers’ adoption of internet banking. This research aims to understand the factors influencing the adoption of internet banking for customers of National Bank of Malawi Ltd, the oldest biggest commercial bank in Malawi. It compares the findings with the results of a similar study done on South African consumers. In South Africa internet banking had been around for several years when the study was being undertaken. The research data was obtained using the questionnaire that was used in the comparative study. It collected customers’ perceptions and feelings about internet banking as well as their demographic details and banking habits. To aid comparability the study also used the same framework for adoption that was used in the South African study. The results indicate that generally factors influencing the adoption of internet banking are the same for customers of National Bank of Malawi and South Africans.

Keywords: Internet Banking, National Bank of Malawi (NBM) Ltd, Information Technology (IT), Adoption
Glossary

Adoption-“the decision to use and continue using a product, service or an idea”.

Internet banking- “the conduct of banking from a remote computer by logging on to a banks website”.

Innovation-“a new or modern way of doing something efficiently and effectively
1. BRIEF INTRODUCTION

The global banking industry is increasingly becoming more dynamic owing to the influence of the World Wide Web and internet on commerce (Li and Worthington, 2000). The incredible growth of the internet is changing the way corporations conduct business with consumers and the banking industry has been no exception. (E-Marketer, 2000; Irish Times, 1999). Advances in information technology in the banking industry have resulted in more flexible payment mechanisms and more user friendly services giving rise to an efficient provision of products that suits customers without having to rely on traditional means of doing business. (Akinci, Aksoy and Atilgan, 2004).

While internet banking has been in existence for a long time now in the developed world and most of the emerging economies, in Malawi it is still in its nascent stages and at the time of study it was being provided by only two authorized dealer banks namely; National Bank of Malawi Ltd, a listed locally controlled commercial bank and market leader in terms of market share and asset base, and Nedbank Malawi Ltd, a subsidiary of Nedbank Group of South Africa. There were seven authorized dealer banks in Malawi when the study was being conducted.

At the time of writing, no studies had been conducted on the adoption of internet banking or other technology within the banking sector in Malawi that the author could come across. The objective of the report was, therefore, to identify the factors that influence internet banking adoption in Malawi by the customers of National Bank of Malawi Ltd and to compare the results with those of a similar study conducted in South Africa. The study replicated a similar comparative study by Hoppe, Mugera and Newman in 2001 which compared results with a study conducted in Singapore by Tan and Teo in 2000).
The paper begins with a perspective on online banking with respect to internet banking and a brief background of the Malawi Information Communications Technology (ICT) state of affairs and developments. A literature review of the subject is followed by the framework and methodology used in the study. Lastly an analysis of findings is carried out, recommendations made, followed by concluding remarks.

1.1 Internet banking: a perspective

The terms online banking and internet banking are often used interchangeably. Online banking encompasses a variety of services one of which is internet banking. The other services under the banner of online banking services are; Electronic banking, PC banking, Telephone banking and Home banking.

A common feature of online banking services is that they allow the customer to carry on his banking business at a time of his own choice and without the need to be physically present at the location where the account is maintained or where the bank maintains a physical presence. At the most basic level, internet banking could just involve the hosting of a web page to provide information to customers while at an advanced level, internet banking would involve making transactional facilities available to consumers such as; accessing accounts, funds transfer, cheque book and statement requisitions and buying financial services or products online (Sathye, 1999). Internet banking is therefore the use of the internet as a remote delivery channel for banking services (Furst, Lang and Nolle, 2000).

At the start of this millennium, internet banking was being touted as having astronomical growth proportions that would threaten the survival of traditional branch banks in the
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

process (Duclax, 1996; Liao et al. 1999 and Jasimuddin, 2001). However, several years later; it has not reached the forecasted levels, but continues to grow nonetheless. A Nielsen’s report in 2003 indicated that the number of internet banks in the USA had shrunk from 60 to 20 even though 60% of the homes were online (Weeldreyer, 2003). This could be attributed to targeting customers with inappropriate products or not marketing the service correctly hence limiting the adoption rate. Regardless of the foregoing the service is still the most convenient to manage finances with because of unrestricted availability (Rotchanakitumnuai and Speece, 2004).

1.2 Internet banking in Malawi

The form of online banking that is mostly provided in Malawi is electronic banking. Only NBM and Nedbank (MALAWI) Ltd provided internet banking services at the time of writing. However Nedbank’s service did not allow a full range of transactions to be executed as did the one provided by NBM. National Bank of Malawi commands about 35% of the market while the latter a relatively new entrant commands 2.5%. Thus only less than 37.5% of the customers in Malawi had potential access to internet banking at the time of writing (www.nedbankgroup.co.za and NBM 2005 Annual Reports). The figure with potential access to internet banking is therefore much less than the 37.5% of this market share when it is considered that not everyone of this proportion had access to the internet. This is attributed to the fact that information technology is yet to permeate through not only the banking sector but the economy as a whole. By the end of 2004 the average number of telephone lines and that of mobile users per 1000 people was 8 and 12 respectively compared to 17 and 16 respectively for the sub Saharan Africa. At the same
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

time the average number of internet users per 1000 people was 3. It was 15 for the rest of the sub Saharan Africa (World Bank Report- ICT at a Glance 2004). While these figures may have increased since then, it is likely that the increase has been insignificant. The most prominent reason for this is that there is an apparent lack of an enabling environment. While there had been efforts to improve the telecommunications infrastructure through the laying of an optic fibre and commissioning of digital exchanges nationwide, the country does not have a stable source of power in both rural and urban areas to power these exchanges. Chikumbi, (2005). Only 17% percent of the country was electrified by 2004 (World Bank Report- Facts at Glance, 2005). Even though efforts by quasi government departments and Non Governmental Organizations to sensitize stakeholders of the benefits of ICT abound, the private sector, in addition to the above is also restricted by licensing fees by the Malawi Communications Regulatory Authority which were $1,000.00 and its 5% levy on annual operating revenue, both of which are considered prohibitive (www.apc.org).

Comparatively, in South Africa, figures in regard to information technology are high. For example it was estimated that by the end of 2005 one in every ten South Africans would have access to the internet. It was further expected that internet use would grow by 30% in the year 2004. In addition, in 2005 the big four banks i.e. Absa, FNB, Standard Bank and Nedbank expected to spend USD 533 Million in information technology related expenses (PWC Report, 2005). Such figures in Malawi are not available. The point is that the availability of such figures and magnitude of investments suggests the level of awareness of trends and direction of the banking sector by its stakeholders.
2. AREA OF STUDY

2.1 Statement of the Problem

Customers fail to adopt new technologies for a variety of reasons. In the absence of any knowledge of the factors that influence customers to adopt new technology, in this case internet banking, banks cannot operate competitively. Even though there is a lot of literature on the influence on adoption by consumer attitudes and behaviour, developing countries are going through fundamental change on both the social and technical fronts. A study of these aspects in view of the changing socio-economical environment would therefore provide the bank with a better way of delivering its innovative services.

Technology is breaching geographical, industrial and regulatory boundaries, in the process creating new markets and products in a more information and systems-oriented business environment (Liao and Cheung, 2002). These products and services have accelerated competition forcing banks to shift their focus on gaining competitive advantage by emphasizing on convenience and other non price factors. New distribution channels stand to benefit banks as they provide cost cutting opportunities without diminishing service delivery levels (Akinci, Aksoy and Atilgan, 2004).

In spite of the above, internet banking has not been adopted eagerly by all customers and various reasons have been attributed to this. While some survey results have complemented each other, some have differed in their results as the following literature review suggests. The apparent lack of unison would seem to suggest that adoption of an innovation may not easily be explained by a single set of attributes hence the need for the study to contrast with previous findings.
2.2 Purpose of the Research

The purpose of this research was to identify the factors that influence the adoption of internet banking by the customers of NBM and compare them with those of identified in South Africa. This would help users of the report to focus on these factors to enable an understanding of what banks and other stakeholders need to consider when introducing innovations especially internet banking so that they are readily and widely accepted by customers. In addition, it would also aid in understanding whether geographical, economical and social differences have an impact on the adoption of internet banking.

2.3 Significance of the Study

The banking sector is critical to the effectiveness and success of any economy. More importantly, in developing countries, a high level of confidence in the sector is one of the critical determinants amongst others for investors to contemplate investing in that economy.

The findings from this research will be important to banks and the government as well as other industry players such as telecommunications companies and providers of innovative services. Banks will understand the reasons that affect quicker adoption of internet banking and other innovations better and will thus be able to find effective ways of addressing these to increase the rate of adoption and hence their competitiveness. The findings will also assist banks develop other complimentary services and products that would assist in the acceleration of the diffusion of internet banking.

The government stands to gain from this research because provision of internet banking by more banks and an increasing rate of adoption will make the banking sector more
competitive and reduce the cost of banking. As use of internet banking increases, usage of the internet would also increase possibly resulting in a progressive adoption of other products and innovations. In addition efficiency would increase through employment of knowledge gained on the internet. This would narrow the technological gap between Malawi and its trading partners and contribute positively to economic development.
3. RESEARCH FRAMEWORK

The model of adoption used for this study is similar to the one which Hoppe, Mugera and Newman in 2001 replicated their study on. Their results were contrasted with the ones by Tan and Teo study of 2000.

The model is based on the decomposed theory of planned behaviour first introduced by Taylor and Todd in 1995 which was in turn based on the theory of planned behaviour (TPB) by Ajzen (1985). The choice of this model is justified by the belief that it will provide a good basis for comparison with the results from the earlier study in South Africa. At the same time, owing to the constructs that the model uses, it explains better and provides more comprehension of the drivers behind behaviour than other models that have attempted to study the same area (Tan and Teo, 2000).

3.1 Literature review

Adoption is defined by Dewer and Dutton (1986) as the acceptance and continued use of product, service or idea. Rogers and Shoemaker (1971) indicate that consumers go through “a process of knowledge, persuasion, decision and confirmation” before they are ready to adopt a product or service. They postulate that the adoption or rejection process starts when the customer first becomes aware of the product or innovation. This is collaborated by the Wallis Report of 1997 which concluded that consumers will pursue those financial products and suppliers which offer the best value for money and which they are educated about.

A lot of studies have been done on the dynamics that play on the adoption of internet banking in both developed and emerging countries. Saythe (1999) did a study of internet
banking in Australia which established that issues of trust and lack of awareness are the prominent reasons amongst customers that fail to adopt internet banking. Balachandher et al (2001) undertook a study in Malaysia which also collaborated with the above findings but highlighted that security concerns were amongst the main barriers to adoption of internet banking. A study of Rotchanakitumnuai and Speece in 2002 in Thailand found that customers were equally concerned with the issues of trust and security and nonetheless adopted internet banking but restricted their transactions to receipt of funds and not the execution of payment to counter parties. Customers were also concerned with the competence of regulators to effectively handle internet banking malpractices because legislation in the area had just been passed. The inexperience, therefore, did not inspire confidence in customers to adopt internet banking.

However a study undertaken by Polatoglu and Ekin (2001) in which an international comparison was undertaken on a sample of 27 countries found that electronic connectivity was the main barrier to internet banking adoption. An American study found that adoption rates of internet banking were determined by the size of banks (Furst et al., 2000). The smaller banks were least likely to change to internet banking. In this case the main driver of change was the amount of resources at the disposal of the banks to promote the new channel of distribution. Locally, Nathan, Chevy and Suleiman (2001) did a survey on the South African landscape and found that market motivators such as innovative products, lack of resource capabilities and strategic factors were of considerable importance in the diffusion of internet banking. In contrast to the Thailand study by Rotchanakitumnuai and Speece in 2002, it was found that policy and regulation were not considered important due to the infancy of the market for internet banking. On the customers’ side, apart from the issues of trust, security and regulation mentioned earlier, other studies have found that while connectivity accelerates the rate of internet
banking adoption, new users have to learn how to use the service (Mols et al., 1999).

Further, in another study, non-users insisted that internet banking has no social dimension i.e. you are not served the way you are in a face-to-face situation at a branch. (Mattila et al, 2003). Thus the favorable factors influencing others would be immaterial to this category of customers.

From the point of view of banks, it has been found that banks get notable cost savings when they offer online banking services. It has also been proved that the online banking channel is the cheapest delivery channel for banking products once established, (Sathye, 1999; Robinson, 2000 and Giglio, 2002). Banks have hence been able to reduce their branch networks and downsize the number of service staff, to pave the way to self-service channels as quite many customers felt that branch banking took too much time and effort (Karjaluto et al., 2003). Therefore, time and cost savings and freedom from place to place have been found to be the main reasons underlying online banking acceptance (Polatoglu and Ekin, 2001; Black et al., 2002; Howcroft et al., 2002).

However, a study carried by Lin et al, (2001) found that internet banking has relatively high initial set-up costs (both technological and marketing) with savings following later and was not able to definitely conclude whether banks achieved significant cost reductions through its provision. In spite of the foregoing, Sato and Hawkins, (2001) and Claessen et al, (2000) conclude in their researches that internet banking continues to grow.

Gonzalez, J (2000) found that the growth of internet banking has been necessitated by increasing competition and consumer demands. In order to keep up with these, speed of communication and sustainable relationships with customers while keeping operating costs low have been necessary. In a banking sector study taken in Tunisia, by Achraf, J
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

(2006) it was found that as opposed to customers perceptions, technological and organizational preconditions resulted in slowness in implementing and supporting an internet banking infrastructure and hence its diffusion.

3.2 Variables and Hypotheses

The research aimed to identify if factors that influence internet banking adoption by customers of National Bank of Malawi are the same as those that influence South African customers. A similar study was already undertaken for South African customers by Hoppe, Mugera and Newman (2001) and the results were contrasted with those of a study done in Singapore by Tan and Teo in 2000. Of the eleven hypotheses that were tested only three contradicted the Singaporean study. Thus the results were mostly identical.

South Africa has always had a major impact on the social and economic life of many Malawians. Traditionally Malawians have always trekked to South Africa for greener pastures and education. The roots of the banking industry in Malawi are also traced to the involvement of South African banks in the early 1900s. Now, a century later the presence of South African corporates in Malawi is so notable. In 2001, the banking industry in Malawi was transformed owing to the entry of Standard Bank Group which acquired a 60% holding of Commercial Bank of Malawi Ltd (CBM). CBM enjoyed a 26% share of the Malawi banking market and is the second largest bank in Malawi after NBM in terms of both assets and market share (www.natbankmw.com). Other South African corporates such as Nedbank and Old Mutual also have a significant presence in the Malawi financial services sector. This increasing interest could mean that unexploited opportunities abound in Malawi as well as that the risk profile and drives of consumers in Malawi in general of NBM -as it is the only bank that is currently offering internet banking- are the
same as that of South Africans. Oddly enough, Stanbic Bank Malawi Ltd is not offering all the services offered by the parent company, notably internet banking and Nedbank. Malawi Ltd does not offer a full internet service. This seems to suggest that factors at play in the South African environment may be different from those in Malawi. Thus the main hypothesis for the study was formulated as;

\[ H_1 \] Factors that influence the adoption of internet banking are the same between the customers of National Bank of Malawi and South Africans.

Hoppe, Mugera and Newman (2001) in their study on South Africa outline the basic theory on adoption model as being planned behaviour (Ajzen, 1985) and diffusion of innovations theory developed by Rogers (1983) which was developed into a decomposed theory of planned behaviour introduced by Taylor and Todd (1995). It postulates that innovation adoption, in this case internet banking is driven by the intention to use the service (as the dependent variable) which in turn depends on three determinants; attitude, subjective norms and perceived behavioural control (the independent variables). The variables are classified in a framework for internet banking adoption by Tan and Teo, (2000) in Table 3.2.1

**Table 3.2.1 Framework for the Adoption of Internet Banking**
In spite of the obvious similarities between the cultures of the two nations there are differences as well which need to be taken into account as they are likely to have a bearing on the results of the study in Malawi. For example, South Africa has better technological infrastructure when compared to Malawi and there is more diversity in the population of South Africa which affects the social attitude and beliefs of most South Africans. Owing to this the study will also aim to prove those factors using the following hypotheses in Table 3.2.2 that were tested in the comparative study with the exception of the hypothesis relating to banking needs.
Factors influencing the adoption of internet banking by the customers of NRM: a comparison with South Africans

Table 3.2.2 Hypotheses

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1A</td>
<td>The greater the perceived <strong>relative advantage</strong> of using Internet banking services, the more likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H1B</td>
<td>The greater the perceived <strong>compatibility</strong> of Internet banking with ones values, the more likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H1C</td>
<td>The greater the <strong>experience</strong> with using the Internet the more likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H1E</td>
<td>The higher the perceived <strong>complexity</strong> of using Internet banking, the less likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H1F</td>
<td>The greater the <strong>trialability</strong> of Internet banking, the more likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H1G</td>
<td>The lower the perceived <strong>risk</strong> of using Internet banking, the more likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H2</td>
<td>The beliefs associated with <strong>subjective norms</strong> are significantly related to an individual’s intention to adopt Internet banking.</td>
</tr>
<tr>
<td>H3A</td>
<td>The greater the <strong>self-efficacy</strong> towards using Internet Banking the more likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H3B</td>
<td>The greater the extent of perceived <strong>technological support</strong> for Internet banking, the more likely that Internet banking will be adopted.</td>
</tr>
<tr>
<td>H3C</td>
<td>The greater the extent of perceived <strong>government support</strong> for electronic Commerce, the more likely that Internet Banking will be adopted.</td>
</tr>
</tbody>
</table>

*Source: Tan and Teo (2000)*

### 3.2.1 Attitude:

Attitude towards adoption is the cognitive process which depicts the prospective adopter’s positive or negative affection about adopting a technology (Au and Enderwick, 1999). This is collaborated further in another study which indicates that attitude towards adopting or continuing to use IT is generated by the individual’s salient beliefs about the consequences of adopting or continuing to use IT and evaluation of those consequences (Karahanna Straub and Chervanyl, (1999) citing Ajzen and Fishbein (1980)). The link between attitude and behaviour is central to Theory of Reasoned Action, Technology Acceptance Model and other related models on adoption (Tan and Teo, 2001). Taylor and
Todd (1995) as cited by Tan and Teo (2001) stated that attitudinal beliefs can be measured by relative advantage, compatibility, complexity and trialability. The fifth aspect was observability but it was excluded from the framework because in execution of banking, privacy is important and one could therefore not easily observe the conduct of internet banking by a third party.

- **Relative advantage.** Internet banking services offer relative advantage when compared to branch banking and other alternative methods in terms of price, convenience and performance. This agrees with findings from a satisfaction survey by Polatoglu and Ekin, (2001) on Turkish banks in which savings dimension of the IB services (cost, time, and self-service) was ranked the highest. Consumers clearly see the relative advantage of IB in terms of price and convenience comparing to branch banking. Both Rogers (1983) and Tornatzky and Klein (1982) found relative advantage to positively influence the adoption of new technologies. Thus customers who recognize that internet banking would be advantageous would probably adopt the service; leading to the hypothesis:

**H1A:** The greater the perceived relative advantage of using internet banking services, the more likely that internet banking will be adopted.

**Compatibility:** Karahanna, Straub and Chervanyl (1999) defined compatibility as the degree to which adopting an innovation is in tandem with what people do. As a delivery channel, internet banking would appeal to those that are computer literate. Thus when individuals use the internet more for information, communication and shopping amongst other things, they are more likely to
perceive the internet to be compatible with their lifestyle and hence more likely to adopt internet banking. This allows the formulation of the following hypotheses:

**H1B:** The greater the perceived compatibility of internet banking with one's values the more likely that internet banking will be adopted.

**H1C:** The greater the experience with using the internet, the more likely that internet banking will be adopted.

**Banking needs:** It is expected that individuals who enjoy a wide range of bank products and services would likely have more interaction with their banks to allow management of the range of accounts that they maintain. Internet banking would allow such customers more convenience as they would manage their accounts better without having to be physically present at a branch. The relative hypothesis under this heading was however not tested because adapting the products from the original questionnaire to the ones available with the bank was considered to be confusing to the respondents especially those who have never used internet banking. The question was therefore amended to solicit views from the customers on the products and services that they would want the bank to make available to them apart from asking them the products that they are enjoying from with the bank.

**Complexity:** As defined by Karahanna, Straub and Chervany (1999), complexity is the degree to which a particular system is not free of effort. The more complex the product or service is to understand and use, the slower is its adoption rate. For example Polatoglu, V and Ekin, S (2000) found in their study that internet is not a new or complex innovation for Turkish customers because of their high
educational levels and they hence find it easier to use. Thus where the level of complexity of using internet banking is thought to be high it is less likely that the individual will adopt it leading to the hypothesis that:

**H1E:** The higher the perceived complexity of using internet banking, the less likely that internet banking will be adopted.

- **Trialability.** The degree to which one can make an experiment with an innovation on a limited basis before making an adoption or rejection decision. (Karahanna Straub and Chervany (1999). A more rapid diffusion, therefore, occurs when consumers can have low-cost or low-risk trial of the service. Polatoglu, V and Ekin, S (2001). This arrays fears and brings in an amount of predictability in the innovation hence the hypothesis;

**H1F:** The greater the trialability of internet banking, the more likely that internet banking will be adopted.

**Risk:** Issues of security have always been known to impinge on the adoption of innovations. Risk includes financial, physical, or social risks associated with trying an innovation. Many studies have reported that electronic commerce adoption is threatened by the absence of security. Cockburn and Wilson (1996), Bhimani (1996), Liu and Arnett (1999) Gerrard and Cunningham (2003) and Lee et al. (2003). Therefore an individual would only be likely to adopt internet banking if he or she thought that the risk attached to using it was low. Thus the hypothesis formulated was;
3.2.2 Subjective Norms

This refers to “a person’s perception that most people that are important to him think he should or should not perform the behaviour in question” (Fishbein and Ajzen, 1975 as cited by Venkatesh and Davis, 2000 and Hoppe, Mugera and Newman, 2001). Subjective norms have an influence on adoption of innovations because people often act due to the pressure from those that are important to them or have dominant effect on them. Tan and Teo (2001) citing Taylor and Todd (1995a) detail that subjective norms are dominant in the early stages of an innovation implementation when users have no frame of reference due to limited experience to develop attitudes. This would be relevant to Malawi where technological advancement is still low because of the economical incapacity of the nation when compared to other economies like South Africa. While prediction of the level to which subjective norms will influence adoption is difficult it is still expected that there will be a bearing by subjective norms on individual’s intention to adopt internet banking Tan and Teo (2001). This leads to the following hypothesis;

H2: The beliefs associated with subjective norms are significantly related to an individual’s intention to adopt internet banking.

3.2.3 Perceived Behavioural Control

Perceived behavioural control refers to peoples perceptions of their ability to perform a given behaviour (Ajzen, 2002). There are two aspects to the subject: control beliefs
or self efficacy which indicates an individual’s motivation as influenced by how difficult the behaviour is as well as how the perception of his ability is influenced by facilitating conditions.

The more one believes in himself the more probable he is to adopt an innovation (Taylor and Todd (1995) as cited by Hoppe, Mugera and Newman, 2001). Thus it follows that individuals who are computer savvy are more likely to adopt internet banking. This conclusion ties in well with one from the study by Polatoglu and Ekin (2001) of Turkish consumers where the majority reported that internet banking is an easy innovation to use because they already have sufficient knowledge of computer related technology through education. This leads to the following hypothesis:

**H3A:** The greater the self efficacy towards using internet banking the more likely that internet banking will be adopted.

Individual beliefs about the ability to perform a specific behaviour will only manifest that behaviour if there are facilitating conditions. Facilitating conditions are defined by Cheung et al (2000) as cited by Hoppe, Mugera and Newman (2001) as being factors in the environment that make an act easy to perform. Goh (1995) as cited by Tan and Teo (2000) suggest that easy access to technological resources and infrastructure makes users more inclined to adopt internet banking.

The role of government is important as well in driving adoption of innovation (Gurbaxani et al., 1990, Tan, 1998 and Tow and Low, 1993). In Malawi ICT legislation is still in its draft form and being one of the poorest countries in the world, the penetration of innovations like e-commerce is not very significant. The failure of government to implement a policy that is conducive has possibly resulted in the
failure of more ISPs to open in Malawi. The following hypotheses are therefore worth investigating:

**H3B:** The greater the extent of perceived technological support for internet banking, the more likely that internet banking will be adopted.

**H3C:** The greater the extent of perceived government support for electronic commerce, the more likely that internet banking will be adopted.

### 4. RESEARCH DESIGN

#### 4.1 The Questionnaire

As this was a comparative study, the instrument that was used by the survey of Hoppe, Mugera and Newman (2001) which was in turn adopted from the Tan and Teo (2000) study was used to enable fair comparison of results. The nature and format of the questions were left unchanged. However, it was felt necessary to leave out some of the questions that were not particular to the Malawi environment and several others to keep the questionnaire shorter.

Owing to lack of resources and expertise the questionnaire was administered as a mail survey. Including all the questions from the original instrument would have possibly dissuaded a lot of respondents from responding due to its length. The questionnaire, nonetheless collected pertinent demographic information, feelings about the internet and feelings towards the use of internet banking that allowed a meaningful comparison. The 7 point Likert scale is used all the questions except those on demographics. The scale ranges from “1-Strongly disagree” to “7-Strongly disagree”..
4.2 Population and Sampling

The target population for the study was defined as all customers of National Bank of Malawi. NBM had over 125,000 personal account holders at the time of writing. The sample size at 95% confidence level with a 5% confidence interval was calculated to be 96 respondents. The sample obtained for the survey was a random stratified sample. It was obtained by first grouping the customers into two categories according to their gender. Secondly the respective genders were ranked into descending order according to the balance outstanding on their account. The idea was to cluster them into two income segments even though the balance outstanding was not an effective way of achieving this since the balances could have been temporary. The sample was randomly selected and stratified according to gender and income levels i.e. low income earners, middle and high income earners.

4.3 Administration

Malawi is essentially an agricultural economy with about over 81% of the population living in the rural areas (World Bank Report-Facts at a Glance- 2004). Most of the people that bank therefore come from within the urban population. The questionnaire was hence distributed from five of the banks main branches. Each branch HAD TO SEND OUT 60 questionnaires. As there were four clusters, total in each cluster was divided by 15 and the quotient was used to determine the customer who would be mailed the survey. The Account Relationship Managers (ARM) who are responsible for maintenance of branches
portfolios of accounts performed a random sample for accounts under their respective portfolios using the above criteria. ARMs were decided upon because of the special relationship that they enjoy with customers would induce a favourable response rate. In view of the fact all the main branches are in town, the number of questionnaires sent out were even amongst all the branches.

4.4 Sponsorship

The respondents were not given any incentives to answer the questionnaire. Even though the study focused on one bank, it did not provide any finance to sponsor the survey. However, it provided immense assistance by allowing its officers to administer the survey and access to its database.

4.5 Advertising

In view of time and cash constraints it was not possible to advertise the survey. It was however felt that a large number of respondents would be reached in view of the involvement of the ARMs who maintain closer relationship with customers under their portfolios.

4.6 Response Rate

300 questionnaires were sent out and the responses received totalled 104 but only 76 of these were retained as the others had several discrepancies and were nullified. Thus a response rate of approximately 25.3% was achieved. This was considered acceptable
taking into consideration that Hoppe, Mugera and Newman (2001) and Tan and Teo (2000) had 102 and 637 responses respectively despite that the questionnaires were web-hosted, accessible to a wider population and the respondents were given incentives to fill in the questionnaires. Nonetheless it was felt that a higher number of responses could have been achieved if there had been more time available to chase for completed responses and if the questionnaire had been much shorter.
5 FINDINGS AND ANALYSIS

Table 5.1 represents the demographic profile of the respondents.

<table>
<thead>
<tr>
<th>Table 5.1 Demographical Profile of Respondents.</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>43</td>
<td>57%</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>43%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>33</td>
<td>43.42%</td>
</tr>
<tr>
<td>30-39</td>
<td>19</td>
<td>25.00%</td>
</tr>
<tr>
<td>40-49</td>
<td>16</td>
<td>21.05%</td>
</tr>
<tr>
<td>50-59</td>
<td>6</td>
<td>7.89%</td>
</tr>
<tr>
<td>Over 59</td>
<td>2</td>
<td>2.64%</td>
</tr>
<tr>
<td><strong>Highest education:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>2</td>
<td>2.63%</td>
</tr>
<tr>
<td>Secondary school</td>
<td>20</td>
<td>26.32%</td>
</tr>
<tr>
<td>Other tertiary /other</td>
<td>16</td>
<td>21.05%</td>
</tr>
<tr>
<td>Bachelors degree</td>
<td>24</td>
<td>31.58%</td>
</tr>
<tr>
<td>Masters degree</td>
<td>10</td>
<td>13.16%</td>
</tr>
<tr>
<td>Doctorate degree</td>
<td>2</td>
<td>2.63%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2.63%</td>
</tr>
<tr>
<td><strong>Current profession</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>2</td>
<td>2.63%</td>
</tr>
<tr>
<td>Academic</td>
<td>4</td>
<td>5.26%</td>
</tr>
<tr>
<td>Professional</td>
<td>11</td>
<td>14.47%</td>
</tr>
<tr>
<td>Self employed</td>
<td>11</td>
<td>14.47%</td>
</tr>
<tr>
<td>Managers</td>
<td>22</td>
<td>28.95%</td>
</tr>
<tr>
<td>Technician</td>
<td>20</td>
<td>26.32%</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>7.89%</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than MK20,000</td>
<td>2</td>
<td>2.63%</td>
</tr>
<tr>
<td>MK20,000-29,999</td>
<td>8</td>
<td>10.52%</td>
</tr>
<tr>
<td>MK30,000-39,999</td>
<td>5</td>
<td>6.58%</td>
</tr>
<tr>
<td>MK40,000-49,999</td>
<td>10</td>
<td>13.16%</td>
</tr>
<tr>
<td>MK50,000-59,999</td>
<td>10</td>
<td>13.16%</td>
</tr>
<tr>
<td>MK60,000-69,999</td>
<td>17</td>
<td>22.37%</td>
</tr>
<tr>
<td>Over MK70,000.00</td>
<td>24</td>
<td>31.58%</td>
</tr>
</tbody>
</table>

The proportion of male respondents (57%) was higher than that of female responses (43%). This does not represent the gender distribution of NBM customers because gender
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

was one of the bases for stratification of the random sample to allow an unbiased representation. Only 26% of the female and 48% of the male respondents was internet users. In the study carried by Hoppe, Mugera and Newman (2001) the proportions were more balanced at 53.9% and 46.1% for male and female respondents respectively. A comparison can not therefore be made as the South African study targeted internet users only.

In the study carried by Hoppe, Mugera and Newman (2001) most of the respondents were relatively young (74.5%) and fell between the ages of 20-29. That finding is supported by this study to a lesser degree as 43% of the respondents are between the ages of 20-29. In addition 80% of the respondents in the range of 30-39 were below the age of 35. Only 11% of the people that do not use the internet were in these categories. Figures 5.1 and 5.2 show age distribution and the relationship of age and internet use, respectively of the customers of NBM. This does support the finding that the majority of internet users are the youth and young adults.

**Figure 5.1  Pie Chart of Age Distribution**
Figure 5.2  Relationship of age and internet use

There was a higher proportion of respondents with Bachelors degrees (31.58%) followed by those with secondary level education (26.32%) and other post secondary qualifications (21.05%). Out of the proportion with bachelors’ degrees and other qualifications, only 5% did not use the internet. This supports the finding from Hoppe, Mugera and Newman (2001) that internet users typically have a good educational background. Figure 5.3 shows the prevalence of internet use in the various education levels.
28.95% of the respondents had managerial roles while 26.32% of the respondents had technical or other skills and earned average net salaries of MK50,000.00 and above. This could be due to the fact that being in formal employment it was easier to follow up on the questionnaires than it was with other customers.

5.1 Findings on Hypotheses

The study replicated ten of the eleven hypotheses from the Hoppe, Mugera and Newman (2001) study. Multiple regressions were on the independent variables (attitude, subjective
norms and perceived behavioural control) and intention to adopt internet banking as the dependent variable to test the hypotheses. The results are presented in Table 5.1

### Table 5.1 Results of Multiple Regressions

<table>
<thead>
<tr>
<th>Factor</th>
<th>hypotheses</th>
<th>variable</th>
<th>beta</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>H1A</td>
<td>Relative advantage</td>
<td>0.225</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>H1B</td>
<td>Compatibility with values</td>
<td>0.208</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>H1C</td>
<td>Internet experience/skills</td>
<td>0.279</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>H1E</td>
<td>Complexity</td>
<td>0.091</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td>H1F</td>
<td>Trialability</td>
<td>-0.132</td>
<td>0.251</td>
</tr>
<tr>
<td></td>
<td>H1G</td>
<td>Risk</td>
<td>-0.951</td>
<td>0.000</td>
</tr>
<tr>
<td>Subjective norms</td>
<td>H2</td>
<td>Subjective norms</td>
<td>0.005</td>
<td>0.240</td>
</tr>
<tr>
<td>Perceived Behavioural Control</td>
<td>H3A</td>
<td>Self-efficacy</td>
<td>0.236</td>
<td>0.039</td>
</tr>
<tr>
<td></td>
<td>H3B</td>
<td>Technology support</td>
<td>0.303</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>H3C</td>
<td>Government support</td>
<td>-0.203</td>
<td>0.803</td>
</tr>
</tbody>
</table>

Apart from H1D (Banking needs) which was not tested, the following hypotheses were not supported; H1F (Trialability), H3C (Government Support) and H2 (Subjective Norms). The findings for H1A (Relative Advantage) and H1B (Compatibility with Values) concur with those of Hoppe, Mugera and Newman (2001). This indicates that customers of NBM are more likely to adopt internet banking if they perceive that relative advantage and compatibility with their values will be high. This should not be surprising because literature supports that perceived relative advantage and compatibility with values positively affects the adoption of innovation. Tan and Teo 2001 citing Holak and Lehman (1990) and Tornatzky and Klein (1982).

As regards H1C (Internet Experience/Skills), the study supported the finding by Hoppe, Mugera and Newman (2001) that users who are already exposed or more experienced in using the internet are more likely to adopt internet banking than those who have had no prior experience. In support of this conclusion, Taylor and Todd (1995) also cite Triandis
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

(1979) and Bagozzi (1981) in positing that past experience is an important determinant of behaviour. With respect to H1C (Complexity), the study found out that the perceptions of the customers of NBM are the same as those of South Africans in that in both cases the likelihood of the adoption of internet banking will be low if they perceive that it is not easy or is complex to use. This is a widely held perception and is also collaborated by findings from the study by Cooper (1997) and the Wallis Report (1997) both of whom concluded that ease of use was one of the favourable aspects motivating adoption of an innovation and Dover (1988) who established that failure of home banking in the United States market was due to the high level of the complexity of the innovation.

This study did not find enough evidence to support the findings of Hoppe, Mugera and Newman (2001) in regard to H1F that Trialability will increase the likelihood of adoption of internet banking. Possible reasons could be that as most of the respondents were young adults they were early adopters and also not very risk averse. They, therefore, did not have to experiment before adopting an innovation. From the above findings, they also used the internet more and would not find problems using an internet related innovation. In addition, innovations in developing countries are introduced after they have already been tried elsewhere. Young adults are more likely to know about such trends and would eagerly adopt because they are more informed. Hence, trialability was not found to influence the adoption of internet banking.

Findings on H1G (Risk) agreed with those from the comparative study in that there was enough evidence to support that lower perceived risk of internet banking. The reasoning in above H1G would also support this as with more knowledge of the internet, respondents would be aware of how they can reduce the threat of internet banking fraud. thus this would make them to perceive that risk is low.
In regard to H2 (Subjective norms) the findings from the study supported those by Hoppe, Mugera and Newman (2001) i.e. the opinions of friends, peers and family members do not have any bearing on the decision to adopt internet banking. Apart from the reasons advanced by Hoppe, Mugera and Newman (2001), the other reasons in the case of the environment in Malawi could be that as the internet is not widely spread most people access the internet from the office and possibly when they are supposed to be working. They are therefore not likely to be open about their use of the internet and internet banking. Further, as banking is always a confidential affair, potential adopters of internet banking are less likely to seek opinions to keep their banking details private.

The hypotheses under perceived behavioural control had different results from those found by Hoppe, Mugera and Newman (2001). Of the three hypotheses under this construct only H3A (Self efficacy) agreed with the findings from the comparative study. Thus the perceptions of customers of NBM are the same as those of South Africans as both are likely going to be influenced to adopt internet banking if they perceive that they have more confidence in their ability to use it. Hill et al., (1986) as cited by Tan and Teo (2000) and Tushman and Nelson (1990) all support the finding that that individuals are more likely to adopt an innovation if they perceive a higher confidence in their ability to use that innovation. The other two hypotheses have different results. While Hoppe, Mugera and Newman (2001) did not test H3B (technology support) because it cross-loaded with other factors, the study found out that there was enough evidence suggesting that the higher the level of technological support the more likely that internet banking would be adopted. This would not be surprising in Malawi where internet infrastructure is still sparse and accessing the internet is costly. In addition, slow download times,
unreliability of power supply make access of the internet difficult and would seem to suggest the huge response in support of the hypothesis. Interestingly enough the study by Tan and Teo (2000) did not find enough evidence to support this hypothesis and contributed that to the fact that consumers did not perceive technology support required for conducting internet banking to be important because it was readily available for anyone who was interested in using it.

The finding in regard to H3C (Government support) did not agree with that of Hoppe, Mugera and Newman (2001) which rejected it. The reason could be that government support in Malawi would obviously be regarded as important. Issues of regulation and policy necessary to motivate the private sector in ICT initiatives and rolling of a telecommunications network that would be accessible to the wider population would be of paramount importance. This finding agreed with that of Tan and Teo (2000). It, therefore, indicates that customers of NBM view government’s role in support of internet banking diffusion as important.

5.2 Other Findings

5.2.1 Preferred internet banking services and products

The questionnaire was targeted at customers of the bank regardless of whether they used the internet. Further it was not adapted to allow respondents the option of skipping some
statements if they were not applicable to them i.e. if they did not use the internet. Therefore, questions from the original instrument measuring the usefulness of possible internet services were not included. A question was however added that requested respondents to list services they would want the bank to introduce. The aim was to find out if there was a general consensus from the customers on the adequacy of the products that are on offer. Rather surprisingly, a notable proportion of the respondents (33%) did not fill out this question. possible reasons could be that it had inadvertently been skipped, that they thought that the current services were adequate and that they had no knowledge about other products that could be offered. Of the respondents that answered the question, a majority (67%) indicated that they would prefer the bank to offer debit and credit cards. A significant proportion (19%) of the respondents indicated that they would prefer the bank to offer utility bill payment services. However, these are already on offer by the bank and it would, therefore, appear that not all customers are aware of the services that are being offered by the bank.

In regard to criteria for selecting an online bank, customers of NBM regarded variety of services on offer as a major determining factor while as in the comparative study by Hoppe, Mugera and Newman (2001) reputation of the bank was regarded as most important. Even though the ranking for these two aspects is different, there is only a slight difference in the means and in general the findings support those from Hoppe, Mugera and Newman (2001) that reputation and variety of services on offer by the bank are major determinants for choosing an online bank.
Table 5.2.1 Criteria for choosing an online banking service.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>mean</th>
<th>std dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variety of services on offer</td>
<td>6.48</td>
<td>0.62</td>
</tr>
<tr>
<td>Reputation</td>
<td>6.28</td>
<td>1.31</td>
</tr>
<tr>
<td>Familiarity with bank</td>
<td>5.59</td>
<td>1.39</td>
</tr>
<tr>
<td>Size of the bank</td>
<td>4.58</td>
<td>2.18</td>
</tr>
<tr>
<td>Locally owned</td>
<td>4.16</td>
<td>2.22</td>
</tr>
<tr>
<td>Foreign ownership</td>
<td>3.51</td>
<td>1.98</td>
</tr>
</tbody>
</table>

Table 5.2.2 Criteria for choosing an online banking service: Hoppe, Mugera and Newman (2001) results.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>mean</th>
<th>std dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputation</td>
<td>6.48</td>
<td>0.84</td>
</tr>
<tr>
<td>Variety of services on offer</td>
<td>5.86</td>
<td>1.36</td>
</tr>
<tr>
<td>Familiarity with bank</td>
<td>5.66</td>
<td>1.47</td>
</tr>
<tr>
<td>Size of the bank</td>
<td>4.62</td>
<td>1.49</td>
</tr>
<tr>
<td>Locally owned</td>
<td>4.17</td>
<td>1.9</td>
</tr>
<tr>
<td>Foreign ownership</td>
<td>3.37</td>
<td>1.76</td>
</tr>
</tbody>
</table>

Customers of NBM indicated that they would prefer internet banking to be offered as a free service to adopt it just as it was found in the comparative study. This was followed by the option of a flat fee per month. Although the order of importance is the same, the differences in the means suggest that the degree of popularity for the option of flat fee was less amongst customers of NBM. Further, while the order of the ranking was the same, the means for the bottom two variables are very low when compared to those found by Hoppe, Mugera and Newman (2001) - Tables 5.2.3 and 5.2.4. Thus while NBM customers were less decided about adopting internet banking when a flat fee was charged they would definitely not adopt it if the costs were transactional based or time based. At
the time of study the bank only charged a service fee of Malawi Kwacha 250.00 only (ZAR1.00=MK 19.2827 as at 24/11/2006 source NBM website). It would appear that customers of NBM are comfortable with fixed charges as opposed to variable charges. The findings indicate that they would adopt internet banking if the charges were flat and not when the charges were tagged to transactions or time spent on the site.

Table 5.2.3  Preferred Internet Charges

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>CHARGING SCHEME</th>
<th>MEAN</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTENTCd</td>
<td>free internet service</td>
<td>6.64</td>
<td>0.78</td>
</tr>
<tr>
<td>INTENTCa</td>
<td>flat fee per month</td>
<td>4.57</td>
<td>1.64</td>
</tr>
<tr>
<td>INTENTCb</td>
<td>flat fee per month plus a fee per transaction</td>
<td>1.71</td>
<td>1.14</td>
</tr>
<tr>
<td>INTENTCc</td>
<td>time based usage fee</td>
<td>1.7</td>
<td>1.02</td>
</tr>
</tbody>
</table>

Table 5.2.4  Preferred Internet Charges: Hoppe, Mugera and Newman (2001)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>CHARGING SCHEME</th>
<th>MEAN</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTENTCd</td>
<td>free internet service</td>
<td>6.59</td>
<td>1.07</td>
</tr>
<tr>
<td>INTENTCa</td>
<td>flat fee per month</td>
<td>5.27</td>
<td>1.71</td>
</tr>
<tr>
<td>INTENTCb</td>
<td>flat fee per month plus a fee per transaction</td>
<td>3.26</td>
<td>1.83</td>
</tr>
<tr>
<td>INTENTCc</td>
<td>time based usage fee</td>
<td>3.18</td>
<td>1.80</td>
</tr>
</tbody>
</table>

Source: Hoppe, Mugera and Newman (2001)
6 LIMITATIONS OF THIS STUDY

- The original questionnaire was targeted at internet users. This study targeted customers of NBM regardless of whether they used the internet or not. There was therefore chance that they would not fully understand internet-specific questions which would result in unintended responses. Likewise, customers who used the internet and maybe internet banking would have found some of the questions ambiguous or difficult to understand as suggested by Hoppe, Mugera and Newman (2001). The chosen questions were nonetheless left intact for completeness and to afford a comparative analysis on that set of questions. Arguably some of the richness in the analysis of the findings has been lost due to this. To fully understand the factors influencing the adoption of internet banking, Hoppe, Mugera and Newman’s (2001) suggestion that the questionnaire should have been modified is plausible. However, further modifying it to target three specific groups of customers would have brought in some perceptions specific to the groups. These categories would have been; those that do no use the internet, those using the internet but are yet to adopt internet banking and those that have already internet banking as each group would likely be influenced by a unique set of characters.

- The sample was biased towards individuals with a higher level of education and hence the perceptions from the other segments of the economy were not adequately represented. This was due to the fact that those with higher education had more formal employment and had easily accessible communication details which made follow up of the responses easier.

- Finance and time constraints prevented a thorough execution of the study. For example, ARMs used to administer the survey did not receive any incentive for
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

doing so. This risked the likelihood of lack of motivation on their part. Further, the author was not physically present in Malawi to administer the survey. Due reliance is therefore placed on the ARMs assurances that they did the sampling as requested and that dispensing of the questionnaire was in accordance with the results of the sampling.

- An initial focus group discussion would have been appropriate to allow for other areas that could possibly be included in the survey that were not covered by the questionnaire. This would have added to the depth of the report.
7 RECOMMENDATIONS

- There was an apparent lack of knowledge on the services that the bank has on offer. This could be attributed to managerial problems. There should be concerted efforts by portfolio managers to ensure that the information about particular products is targeted at the appropriate segments. Advertising products as a range may not have the intended response because particular benefits get lost in the detail and is difficult to target a particular segment.

- Typical customers are young adults and mostly with some education. Students were only 2.63% of the sample suggesting that there is little or no marketing effort being done in this area. The bank would do better to start making some inroads into the education sector by encouraging student accounts to create a pool of potential customers. Upon finding employment, they are more likely to remain with the bank and increase their product range. This would need to be a critical task as it would enhance adoption of its innovations since students are likely to have been exposed to the internet and other technologies. This is in collaborates with results found by Kennett et al., (1995) that young consumers have less trouble learning new technologies than mature customers.

- The bank would do better to take into account the needs of target consumers in regard to internet banking. The service replicated what was being traditionally offered by the branches. However, the archetypical user of internet banking is the young adult consumer and has a particular set of needs. The service would therefore need to include products like mortgage loans, vehicle finance deals and...
educational loans as they top the expense list of most young consumers. That would create an added impetus for more in this category to adopt internet banking.

- Some customers, especially small and medium enterprises in urban areas may not have adopted internet banking because of cash constraints and or lack of awareness of the potential benefits of using the internet. The bank could run short courses at its training centre that would equip participants with internet usage skills. Thereafter, it would, subject to normal credit assessment criteria, fund purchase of computer hardware and connectivity. The benefits would be three-fold: increased adoption rate of internet banking, increased lending portfolio and customers getting exposed to novel ways of doing business through the internet which they could apply to their operations for success.

- NBM should focus on raising the critical mass necessary to sustain the adoption of its innovations. Through partnerships with government and other entities, ways of bringing sustainable information technology to the masses could be championed. This would result in an enhanced corporate image and increased customer loyalty from beneficiaries of such initiatives.
8. DISCUSSIONS AND CONCLUSIONS

The findings concur with previous findings that attitudinal factors are of prime importance in predicting influence on adoption of internet banking. While as perceived behavioural control can also predict the adoption of internet banking, the level of prediction appears to be low. It has been entrenched through the study that subjective norms do not influence the adoption of internet banking.

As an attitudinal factor, banking needs were not measured because it was felt that as there was only a small list of products available to personal account holders; a meaningful insight would not be obtained. Rather, respondents were asked to choose the kind of products that they would want the bank to introduce. Interestingly, most of the respondents regardless of the number of accounts held or products enjoyed specified that they wanted an introduction of electronic money products (debit and credit cards). In Malawi vendors have not yet begun to accept payments for purchases made on the internet. It would appear that the justification for debit and credit is a need for convenience in terms of not having to visit a bank and security considerations in carrying too much cash.

The study agreed with the South African as well as Singapore studies that the intention of customers to adopt internet banking is not influenced by the opinions of colleagues, family and peers. As internet banking will most likely be adopted by internet users, they are more likely to obtain the information from the internet. The other prominent reason could be that banking affairs are always held in confidence and hence potential adopters will seek to keep these confidential as well. This would especially be the case in Malawi.
where most people access the internet from their offices and on shared terminals. It could be argued that they would not want their colleagues to know that they are “stealing” from the company by surfing the internet to conduct their personal business.

In agreement with the comparative study, out of the three perceived behavioural control factors, self-efficacy was found to be instrumental in influencing the adoption of internet banking. On the other hand government support could not be tested because it cross-loaded with another factor and had to be removed from further analysis.

In conclusion, it appears there is a general agreement in factors influencing the adoption of internet banking between the customers of NBM and South Africans but there are some differences in perception as regards risk, role of government and technological support. These could be because of the difference in the level of economic advancement between the two countries.
9 BIBLIOGRAPHY


8. Ernst & Young (1998), *Technology in Banking Survey*, Ernst & Young.


Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans


17 (Karahanna, Straub and Chervanyl (1999), “IT Adoption across Time: A Cross sectional Comparison of Pre adoption and Post adoption Beliefs”. MIS Quarterly Vol. 23 No.2 June 1999


25 Schneider, G. and Perry, J. (2000), Electronic Commerce, Course


10. APPENDICES

10.1 Appendix A    Questionnaire

Dear Customer,

Thank you for accepting to take part in this survey.
As you may well be aware, National Bank of Malawi offers banking services through the Internet. The purpose of this survey is to examine your opinions about banking on the Internet. The results of this survey will allow a better understanding of how Internet banking services can serve you better.
The success of this survey depends on your participation and candid responses. I would therefore greatly appreciate your assistance in answering the questionnaire in an honest manner. Please be assured that your responses will be kept strictly confidential.
Individual participants will not be identified in the analysis as only aggregated results will be analyzed and presented.

Your gender: Male/Female     Age …… yrs

What is the highest level of education you have attained? ………………………

What is your current profession?

What is your average net monthly income? ……… ………
1. less than MK 20,000
2. MK 20,000- MK 29,999
3. MK 30,000- MK 39,999
4. MK 40,000- MK 49,999
5. MK 50,000- MK 59,999
6. MK 60,000- MK70,000
7. Over MK70,000

On average, how frequently do you visit your bank? (Please tick)………
Never
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

- Rarely
- Once a month
- A few times a month
- Several times a week
- Once a day
- Several times a day

On average, how often do you use the ATM? (Please tick)
- Never
- Rarely
- Once a month
- A few times a month
- Several times a week
- Once a day
- Several times a day

Which other banks do you patronize? (Please state)

What banking products or services are you currently using? (Please state)

What other products would you want the bank to provide? (E.g. type of account or service)

How long have you been using the Internet?

On average, how frequently do you use the Internet?

On the average working day, how much time do you spend on the Internet?

The following statements are ranked on a scale of 1 to 7 with 1 being the response that you least agree with and 7 the one you most agree with. Please indicate your choice by ticking a number that shows your level of agreement.

Instructions on websites should be simple and easy to read.

Leonard Malemia Group 441
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

Websites should be entertaining. 
1 2 3 4 5 6 7

Websites should process my transactions promptly. 
1 2 3 4 5 6 7

Websites should provide for communication with service personnel (via phone, fax or email) when customers have problems. 
1 2 3 4 5 6 7

Little time should be required to connect to the website. 
1 2 3 4 5 6 7

Internet banking makes it easier for me to conduct my banking transactions. 
1 2 3 4 5 6 7

Internet banking allows me to manage my finances more efficiently. 
1 2 3 4 5 6 7

Internet banking allows me to manage my finances more effectively. 
1 2 3 4 5 6 7

I find Internet banking useful for managing my financial resources. 
1 2 3 4 5 6 7

Internet banking is compatible with my lifestyle. 
1 2 3 4 5 6 7

Using the Internet to conduct banking transactions fits into my working style. 
1 2 3 4 5 6 7

Using Internet banking requires a lot of mental effort. 
1 2 3 4 5 6 7

Using Internet banking can be frustrating. 
1 2 3 4 5 6 7
Internet banking is an easy way to conduct banking transactions.  

I want to be able to use Internet banking on a trial basis to see what it can do.  

I am confident over the security aspects of Internet banking in Malawi  

My decision to adopt Internet banking is influenced by my:-  

<table>
<thead>
<tr>
<th>Family</th>
<th>1 2 3 4 5 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Peers</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

Information concerning my Internet banking transactions can be tampered with by others.  

The Singapore government is active in setting up facilities to enable Internet commerce.  

Advances in Internet security technology provides for safer Internet banking.  

Faster Internet access speeds is important for Internet banking.  

I am confident of using Internet banking if:  

I have online instructions for reference.  

No one is around to show me how to use it.  

To what extent would you be interested in using Internet banking if it was available?  

If you were to adopt Internet banking, to what extent would you use Internet banking at the following locations:  

• home  

| 1 2 3 4 5 6 7 |
Factors influencing the adoption of internet banking by the customers of NRM: a comparison with South Africans

• work

• Internet café

If you have any queries, please do not hesitate to contact Leonard Malemia by email at mlmleo002@gsb.uct.ac.za or lmalemia@yahoo.com CELL 00 27 791 800 764

Thank you for your participation

Regards,

University of Cape Town Graduate School of Business

10.2 Appendix B- Factor Analysis

Factor analysis was applied to the results in line with the analysis used by Hoppe, Mugera and Newman (2001). All loadings greater than 0.4 were accepted as was the case in the comparative study. Two rounds of analysis were performed to produce the results that are shown in Table B1.

Six factors with eigenvalues greater than 1.0 were produced and they explained 68.14% of the variance. In extracting these 6 factors there were some discrepancies which necessitated that some of the data had to be excluded from further analysis. variables relating to self-efficacy, specifically SELF-EFF1 cross loaded with some factors and had to be removed. In additional, SUBNORM3 did not load together wit the rest of the variables under this construct and was again removed from analysis. The results on Subjective Norms are therefore dependent on the remaining two variables. The single variable that measured trialability did not load any variable that was greater than 0.4. However, Hair et al., (1992) suggested that variables greater than 0.3 could be included in an analysis because they were significant. As Trialability loaded highly 0.34 on one
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

factor it was not removed further analysis. Tan and Teo (2000) included a variable on Risk in their study that had loaded less than 0.3 because it was significant as it loaded highly on its factor.

Apart from the above shortcomings, it is evident from the factor analysis done than all conditions relating to convergent and discriminant validity have been met at a minimum loading of 0.4.

A test was conducted to determine whether there unequal variances i.e. heteroskedasticity. Spearman’s R=0.027 and t= 0.254, and p>0.05 as the correlation coefficient was not significant there was no heteroskedasticity.

Table B1

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
<th>Factor 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relativ1</td>
<td>0.758777</td>
<td>0.055403</td>
<td>-0.064354</td>
<td>0.124699</td>
<td>0.211525</td>
<td>0.155210</td>
</tr>
<tr>
<td>Relativ2</td>
<td>0.924272</td>
<td>0.041932</td>
<td>0.071256</td>
<td>0.056053</td>
<td>0.007795</td>
<td>0.048174</td>
</tr>
<tr>
<td>Relativ3</td>
<td>0.862872</td>
<td>0.085807</td>
<td>0.065185</td>
<td>0.039221</td>
<td>0.027442</td>
<td>0.160582</td>
</tr>
<tr>
<td>Relativ4</td>
<td>0.925207</td>
<td>0.001450</td>
<td>-0.050278</td>
<td>0.013246</td>
<td>0.013777</td>
<td>0.042848</td>
</tr>
<tr>
<td>Compat1</td>
<td>0.772403</td>
<td>0.238841</td>
<td>0.096429</td>
<td>-0.049904</td>
<td>0.165488</td>
<td>-0.114176</td>
</tr>
<tr>
<td>Compat2</td>
<td>0.815547</td>
<td>0.330410</td>
<td>0.036502</td>
<td>-0.006986</td>
<td>0.128062</td>
<td>0.014269</td>
</tr>
<tr>
<td>internet experience</td>
<td>0.202128</td>
<td>0.724097</td>
<td>-0.006362</td>
<td>-0.198732</td>
<td>0.061400</td>
<td>0.043113</td>
</tr>
<tr>
<td>Intskill1</td>
<td>0.309665</td>
<td>0.775119</td>
<td>-0.132611</td>
<td>0.121167</td>
<td>-0.003899</td>
<td>0.994440</td>
</tr>
<tr>
<td>Intskill2</td>
<td>0.225512</td>
<td>0.752144</td>
<td>-0.163551</td>
<td>0.148475</td>
<td>0.241955</td>
<td>0.036389</td>
</tr>
<tr>
<td>Selfeff1</td>
<td>0.236741</td>
<td>-0.010606</td>
<td>-0.009870</td>
<td>-0.115127</td>
<td>0.150853</td>
<td>0.777922</td>
</tr>
<tr>
<td>Govsupp2</td>
<td>0.038344</td>
<td>-0.342566</td>
<td>0.278357</td>
<td>0.061100</td>
<td>0.124112</td>
<td>-0.696814</td>
</tr>
<tr>
<td>Complex1</td>
<td>-0.050868</td>
<td>-0.012153</td>
<td>0.635700</td>
<td>0.246965</td>
<td>-0.020539</td>
<td>0.257648</td>
</tr>
<tr>
<td>Complex2</td>
<td>0.078275</td>
<td>-0.246851</td>
<td>0.793975</td>
<td>-0.102493</td>
<td>0.080849</td>
<td>-0.275650</td>
</tr>
<tr>
<td>Complex3</td>
<td>0.126486</td>
<td>-0.080070</td>
<td>0.772297</td>
<td>0.099984</td>
<td>0.119342</td>
<td>-0.213398</td>
</tr>
<tr>
<td>Trial1</td>
<td>0.175102</td>
<td>-0.191525</td>
<td>0.265553</td>
<td>0.349536</td>
<td>-0.165379</td>
<td>-0.202777</td>
</tr>
<tr>
<td>Risk1</td>
<td>-0.125457</td>
<td>0.291391</td>
<td>-0.594038</td>
<td>-0.004436</td>
<td>-0.239717</td>
<td>0.147132</td>
</tr>
<tr>
<td>Risk2</td>
<td>0.322696</td>
<td>0.147808</td>
<td>-0.501357</td>
<td>-0.119763</td>
<td>0.376890</td>
<td>-0.091133</td>
</tr>
<tr>
<td>Subj norms1</td>
<td>0.006715</td>
<td>0.109722</td>
<td>0.191338</td>
<td>0.795052</td>
<td>-0.124703</td>
<td>0.053206</td>
</tr>
<tr>
<td>Subj norms2</td>
<td>0.041872</td>
<td>-0.047096</td>
<td>0.005174</td>
<td>0.711109</td>
<td>0.252856</td>
<td>-0.153411</td>
</tr>
<tr>
<td>Techsupp1</td>
<td>0.284942</td>
<td>0.117946</td>
<td>0.035866</td>
<td>-0.178390</td>
<td>0.684142</td>
<td>0.155166</td>
</tr>
<tr>
<td>Techsupp2</td>
<td>0.192233</td>
<td>0.235649</td>
<td>0.202472</td>
<td>-0.241233</td>
<td>0.402136</td>
<td>0.296231</td>
</tr>
<tr>
<td>eigenvalue</td>
<td>6.930369</td>
<td>3.435894</td>
<td>1.887426</td>
<td>1.541466</td>
<td>1.358624</td>
<td>1.200347</td>
</tr>
<tr>
<td>% of variance</td>
<td>28.87654</td>
<td>14.31622</td>
<td>7.86427</td>
<td>6.42277</td>
<td>5.66093</td>
<td>5.00145</td>
</tr>
<tr>
<td>cumulative %</td>
<td>28.87654</td>
<td>43.19276</td>
<td>51.05704</td>
<td>57.47981</td>
<td>63.14074</td>
<td>68.14219</td>
</tr>
</tbody>
</table>
### 10.3 APPENDIX C  PROCEDURE AND TIME FRAME

<table>
<thead>
<tr>
<th>Date</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>14(^{th}) August, 2006</td>
<td>1(^{st}) Meeting with supervisor</td>
</tr>
<tr>
<td>17(^{th}) August, 2006</td>
<td>2(^{nd}) Meeting with the supervisor</td>
</tr>
<tr>
<td>18(^{th}) August, 2006</td>
<td>Final hand-in of the research proposal</td>
</tr>
<tr>
<td>25(^{th}) August, 2006</td>
<td>Receive feedback on the proposal</td>
</tr>
<tr>
<td>28(^{th}) August, 2006</td>
<td>3(^{rd}) Meeting with the supervisor</td>
</tr>
<tr>
<td>29(^{th}) August, 2006</td>
<td>Review research questionnaire</td>
</tr>
<tr>
<td>30(^{th}) August, 2006</td>
<td>4(^{th}) Meeting with the supervisor regarding the questionnaire</td>
</tr>
<tr>
<td>3(^{rd}) September, 2006</td>
<td>Test pilot the questionnaire with 3 NBM customers currently at the GSB.</td>
</tr>
<tr>
<td>9(^{th}) September, 2006</td>
<td>Data Collection starts</td>
</tr>
<tr>
<td>29(^{th}) September, 2006</td>
<td>5(^{th}) Meeting with the supervisor regarding data analysis</td>
</tr>
<tr>
<td>31(^{st}) October, 2006</td>
<td>The first draft of the research report completed</td>
</tr>
<tr>
<td>6(^{th}) November, 2006</td>
<td>6(^{th}) Meeting with the supervisor</td>
</tr>
<tr>
<td>25(^{th}) November, 2006</td>
<td>Finalizing the Research report</td>
</tr>
<tr>
<td>8(^{th}) December, 2006</td>
<td>Final hand-in of the research Report</td>
</tr>
</tbody>
</table>
10.4 APPENDIX D GRAPHICAL ILLUSTRATIONS

AGE DISTRIBUTION

AGE - INTERNET USE RELATIONSHIP
Factors influencing the adoption of internet banking by the customers of NBM: a comparison with South Africans

Level of Internet Experience
ATTACHMENTS

This document contains attachments which can be accessed by following the instructions for the version of Adobe Acrobat Reader that you are using detailed below:

NOTE:

Microsoft Excel is required to view these documents.

The attachments are subject to the same copyright and ownership conditions as this PDF.

ACROBAT READER 6.0 AND EARLIER
From the pull-down menu:
select DOCUMENT
select FILE ATTACHMENTS
A list of attached documents can be viewed
Select the file you would like to view
Click the OPEN button
A Macro warning will appear
Click OPEN to continue

or click on the Paper Clip icon on the menu bar to view the attachments

ACROBAT READER 7.0
From the pull-down menu:
select VIEW
select NAVIGATION TABS
select ATTACHMENTS
A list of attached documents can be viewed
Select the file you would like to view
Click the OPEN button
A Macro warning will appear
Click OK to continue

or click on the Paper Clip icon on the menu bar to view the attachments

ACROBAT READER 8.0
From the pull-down menu:
select VIEW
select NAVIGATION PANELS
select ATTACHMENTS
A list of attached documents can be viewed
Select the file you would like to view
Click the OPEN button
A Macro warning will appear
Click OK to continue

or click on the Paper Clip icon on the menu bar to view the attachments