NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
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MASTER'S PROGRAMME

MASTER'S THESIS

RISK PERCEPTIONS AND INNOVATIVENESS OF INTERNET BANKING USERS IN NORTHERN CYPRUS

SUZAN DAĞAŞANER

NICOSIA

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We certify the thesis is satisfactory for the award of degree of
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ABSTRACT

The study is an outline of how risks perceptions and innovativeness affect internet banking users in North Cyprus. This was necessitated by the idea that banking innovativeness especially online banking attracts considerable criticism from consumers citing high risk exposure to fraudulent activities such as scams and hacking. This has ultimately altered consumers' perceptions about banking innovativeness notably with regards to internet banking. Thus, a total of 394 questionnaires were randomly distributed to students at NEU and CIU who use internet banking in respective totals of 331 and 63. An Ordinary Least Squares regression approach was therefore employed to aid in examining both the direction and magnitude of impact posed by risk perceptions and innovativeness affect internet banking users in North Cyprus. The obtained findings showed that there is a negative association between total risk and internet banking usage and that innovativeness is positively related to internet banking usage.

Keywords: Innovativeness, Risk perceptions, Internet Banking.

ŐZ

Bu çalışma, risk algılaması ile yenilikçiliğin Kuzey Kıbrıs'taki banka kullanıcılarını nasıl etkilediğini anlatmaktadır. Özellikle çevrimiçi (online) bankacılığın, dolandırıcılık ya da bankacılık korsanlığı gibi risk teşkil eden düzmece durumlardan korunmak adına ne kadar önemli ve gerekli bir adım olduğu tartışılmaktadır. Bu da, en nihayetinde tüketicilerin bankacılık alanındaki yenilikler konusundaki algılarını değiştirmiştir. Böylelikle, toplamda 394 anketin 331'i Yakın Doğu Üniversitesi, 63'ü ise Uluslararası Kıbrıs Üniversitesi öğrencilerine rastgele dağıtılmıştır. Dolayısı ile, Sıradan En Küçük Kareler Yöntem regresyon yaklaşımı, Kuzey Kıbrıs'taki internet bankacılığı kullanıcılarının risk algıları ile yenilikçiliğin etkilerini incelemeye yardımcı olması adına kullanılmıştır. Elde edilen bulgular, toplam risk ile internet bankacılığı kullanımı arasında olumsuz bir bağlantı bulunduğunu ve bankacılık alanında yapılan yenilikçiliğin de internet bankacılığı kullanımında olumlu etkiler yarattığını göstermektedir.

Anahtar kelimeler: Yenilikçilik, Risk algıları, İnternet bankacılığı**.**

DEDICATION

This study is dedicated to my father and mother who have been a strong pillar of success and positive influence in my life. To them I say ‘I love you and that I am deeply honored of your support.

ACKNOWLEGMENTS

It is with utmost sincerity that I express gratitude and in-depth appreciation to my supervisor Dr. Berna Serener for her unwavering support she has demonstrated through this study. Her ideas have greatly shaped and contributed to the successful completion of this study. A heartfelt appreciation also goes to fellow academic friends have been there for me throughout this study.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

IBU: Internet Banking Usage

IN: Innovativeness

OLS: Ordinary Least Squares

SPSS: Statistical Package for Social Sciences

FinR: Financial Risk

PerfR: Performance Risk

PsyR: Psychological risk

PrvR: Privacy Risk

SecR: Security risk

SocR: Social risk

TimR: Time risk

CHAPTER ONE

INTRODUCTION

1.0 Background to study

With significant economic changes taking a toll on the world economy, the banking sector has not been spared from such changes. There are numerable benefits that are being reaped from internet banking and such benefits can be experienced by both banks and customers. Insights provided by Farzianpour et al., (2014) highlighted that such benefits pertain to reaching out to new customers and lowering costs. Notable observations can be made that internet banking has heavily inflicted changes in traditional banking systems that are now being characterized by major shifts towards being more technological and mobile.

Though both opportunities and threats stand to be obtained from the dramatic shifts in economic and business events, most of them have however undermined banking operations. Banks have however indulged in strategies that keep them afloat from competitive pressures by continually investing in information technology as part of developmental efforts that aids in countering competitive pressures imposed by changes in the banking environment or climate thereby harnessing the benefits posed from thereof. This can be reinforced by affirmations by Featherman et al., (2010) and Roboff and Charles (1998) which pinpoints that such innovativeness has been greatly welcomed by both banks and customers. However, there are a vast number of factors that surround the usage of internet banking. Featherman et al., (2010) and Roboff and Charles (1998) contend that factors such feasibility, costs, convenience and risk have an important bearing on the usage and of internet banking innovativeness by bank customers. On the other hand,Featherman et al., (2010) also strongly argue that risk predominantly stands as a chief cornerstone that harbors consumers from positively responding to banking innovativeness, notably internet banking. This is compounded by the assertion that there is lack of understanding of internet banking among consumers despite being aware of the associated risks that are involved (Roboff and Charles, 1998).

Studies by Howcroft et al., (2002) and Sathye (1999) have shown that bank consumers do place significant concern on the safety of transactions that they are willing to conduct. Internet banking is also surrounded by security concerns by customers and huge amounts of bank deposits and transfers can be lost through fraudulent activities. The Hamlet (2000) strongly contends that huge amount of money is lost annually from fraudulent activities such as scamming and hacking. This imposes a huge stumbling block on banks' initiatives to lure more customers to utilize the offered innovative banking products such as internet banking.

Tan and Teo (2000) strongly posit that there is a high potency that internet banking will continue to sky rocket in usage as most consumers continue to seek things such as time efficiency and other convenience aspects of conducting transactions. With such inconclusive and under weighed evidence, this study therefore thrives to analyze how risk perceptions and innovativeness affects internet banking users with regards to North Cyprus.

1.1 Problem statement

Innovation is usually regarded as a powerful tool that can be utilized to enhance effectiveness and efficiency in attaining organizational goals. Notable achievements of innovation in internet banking have been presumed to be offering substantial benefits that range from efficiency to convenience (Farzianpour et al., 2014). However, banking innovativeness especially online banking attracts considerable criticism from consumers citing high risk exposure to fraudulent activities such as scams and hacking. This has ultimately altered consumers' perceptions about banking innovativeness notably with regards to internet banking. This concurs with the notion established by Featherman et al., (2010) who postulates that risk perception towards internet banking is a huge stumbling block towards internet banking especially in economies in which depositors have lost their funds during the aftermath of the financial crisis. This was reinforced by Tan and Teo (2000) who strongly posits that the effectiveness of consumers in adopting internet banking innovativeness hinges on the willingness and ability of consumers to deposit funds or engage services with a financial institution.

Alternative affirmations by Sathye (1999) have shown that innovation in internet banking will continue to rise in importance as globalization and financial instruments continue to deepen in

scale worldwide. Contrasting views can be observed in a study conducted by Tornatzky and Klein (1982) which highlights that innovation in internet banking can only attract significant or considerable positive response from banking users under certain circumstances which however tends to differ from one region to the other in relation to economic and financial development. In consequence, available literature has remained vague and insufficient to analyse risk perceptions and innovativeness of internet banking users. Furthermore, studies done by Featherman et al., (2010) exhibited that risk is a complex entity that is composed of a multitude of elements and needs to be decomposed into different elements prior to its analysis. Farzianpour et al., (2014) argues that this aids in enhancing understanding of the interplay between risk, innovativeness and internet banking usage. As such, Farzianpour et al., (2014) established that internet banking risk can be decomposed into time, psychological, social, security, financial, performance and privacy risk. This greatly implies that conditions under which risk perceptions and innovativeness of internet banking users can be examined are different and have remained under developed. This study therefore seeks to enhance understanding of the interplay of risk perceptions and innovativeness of internet banking users with regards to North Cyprus.

1.2 Research objectives

Having established the research problem, this study therefore strives to attain the accompanying targets;

1) To outline how risk perceptions and innovativeness affect internet banking users in North Cyprus.
2) To deduce bank performance implications as a consequence of banking users' risk perceptions and utilization of internet banking innovativeness.
3) To establish the underlying risk factors that surround internet banking users' perceptions and response to internet banking.
4) To proffer insights about probable measures that can be undertaken to enhance consumers' positive perceptions and usage of internet banking.

1.3 Research questions

In line with the aforementioned targets, this study therefore endeavors to provide answers to the accompanying inquiries;

1) How do risk perceptions and innovativeness affect internet banking users in North Cyprus?
2) What are the implications of internet banking users' risk perceptions and utilization of internet banking innovativeness on bank performance?
3) What are the underlying risk factors that surround internet banking users' perceptions and response to internet banking?
4) What probable measures can be undertaken by banks to enhance consumers' positive perceptions and usage of internet banking?

1.4 Significance of the study

There is huge empirical value that is attached to this study. Foremost, it can be noted that North Cyprus is one of the economies that suffered from the financial crisis. As such, depositors lost their funds and this has greatly altered internet banking usage. This study therefore outlines the underlying factors that influence risk perception and usage of internet banking. In consequence will result in banks adopting measures that can improve their competitiveness and hence performance especially in an economy where financial competitiveness is greatly needed for sound performance and survival. Significant importance of this study also lies in its position to proffer insights about probable measures that can be used to positively influence consumers' perceptions and usage of internet banking. This plays a crucial role in efforts to stimulate or enhance financial innovation and diversification.

1.5 Organization of the study

The study is organized into six chapters in which chapter one deals with the problems and its setting while chapter two deals with literature review. Chapter three provides a general outline of the banking sector, types of risks inherent in the banking sector, internet banking trends, innovation and in North Cyprus and how they influence customers' risk perceptions. Research

methodology is covered in chapter four while chapter five deals with analysis and presentation of research findings. Chapter six concludes this chapter by looking at conclusions, recommendations and suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Concerns for safety and certainty of transaction have been a burning issue which has predominantly rose to dominate internet banking headlines. With fast paced changes prevalently manifesting in the world economy especially in business frontiers, methods of conducting transactions will continuously to succumb to innovation. This is being compounded by factors which include among others globalization and international trade. This synonymously requires changes in the movement of funds and ways of conducting transaction so as to ensure viability, convenience as well as cost effectiveness.

Contentions are very high that internet banking will provide the necessary urge in improving the movement of funds and ways of conducting transaction. This is however surrounded by numerous and diverse types of risks and Sathye (1999) established that about 73% of customers are more likely to shun internet banking as a result of safety and certainty concerns. This implies that the successful adoption of internet banking hinges on the level of consumers' risk perception. Thus, the level of trust that is inferred by customers is more inclined to offline banking as opposed to online banking. This is because of the nature of transactions that is carried out in online banking is contains sensitive information which parties are very reluctant to disclose (Alsajjan & Dennis, 2006; Suh & Han, 2002). Insights drawn from Roboff and Charles (1998) established that individuals normally have low perceptions towards internet banking even though they might be fully aware of the uncertainties involved thereof. Further ideas given also exhibit that individuals often rely on their bank for online privacy and safety and this tend to hinge on the level of the bank's technological advancement.

2.2 Grönroos service quality model and internet banking

Grönroos (1984) established that the effective ability of firms to compete against its competitors lies in its ability to comprehend service quality and consumer perceptions. Thus, recommendations are that firms must effectively manage consumer perceived service quality. If such is not matched, Seth et al., (2005) contends that consumer dissatisfaction will occur. This model further posits that service quality can be decomposed into three categories which are;

I. Functional quality
II. Technical quality
III. Image

The interaction between these three components is what Grönroos contends that will result in changes in consumer satisfaction and that favorable changes in satisfaction are on the account of positively influencing these three aspects. The model by Grönroos can be expressed diagrammatically as shown in figure 2.1 below.

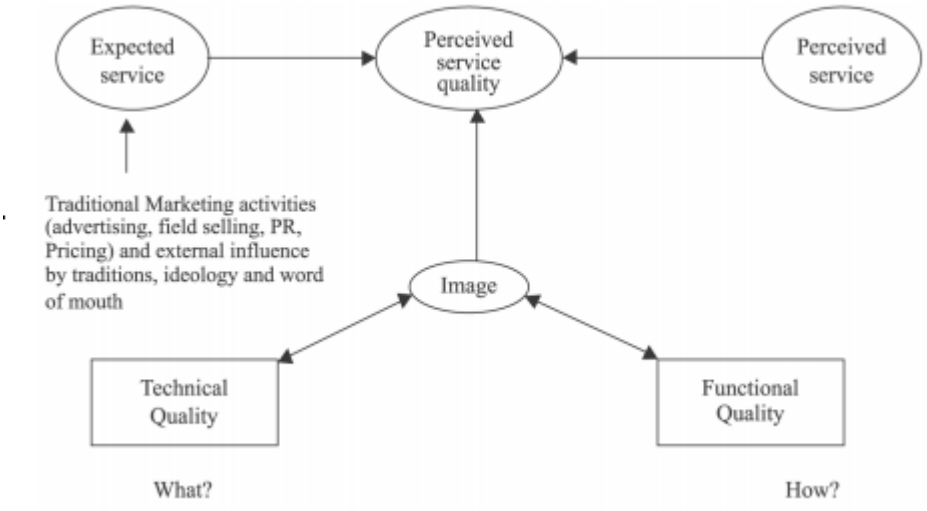

Figure 2.1: The Service quality model (Source: Grönroos, 1984).

Implications are that what bank consumers obtain from innovation (technical quality) is a product of the consumer's resultant actions to engage services with a given bank. Such interaction will aid the consumer to make decision of the quality of services he or she is getting from the bank's innovation. This model also shows that bank customers will judge the

innovative ability of the bank based on functional quality which is centered on the ability of the product to offer the best quality when functional. Consequently, the image of the bank also plays an important role and will influence things such as public relations, pricing, word of mouth etc.

2.3 The SERVQUAL model and the adoption of internet banking

The adoption of internet banking and any form of innovation by bank customers lies in the ability of the customers to obtain high quality from the utilizing the concerned services. Thus, innovation and internet banking usage can be explained based on the SERVQUAL model developed by Parasuraman et al., (1985). According to Parasuraman et al., (1985) service quality hinges on five dimensions which are also known as SERVQUAL dimensions and these are;

I. Tangibility: this refers to physical assets owned by the bank. This model asserts that bank customers will consider the bank's possessions in order to determine if they should engage their services with that bank.
II. Reliability: Reliability implies that banks should offer services accurately and as promised. Implications are that internet banking and innovation services must be offered by the bank exactly as promised without compromise. Service provision must therefore be prompt.
III. Responsiveness: In the event of service disruptions and other inconvenience which may emanate from the bank's side, the bank is judged on its ability to respond to customers' queries.
IV. Assurance: This is another the major area of concern and bank customers will look at the ability of the bank to warranty security, credibility, courtesy and competence. All these aspects are meant to improve customers' confidence in the bank's innovation and internet banking services.
V. Empathy: Empathy requires that the bank demonstrates high levels of caring which are accompanied by understanding of the customer's situation. During such cases, individualized attention must be granted to the customer (Parasuraman et al., 1985).

Lessons can be drawn from the SERVQUIAL model that the adoption of innovation and internet banking among users hinges on the availability of these five aspects. Thus, lack in any one of these dimensions may cause customers to refuse adoption of the introduced innovation and fail to use the bank's' internet banking services. Banks are therefore advocated to improve these five aspects before and after innovation are made and internet banking services are introduced.

2.4 Internet banking acceptance and the technology acceptance model

Consumers 'stances towards the adoption of a recent knowledge system have a crucial effect on system acceptance. The adoption of new system will provide complete advantages to the companies. One of the most utilized models in studying information system acceptance is the technology acceptance model (TAM) (Davis et al., 1989; Mathieson, 1991; Davis and Venkatesh, 1996; Gefen and Straub, 2000; Al-Gahtani, 2001).

The model they improved suggested that online banking acceptance can be designed by the variables obtained from the TAM (Perceived usefulness and perceived ease of use) and four more variables regarding to information on internet banking, privacy, quality of internet connection and the perceived satisfaction.

The main purpose of the technology acceptance model (TAM) is to identify design issues before users essentially use recent systems. Thus, the technology acceptance model has been broadly used for the aim of forecasting, explaining and extending the understanding of user acceptance of knowledge systems in different fields.

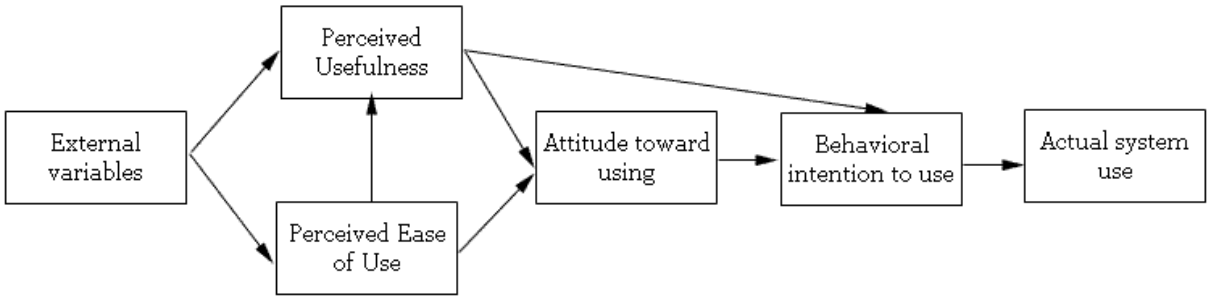

Figure 2.2: Technology Acceptance Model (Source: Davis, 1989)

2.5 Internet banking

Internet banking alludes to the management of banking services through the utilization of the internet as a remote conveyance channel. This incorporates conventional service delivery activities such as electronic bill presentment and payment, transferring funds, opening of deposits accounts through the use of a bank's website (Furst, Lang, & Nolle, 2000, pp 3).

There are generally two channels that can be utilized to offer internet banking and these are;

I. Setting up physical offices in which a website is developed to augment traditional service delivery channels.
II. Setting up a branchless or virtual bank that comprises of a server and bank customers can actually access funds on the ATM.

2.5.1 The development of internet banking

Internet banking evolved in the past one and half decade during the period in which the internet era was rising in prominence around the world. The major purpose behind the introduction of internet banking was pinned on providing alternative banking distribution channels. The ability of internet banking to serve as an alternative banking channel attracts considerable global attention because of the benefits that are tied to it which can be reaped by both customers and banks. One of the desire by banks to lower costs has been attained through the development of internet banking.

2.5.1 Major internet banking services

During the early era of the development of internet banking in the 90s, the dominant internet banking services were mainly restricted to transferring funds and balance enquiry (Egland et al., 1998). Such an element was characterized by size as the main determinant and hence internet banking was mainly restricted to large banking terms of asset size and profitability. Egland et al., (1998) established that about 90% of banks in the United States were offering electronic bill payment by the end of the year 1998. Though internet banking is mainly perceived to be related to transferring funds and enquiring about available funds, it is actually a broad activity and Pizzani (1999) asserts that internet banking actually comprises of other activities such as credit applications and payments settlements. Such an ability to offer these services is however influence by the size of the bank with more inclination of service delivery magnitude towards large banks. All most all banks around are now offering online cash

management services which has heightened the bank's efficiency and ability to create more value. Online cash management also offers a lifetime opportunity for smaller banks to stir up their potency to compete with large banks for a market share. Major internet banking services can be categorized as follows;

I. Balance inquiry
II. Funds transfer
III. Bill payment
IV. Credit applications
V. New account set-up
VI. Brokerage
VII. Cash management
VIII. Fiduciary
IX. Bill presentment
X. Insurance

From the above list, it can be noted that insurance and fiduciary also constitute part of the services that can be categorized to fall under internet banking. These two services have also increased in magnitude and have been considered to be mainly restricted to large banks (Furst, Lang, & Nolle, 2000). Robertson et al., (2000) revealed that insurance and fiduciary was predominantly undertaken by large banks which possessed a huge asset base and a sound financial muscle. By the year 1999, 5.4% and 11.9% of the banks in USA were offering online insurance and fiduciary services respectively (Egland et al., 1998). Despite the magnitude of internet banking services offered, the general perception is that internet banking mainly deals with the transferring of funds, payment of bills and checking account balances.

2.5.2 Motives behind internet banking

One of the motives behind the development of internet banking is the surge in international payments and banking. The pace at which globalization and international trade have evolved is so alarming and this has significantly altered the pattern and nature of transactions. With aspects of convenience in terms of costs and time, both parties to an international transaction are more versed to a system that can offer these combined two services. Hoggarth, et al., (2002) assert that soaring costs have been a 'pain in the neck' for banks and have necessitated

instabilities. Thus, efforts are thrusted on measures that can trim costs and catapult revenue inflows. Internet banking is thus one of the avenues that can be taken by banks to trim down costs and boost revenue inflows.

The proliferation of electronic commerce places an important role towards the development and prevalence of internet banking. This is attributed to the notion that internet banking is a source and angle of innovation and hence financial institutions around the world will endeavor to influence it so as to improve their performance. The use of internet banking helps banks to override geographic al boundaries, access and quickly enter those markets which they were not capable of serving before. Incapability to use internet banking in an environment where electronic commerce is widely proliferating can also pose as a threat to those financial institutions that are not well positioned to respond to innovative changes of internet banking. Molyneux et al., (1994) contends that banking competitive forces have widely changed and deepened and that banks should be well positioned to address such issues so as to avoid threats to survival and growth. This is reinforced by assertions made by Smith (1998) who argues that macroeconomic and bank performance are tied in the ability of banks to respond to competitive forces.

Presumptions that internet banking will cut costs are also high and this is because traditional approaches to banking have been characterized by rising costs. Banks have been on the search for strategies that can cut costs and improve revenue bases.

Internet banking has to a greater extent improved convenience for both customers and banks around the world. This is because bank customers are now capable to execute transactions at their comfort of their homes and even when mobile. This type of convenience is unilaterally related to satisfaction (Levesque & McDougall, 1996). On the other hand, the number of people required to serve branch customers is reduced. Of paramount importance is the satisfaction that is obtained from the use of internet banking. The introduction and improvement in internet banking have greatly added to the level of satisfaction derived from banking. Moreover, internet banking has also necessitated the concept of mobile banking (Lin, 2011). Banking applications can now be installed on mobile devices and consumers can execute transactions during mobile processes.

Lastly, the other motive behind internet banking is to boost revenue growth. Such revenue growth comes from an increase in the magnitude and number banking activities, entering new markets and levying extra fees for each transaction undertake.

With changes, being witnessed in the type of currencies being used to execute transaction and to store currency such as Bitcoins, one can foresee major developments in internet banking. Other services have also been developed in line with internet banking and these include PayPal payment systems and even online purchasing itself. Conclusions can therefore be made in this aspect that motives being the adoption of internet banking will continuously change and increase both in number and magnitude. The number of people using internet banking can be foreseen to continue to grow as well.

2.5.3 Factors surrounding internet banking

There is a significant difference in why most banks are capable of offering internet banking services and why some can only offer it to a large degree. Such factors can be classified to be internal determinants of internet banking. This is because the banking environment is characterized by diverse factors which make it possible for other banks to possess what other banks do not have or for them to grow at a pace which other banks are not capable of. Such factors can hereby be described as follows;

2.5.3.1 Assets

The number of assets possessed by the bank is often a widely-used indicator of a bank's size. Bank assets are often related to the bank's performance which entails that the more assets are to the disposal of the bank the more profits it is capable of making (Furst et al., 2002). The general implication is that the more assets a bank possess, the bigger the bank. Hence assets can be said to offer an indication of the size and performance of the bank. However, when related to the ability of the bank to adopt internet baking, it can be thus deduced that large banks are more capable of offering internet banking. Thus, a unilateral relationship can be said to exist as evidenced by the study by Furst et al., (2002) which reaffirms the existence of a positive relationship between assets and the ability to offer internet banking.

2.5.3.2 Bank holding company

A bank holding company (BHC) is often a company that is owns or controls one or more banks (Avraham, Selvaggi & Vickery, 2012; pp 1). A BHC is often in a strong position to

undertake deposit taking, borrowing and lending, security trading, insurance activities etc. Furthermore, a BHC can offer internet banking services because is capable to deliver services to a huge customer base by using a single website. Thus, BHCs provide favorable conditions for providing internet banking services.

2.5.3.3 Urban environment

The location of the bank determines whether the bank can offer internet banking services or not. This is usually true when considerations are put into place about whether the bank is located in the rural areas or not. Which implies that urban areas are more favorable for banks to offer internet banking because they have access to internet technology and possess the necessary know how. In a study by Furst, Lang & Nolle (2000), a dummy variable was assigned to the variable urban environment. A value of 1 represented an urban located bank while that of 0 meant that the bank is not located in an urban environment. In this study, almost every area in North Cyprus has access to Wi-Fi even at homes and this variable rarely applies to the North Cyprus situation.

2.5.3.4 Deposits

The amount of deposits a bank holds in proportion to its assets has a significant bearing on the ability of the bank to lend funds and use those funds to generate more income. Banks have different strategies which they can employ in order to generate more revenue. Some may place much dependency on deposits for source of funds while others may look for traditional channels. This means that those banks that do not rely of traditional methods of getting funds will invest more time and resources looking for alternatives such as online banking. This is reinforced by assertions made by Furst, Lang & Nolle (2000) which concurs with such a notion and outlines that the less a bank relies on traditional banking methods, the more it will make use of facilities such as internet banking.

2.5.3.5 Expenses

Furst, Lang & Nolle (2000) consider the level of expenses a bank incurs to be another chief element that can determine the adoption and extent to which banks may adopt internet banking. High expenses in sustaining branch operations such as salaries may force the bank to seek alternatives operating strategies which can cut such costs. As such, virtual and internet banking will begin to pose as possible lucrative alternatives for the bank. We can thus deduce

that the level of bank expenses is unilaterally related to the bank's adoption and utilization of internet banking.

2.5.3.6 Net interest income

Interest bearing activities provide significant ways that banks can tap into so as to generate more revenue. When related to bank performance, one can assert that those banks that are capable of generating more interest income are better performers. Such ability to perform better can be heightened by engaging in more interest earning activities. Thus, internet banking provides a platform for banks to widen their scope and hence obtain more interest revenue inflows.

2.5.3.7 Return on equity

In positions where banks are attaining high levels of return on equity (ROE), both management and stakeholders are more inclined to invest in further activities that can boost this performance indicator. At the same time, a high profitability can be synonymously be regarded as a potency for the bank to engage in ancillary activities which can boost revenue inflows (Chaudhry, Chatrath & Kamath, 1995). With such a scenario in motion, we can establish a positive relationship between ROE and internet banking.

2.5.3.8 Efficiency

What determines the use of non-traditional banking activities is the extent to which the bank is efficient in existing banking activities. Such efficiency can be established by measuring the ratio of a bank's noninterest expense to net operating revenue. The lower the ratio, the more efficient the bank can be said to be or vice versa (Berger, Hancock & Humphrey, 1993). Similar assertions about efficiency can be made with regards to deductions made about the variable bank expense. Banks thus can use internet banking as a strategy to improve their efficiency.

2.5.4 Benefits of internet banking

2.5.4.1 To the bank

There are significant benefits that banks can stand to reap from adopting internet banking strategies'. Foremost, banks can trim down costs of doing business by utilization internet

banking. This is because branches can be difficult to maintain as things such as salaries, rentals, electricity bills and investment in fixed assets have to be made on a constant basis. Thus, by using internet banking, these costs can be avoided. The reduction in costs is often through reduction in branch and transaction costs.

Secondly, internet banking makes it easy for banks to increase their product range. New products can thus be offered and these can include intermediate trading, insurance, fiduciary etc. such is important as it also aids in giving the bank a competitive advantage over its competitors.

Internet banking allows the bank to gain access of existing and new markets that they were incapable of accessing before. Internet banking thus makes it feasible and swift for banks to break the problem of geographical boundaries.

The issue of efficiency is also a major benefit that banks can reap thereof as time and cost efficiency becomes prevalent which makes it easy to save time and cut cost for huge span of services offered (Mester, 1996). Mass production is also feasible and economies of scale can be reaped from such an influence.

The other important aspect is of service quality. The quality of services offered by banks improves as the banks engage in internet banking (Bloemer, De Ruyter & Peeters, 1998). Service quality improves as customers can access bank facilities at the comfort of their homes and when moving from one place to another or in a foreign territory. Internet banking allows customers to easily access banking services twenty-four hours a day, seven days a week by. Information provided by American Banking Association and Gallup Poll research disclosed that the main reason consumers keep an account with a specific financial services organization is convenience. This entails that in order to maintain consumers nowadays, banks are advocated to offer services through multiple distribution channels such as the internet. The more distribution channels a bank offers and banking processes available on the internet, the more convenient it is for customers to do business.

Internet banking also helps to improve the corporate image of the bank. Having high quality services can be a good indication to the customer that the bank is better than other financial institutions in the market.

2.5.4.2 To customers

İnternet banking evolved at a time when consumers around the world were engaging in a lot of bill payment activities as the nature of goods and services consumed widened. İnternet banking thus allows consumers to pay bills online as well as manage their bills much more easily thereby saving time and money. Online bill payment systems can actually help to eradicate the problems of errors thus making the administration of customer debts much easier. İnternet banking is ordinarily created to be fast and easy to employ (Suh, & Han, 2002). Customers can reduce the possibility of late payments and or missing payments and prevent late charges.

Online banking gives consumer the control of almost every view of managing his or her bank accounts. Customers can also sale and purchase securities, check information about stock market and currency rates, transfer money and see transactions histories. The finest benefit of online banking is that it is free (Burnham, 1996).

Online banking is entirely convenient and customers can easily pay their bills and transfer money between accounts. At present, customers do not have to stay in the line to pay off their bills, store receipts because they can just easily see their transactions and account statements.

2.6.5 Shortfalls of internet banking

There are numerous shortfalls of internet banking and Abu Shanab and Pearson (2007) postulate that the major shortfall with internet banking is that it requires that users be well versed with internet technology. Lack of understanding is what hinders most customers from using internet banking. Banks do offer information to customers about the use of its services but the learning part is outside the control of the bank.

It is also impossible or difficult to utilize internet banking when internet access is absent. Internet banking is only effective when there is access to internet. This can lead to delays on both the part of the bank and the customer but the most devastating effect is when bank make losses when there is no internet access as trading is halted.

Another concern or possibly a shortfall with internet banking is security concerns are very high (Lee, 2009). A lot of customers and banks have lost a significant amount of funds to fraudulent activities unsuspectedly as fraudsters reportedly stole their money. The use of

internet banking is thus surrounded with huge risks that money might be lost. The Guardian (2015), estimates that 60 million pounds was lost to internet fraud in the United Kingdom. Thus, most customers are dissuaded from using internet banking facilities. Risk is the main emphasis of this study and attention will be given to analyze how it affects consumer perceptions.

Internet banking can be hindered in the act of system disruptions and hence it requires that all the system facilities to be actively functional for there to be swiftness, convenience and even efficiency. When system disruptions are very high, dissatisfaction can be high and consumers can switch to those banks that can effectively offer internet banking facilities better.

2.6 Consumers' attitude

Consumer perception is an inseparable issue and it is insufficient to offer sound conclusions of the effect of consumers' risk perceptions about the adoption of internet banking. Consumer attitude refers to the ultimate consumers' action that stems from changes in intentions, beliefs and feelings of the consumer in response to a particular product (Fishbein & Ajzen, 1975). Further insights by Fishbein & Ajzen (1975) exhibit that consumer's attitude have an implication on the success of a product. These insights were based on evidenced collected about the impact of mobile and online banking attitude in Nigeria. These attitudes are stimulated by other consumers' experiences or personal experience of a consumer himself. Consumers' attitudes are influenced by a number of factors that include recognition of the introduced technology, general approach to technology, demographic aspects, motivation etc.

2.7 Consumer attitude and the adoption of internet banking

Consumers' attitudes are presumed to play a huge role on the ability of consumers to adopt the introduced technology. Howcroft et al., (2002) postulated that the extent to which people are versed in computers has a behavioral effect on consumers. However, the extent to which consumers place certain value elements on goods and services is determined by the age distribution. In this regard, observations can be made that old people often place concern on issues such as convenience and ease in banking often differs from those of young people. It

can thus be said the risk perceptions towards internet banking in North Cyprus will also be determined by age distribution of bank customers.

Deeper understanding of the impacts of consumer attitude can be best illustrated by weighing attitudes against proposed benefits. Machauer & Morgner (2001) outlined that consumers' attitude to goods and services is often as a result of foreseeable benefits which can be decomposed into four major categories. Among such is what is known as compatibility, ease of use, convenience and general interests. However, consumer attitude towards the adoption of internet banking and bank innovation is also linked to inherent characteristics of the customer (Howecroft, 2002). This can be illustrated by the idea that young bank customers do place significant attention in convenience matters as opposed to older bankers. In addition, this may due to the idea that the need for face to face service is highly concentrated to old people only.

Studies were conducted to enhance understanding of the effect of attitude towards adopting internet banking. For instance, Karjaluoto (2002) found that attitude towards technology and previous experience in the user of banking technology and computers determines how the customers responds or adopts the technology. Sathye (1999) also points that shift towards a particular technology can only manifest if certain needs of the customer are to be met from the use of the technology.

Other studies have also shown that attitudes towards internet banking and bank innovation were mainly influenced by family and social influence, and satisfaction levels from previous usage of the bank's services (Lewis, 1991). Polatoglu and Ekin (2001) established that satisfaction from the adoption of internet banking was mainly concentrated to those had adopted the banking services earlier as opposed to late adopters.

On the other hand, Machauer & Morgner (2001) highlighted that knowledge in the use of technology also determines the adoption of banking technology among users. People with access to technology and with high understanding about such technology were regarded to be in a better position to swiftly adopt new banking technology.

Changes in consumers' attitude are necessitated by changes in distribution channels. Thus, such changes will cause different reactions among customers and adoption can positively change if there are welcoming the change (Thornton & White, 2001). In line with the

established conceptual model, this study will attempt to validate the statement that consumer attitudes have an impact on internet banking.

2.8 Trust and internet banking adoption

Confidence in adopting internet technology introduced by the bank will hinge on the level of trust exhibited by the customer. Thus, when banks lack integrity and reliability, customers are more likely to lack trust in the bank (Morgan and Hunt, 1994). The concept of trust is important especially when one is executing online purchasing decisions or activities.

Trust in online banking is often surrounded by the interplay of several factors and Ratnasingham (1999) propounds that access, authenticity and confidentiality are of prime importance in determining consumers' trust. This entails that the greater the chances of customers accessing the services without restriction coupled with high level of authenticity and confidentiality, the more trust customers will build towards the use of the banking technology.

On the other hand, demonstrations have been made which showed that lack of experience also plays a major role in determining customers' trust towards internet banking (Houston & James, 2001). This is because bank customers are strongly presumed to avoid using banking technology which they are not strongly familiar with. As a result, they develop lack of trust towards that banking technology.

What most researchers have disregarded is that trust influences relationships between the bank and its customers. In the act that transactions made by customers through the bank are done on the internet where physical contact with the bank is absent, customers are more perplexed about such transactions are likely to succeed without hindrances. Hence, the adoption of innovation and internet technology revolves significantly on customers' trust. Such trust tends to diminish when customers are aware that they are being characterized by vests and risky conditions surrounding their transactions (Bejou, 1998). It is therefore imperative that the risk environment be properly assesses and managed thereby providing assurance to customers that adopting the banking technology and using internet banking is free from risks. This is

becoming coming in online banking were most banks are now enhancing security measures in banks' websites and in transaction processes.

2.9 Internet banking as a source of innovation and its acceptance among customers

Webster defines innovation as the introduction of new methods, devices and ideas. Notable innovation has been observed in the area of technology and this also proliferated in the banking sector. One of the most innovative banking methods that has manifested in the banking sector is internet banking. Such innovative developments have been greatly welcomed and are contended to have greatly improved the competitive edge of banks (Hobikoğlu, 2015). Thus, innovative advantages reaped by banks as a result of innovation were mainly restricted to costs, location and time benefits. Huge benefits have manifested hugely in the area of electronic banking and it made it possible for banks to expand their electronic banking products.

Innovative ability in internet banking confronted numerous obstacles which encompass among others the problem that acquiring computers was an expensive thing (Karjaluoto, Mattila & Pento 2002). Moreover, after acquisition, banks had to engage in services of ensuring that the necessary systems have been installed and maintained. This compounded banking costs and incapacity of banks to control costs will render the adoption of innovation beyond reach Polatoglu & Ekin (2001) contend that innovation in electronic banking such as internet banking had inherent security concerns. In addition, banking software was confronted with possibilities that errors may occur during the process of executing the transaction. Most consumers lost huge sums of money through activities of internet fraud and errors in executing transactions. There were and still complains that internet banking still faces service disruption problems. Huge problems have been witnessed in international transaction transfer such as MoneyGram.

However, during the commencement of the new millennium in the early 2000, numerous technological advancements continued to spur the banking sector. Technological innovations were mainly customer oriented towards and were designed to cut costs and time through improving the speed of conducting transactions (Rotchanakitumnuai & Speece, 2003). Hence, the introduction of internet banking was intended to provide service to a huge scale of

customers beyond geographical boundaries at a relatively high speed and low costs. It can be deduced from this assertion that internet banking has a significant effect on internet banking.

According to (Pikkarainen, 2004; Poon 2008), Customers' acceptance of online banking is affected by the value of the data ensured by bank. In the study about customer innovativeness, Rogers and Shoemaker (1971) proposed that customer innovativeness is a sort of determination to accept innovative items. The general view regards that customer innovativeness and the acceptance of recent items perhaps considerably positive relation. Midgley and Dowling (1978) consider that consumer innovativeness is a kind of potential individual characteristics; it will encourage customers to accept recent change, contact novelty, and seek stimulation.

Venkatraman and Price (1990) examined that innovativeness involves sensory innovativeness and cognitive innovativeness. Sensory innovativeness is about the recent experience that warns the sentiments; cognitive innovativeness is about the recent experience that warns the thinking. Iran Karande (2011) found that the sensory innovativeness of recent items has an important impact to the association between customer innovativeness and recent items innovativeness. Scholars found that customers' innovativeness adoption is influenced by the new flangeless features and customers' perceived new flangeless features.

The customer innovativeness has a positive association with the acceptance of Internet Banking. In the event that the accordance among internet banking and innovativeness customers is high, the internet banking satisfies innovativeness customers' wants, individual customs and individual desires well. However, the high accordance will support innovativeness customers' internet banking data investigating and real utilization.

Usually, confusion is demonstrated to be an aspect that prevents customer to approve innovativeness. On the other hand, sensory innovativeness customers' feeling and liking will not have influenced by complexity; cognitive innovativeness customers' confusion will decrease the satisfaction in the case of internet banking real usage.

This study therefore seeks to analyze such significance and this can be stated in the form of the following hypothesis.

- **H_0:** Innovativeness has negative effects on internet banking users.
- **H_1:** Innovativeness has positive effects on internet banking users.

2.10 Empirical literature review

Mwesigwa (2010) examined how internet banking is influenced by consumers' attitude, perceived risk, and trust in Uganda. The study based its analysis on regressions results established from a study of 19 commercial banks. Study results showed that consumers' attitude, perceived risk and trust are positively related to the adoption of internet banking.

Farzianpour et al. (2014) undertook a study of how perceived risks affect the adoption of internet banking services. A neural system was used to determine the degree of consumers' apparent risks and the findings revealed that the desired to adopt innovation had no significant impact on perceived risks. Social risk was also discovered not to be related with aggregate perceived risk but the other forms of perceived risks were concluded to possess negative effects on the adoption of internet banking.

Aldás-Manzano et al., (2009) employed structural modelling strategies to determine how internet banking is influenced by perceived risk and innovativeness. Results indicated that the innovative ability of banks plays an essential role in towards e-banking and improving banks competitive advantage. Furthermore, the results also exhibit that huge strides must be devoted towards dealing with customers perceived risks.

Rod et al., (2009) analyzed the nature of association that exists between internet banking service quality and service quality. The main emphasis was driven by the need to analyze how such a linkage poses effects on customer satisfaction. The study was based on the analysis on bank customers in New Zealand the results established that customer satisfaction is positively related to the quality of service quality offered by banks, the quality of the product offered, quality of online information and service quality. These results also received backing from Johnson (1997) who highlights that these explanatory variables such as the quality of online information and the rate at which it is processed has a profound effect on bank users'

satisfaction. Implications from these two studies pointed out that there is greater need to shift prior attention to addressing potential dissatisfaction. Inability or delay in dealing with potential dissatisfaction.

Other studies have focused on the need to assess factors that motivate bank users to utilize internet banking. Guriting (2006) in his study posits that benefits emanating from the use of internet banking technology and the benefits thereof are the main reasons that drive internet banking users to utilize internet banking technology. Extension to this analysis points out that these two factors are again determined by other factors. Thus, Davis (1989) examined the benefits and perceived swiftness towards a technology acceptance model. The study results showed that bank users will utilize internet banking when perceived benefits are greater than the associated costs. The results also showed that if bank users perceive that it will be swifter to use the banking technology, they will utilize it more.

Others studies have shown that despite assessing perceived swiftness and benefits, users of internet technology which depend on their attitude in order for them to decide if they should adopt the technology or not. Krauter (2008) studied how attitudes and risk perceptions influence the use of internet technology. Study results showed that high risk perceptions tend to deter bank users from utilizing online banking services. The results also showed that the usage of internet banking tends to be high when consumers positively develop their attitudes towards the online banking services.

Pikkarainen et al., (2004) used a sample of 268 bank users in Finland to examine how and why users accept an introduced banking technology. The study was based on the idea that there are factors that drive the acceptance of banking technology by bank users. The results showed that when information about the internet banking services is dispensed to relevant users, chances are very high that bank users will begin to use it more. This was however assumed to be determined by the usefulness of that technology.

Laforet & Li (2005) examined the relationship between security issues and the use of internet technology among Chinese bankers and the results exhibit that security concerns were an important issue that was driving the trends in usage of internet banking. The results also suggest that there exist barriers which can hinder the use of internet banking. Other studies have concurred with such notions and argued that the barriers to the use of internet technology

are mainly influenced by its usefulness. For instance, Eriksson et al., (2004) analyzed the usefulness of internet technology among bank users and the results showed that usefulness of internet banking is the major forces that drive usage of internet banking. Eriksson et al., (2004) also established that such usefulness is a major concern for banks as opposed to users.

Suh & Han (2002) analyzed 845 bank users' behavior towards the use of internet banking and results showed that good or positive behavior internet banking is driven by trust. Thus, the results provide strong evidence why bank should improve their customers' trust towards the bank. This received considerable support from the study by Polasik & Wisniewski (2008) which examines how online banking decisions are influenced by the level of security. The results support that when security levels are high, consumers' trust towards the bank will be high hence the decision to open an online account will be positive. Recommendation of that study showed that the decision to open an online account is based on the idea that it is a cost-effective way of banking. Major empirical studies on consumer perceptions and innovativeness of internet banking users can be summarized using table 2.1 below.

Table 2.1: Summary of empirical studies on consumer perceptions and innovativeness

Name of the article	Author(s)	Year	Method	Variables
The role of consumer innovativeness and perceived risk in online banking usage	Manzano Naverre Mafe Blas	2009	Internet Survey	Performance risk, Security risk, Social risk, Time risk, Privacy risk
Results: Results discloses customer innovativeness like a basic build to improve internet banking acceptance and through its successful role in diminishing customer risk sensation of using internet banking.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Customer Risk Perceptions of Internet Banking –A study in Turkey	Demirdogen Yaprakli Yilmaz Husain	2010	Survey	Time risk, Financial risk, Performance risk, Psychological risk, Safety and confidentiality
Results: A study of the distinctions in risk perceptions among bank clients using e-banking and those not using e-banking indicate that risk perceptions in names of psychological, safety risks and financial risk between consumer not using e-banking was more said than others who using e-banking. Consumers not desiring to use e-banking, were especially careful regarding high uncertainty anticipation during fund transfers among accounts.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit	Lee	2008	Online Survey	Performance risk, Financial risk Social risk, Time risk, Security risk
Results: The desire to use internet banking is negatively influenced primarily by security and privacy risk, also financial risk. On the other hand; it is positively influenced primarily by attitude, perceived benefit, perceived usefulness and attitude.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Influence of Psychographics and Risk Perception on Internet Banking Adoption: Current State of Affairs in Britain	Nasir Wu & Yago Li	2015	questionnaire	Privacy risk Performance risk Security risk Financial risk Social risk

Name of the article	Author(s)	Year	Method	Variables
Understanding Consumers 'Risks perception For Banking on the Internet	Manoranjanet Bhusanet & Kanta Suryakanta	2012	Survey	Financial risk, Physical risk, Time risk, Functional risk, Psychological risk
Results: Risk is an important item both in customer desire and adoption to use e-banking. Some customers can easily accept the risks related with acceptance a novelty. On the other hand, some customers 'personality is more liable to adopt new services .Psychological risks are usually induced by disagreement with customers' prior opinions.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Consumers' perceived Risk and Its Effect On Adaption Of Online Banking Services	Farzianpour Pishdar & Shakib oloun	2014	Question naire	Performance risk, Security risk, Social risk, Time loss risk, Privacy risk, Innovation adoption
Results: Customers' desire to adopt internet banking utilities has no important impact on the customer's entire perceived uncertainty. Social risk cannot enhance the customer's entire perceived uncertainty. The content of other customer's perceived risks is predicted by the implementation of network. It can be said that; Customers' risk perceptions and innovation adoption influence acceptance of internet banking utilities. The outcomes demonstrate that the most significant item that could decrease the entire perceived risk is privacy risk				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Factors Affecting Adoption of Electronic Banking: An Analysis of the Perspectives of Banks' Customers	Smadi	2012	Question naire	Performance risk, Social risk Financial risk, Privacy risk Time risk
Results: The principal results of the survey are; risk prevention has an important effect on perceived usefulness. Perceived uncertainty has the heavy effect on consumers' feeling. However, consumers' desire to accept internet banking influences by perceived risk.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Influence of Psychographics and Risk Perception on Internet Banking Adoption: Current State of Affairs in Britain	Nasir Wu & Yago Li	2015	questionnaire	Privacy risk Performance risk Security risk Financial risk Social risk
Results: The results demonstrated that social risk, performance risk, financial risk, security risk and time risk adversely effects desire for the use of online banking. Additionally, the results demonstrates that risks related with internet banking among each other factors conduces more in clarifying desire to use online banking.				

Name of the article	Author(s)	Year	Method	Variables
Security, Risk, and Trust in Individuals 'Internet Banking Adoption: An Integrated Model	Ong, C & Lin, Y	2015	Questionnaire	Perceived security risk, Perceived risk Trust
Results: Perceived security is a significant premise of trust and risk .The other result is that, Security has direct impacts over a persons' acceptance of e-banking. Therefore, security is critical to the personals' online banking acceptance.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Managers' Perspective Towards Perceived Risks Associated with Technology Based Self Services A case of –Jordan Banks	Azzam	2013	Questionnaire	Time risk, Technical risk Psychological risk, Financial risk
Results: The outcomes of the current examine Show that bank supervisor's attitude for acceptance of new technology is adversely affected by perceived risks. The risks that the bank supervisors perceived mostly are; time risk, technical risk, psychological risk and financial risk. On the other hand, these risks adversely influence their attitude about acceptance technology.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
A Measurement Model of Risk Perception in Internet Banking Based on Malaysian Context	Kassim Ramayah, T	2015	Questionnaire	Financial risk, Functional risk, Information risk, Opportunity Cost risk, Physical risk, Social risk, Time loss risk
Results: Perceived risk extents are heavy determinants of desire to use online banking. By studying all of the risk extents that affect the desire to maintain using online banking can assist to enhance the entire perception of the uncertainty.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Effects of Perceived Risks of Internet Banking on Customer Loyalty	Ahmadi Navid Hashemi	2013	Survey	Time risk, Financial risk Performance risk, Privacy risk, Security risk, Social risk, Customer satisfaction
Results: The results indicate that the rise in the perceived risks of online banking causes to decrease customer loyalty.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Integrating TAM and TPB with Perceived Risk to Measure Customers' Acceptance of Internet Banking	Sanayei Bahmani	2012	Questionnaire	Financial risk, Security risk Performance risk, Social risk Time risk
Results: The outcomes indicate that the security risk is the most significant negative determinant of the desire to use online banking. Financial, social, performance and time risks appeared like negative items in the desire to adopt internet banking. Security risk seems to be the most significant prohibitive to the adoption of internet banking. Moreover, the desire to use e-banking is principally and certainly influenced through perceived usefulness.				
Name of the article	**Author(s)**	**Year**	**Method**	**Variables**
Perceived risk and e-banking services: An analysis from the perspective of the consumer	Gerlach, J & Harper	2005	Survey	Financial risk, Psychological risk, Time risk, Physical risk
Results: The perceived risk towards internet banking systems indicates more essential varieties in risk degrees than old banking systems. According to the results, financial risk manages the uncertainty Premium during physical, time and psychological risk perform subsidiary roles like risk manages at definite levels of the customer buying handle. An important involvement of this research is that there is an uncertainty Premium for internet banking.				

Name of the article	Author(s)	Year	Method	Variables
Examining multi-dimensional trust and multi-faceted risk in initial acceptance of emerging Technologies: An empirical study of mobile banking services	Luo Li & Zhang Shim	2010	Questionnaire	Performance risk, Time risk Psychological risk, Social risk, Privacy risk, Physical risk
Results: Consequences of this research show that uncertainty perception is an arresting premise to contemporary technology adoption. The study also shows that social and physical risks are unimportant.				

Name of the article	Author(s)	Year	Method	Variables
Online Banking and Perceived Risk	Munene Mizerski Pettigrew	2002	Mail questionnaire	Performance risk, Psychological risk, Financial risk
Results: The consequences show that certain customers may possibly confident regarding their internet banking processes and experience different types of perceived risk containing financial, psychological and performance risks.				

Name of the article	Author(s)	Year	Method	Variables
The Factors impacting on customers' decisions to adopt Internet banking	Clemes Gan Du	2012	Mail Survey	Security risk, Financial risk Performance risk, Psychological risk, Social risk, Time risk
Results: The results show that consumers' perceived risks have an effect on consumers' decisions to use online banking. The outcomes also show that customers in the teen age and the high revenue classes are probably use online banking.				

Name of the article	Author(s)	Year	Method	Variables
Technology of e-banking :perspective of customers' perceived risk and uncertainty	Bazgosha Eizi & Nawaser Parhizgar	2012	Questionnaire	Financial risk, Operational risk, Social risk, Time risk, Psychological risk, Security risk
Results: Statistical analyses state that risk elements have adverse important relation with the rate of online banking utilization. However, the psychological risk and operational risks can completely explain of online banking utilization variable.				

Name of the article	Author(s)	Year	Method	Variables
Risky Business: Perceived Risk, Trust and the Use of E-banking	Wong Loh & Turner Bak	2009	Questionnaire	Perceived risk, Specific trust Willingness to use e-banking
Results: The results indicate that a user's willingness to use online banking based on the user's perception of risk in operating over the internet. However, specific trust has a positive reasonable impact on the relation among willingness to use online banking and the perceived risk.				

Name of the article	Author(s)	Year	Method	Variables
Assessment of the Factors Affecting the Acceptance of Online Banking by Consumers with an Emphasis on the Aspect of Risk	Shafee Shahroodi	2015	Questionnaire	Social risk, Time risk, Financial risk, Security risk, Executive risk, Perceived usefulness, Perceived Ease of use
Results: Results indicate that each of the research variables like perceived usefulness, quality of internet connection, perceived enjoyment and perceived ease of use influence aim to make transactions via internet. Moreover, results state that security risks and social risks have an adverse effect on the adoption of internet banking facilities, though an adverse effect of financial risk, time and executive is not verified.				

2.11 Conceptual framework

Based on the deductions illustrated in the literature, the following conceptual framework can be developed;

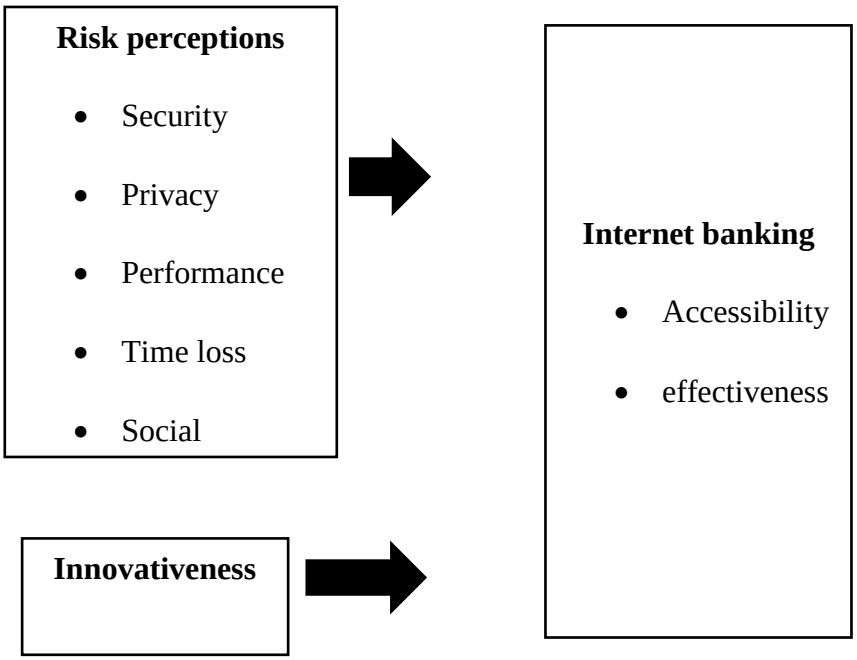

Figure 2.3: Conceptual framework

From the above framework, it can be deduced that risk perceptions have an important bearing on consumers' attitude. This entails that risk perceptions will necessitate changes in consumer perceptions in as much as issues of value, complexity, trialability and compatibility are concerned. Thus, the potency of banks to positively influence consumers' attitude hinges on the ability to positively alter these four aspects. These four factors are also influenced by the innovative ability of the bank. Consumers' attitude towards internet banking is the one which pose an impact on the adoption of internet banking. Figure 2.3 implies that innovativeness and risk perceptions have indirect t effects on the adoption of internet banking. Direct effects are emanating from consumer perceptions and internal determinants. Though the main emphasis is on analyzing the linkage between risk perceptions and internet banking, observations made from figure 2.1, exhibit that consumers' attitude, innovativeness and internal determinants have an important bearing on the adoption of internet banking. These three aspects will be incorporated on the survey that is going to be carried out. This study will therefore base on the

analysis of how risk perceptions coupled with consumers' attitude, innovativeness and internal determinants affect the adoption of internet banking.

Farzianpour et al., (2014) outlined that total risk has negative implications on internet banking usage but cases are high when individual elements can be positively related with internet banking usage. This was augmented by insights drawn from Fadare et al., (2016) which showed that individual risk elements can have no negative implications on internet banking when customer loyalty and service quality are relatively high. Hence, expected results of the effects of risk perceptions are either positive or negative. Innovativeness however can be postulated to have positive effects on internet banking usage as postulated by Sanli and Hobikolu (2015). Thus innovativeness can be foreseen to have positive effects on internet banking.

CHAPTER THREE

CUSTOMERS' RISK PERCEPTIONS AND INNOVATIVENESS OF INTERNET BANKING USERS IN TURKISH REPUBLIC OF NORTHERN CYPRUS

3.1 Economic overview of Turkish Republic of Northern Cyprus

TRNC is a service based economy whose economic activities are mainly centered on service provision. The growth in the service sector has significantly contributed to high economic growth and in 2007 the service industry accounted for 69% of TRNC's GDP. There are however other functional sectors such as agriculture, manufacturing, tourism and education, trade and public sector. Contributions from the agriculture and manufacturing industries also raked in 9% and 22% of GDP respectively in the year 2007 (CIA Factbook, n.d).

Insights established from Turkish Ministry of Economy (2015) exhibited that TRNC has expanded significantly from 2013 in which a GDP of 2.8% was recorded to stand at 4.9% in 2014. Such a fast-paced growth is contended by the Turkish Ministry of Economy (2015) to have boosted GDP per capita to $15 109. Such increases in economic performance are being driven by the soaring number of European home buyers who have acquired apartments such as villas in TRNC. The educational sector also contributes significantly to TRNC's economic growth with major institutions such as Near East University, Cyprus International University and East Mediterranean University raking in huge revenue inflows from foreign students.

Notable improvements have also been witnessed in the area of exports by TRNC which have significantly over the past few years. Major exports from TRNC were mainly related to industrial, clothing, minerals and agricultural products. Industrial, clothing, minerals and agricultural exports from TRNC were registered 5.1%, 3%, 8.7%, and 50.8% respectively in 2007 (TRNC State Planning Organization, 2013). Dominant exports products from TRNC include potatoes, chicken, citrus concentrate, raki and dairy products (Turkish Ministry of Economy, 2015).

TRNC however remains dependent on funding from Turkey and this extends from developments that have been made by turkey that it will offer TRNC a stipulated amount of USD$1.3 billion for 3 years to 2008 (TRNC State Planning Organization, 2008). This monetary assistance presently stands at an annual figure of USD$400 and is meant to spur economic developments which will raise living standards (Mete, 2014).

3.2 Historical background of TRNC's banking sector developments

The TRNC banking sector has been characterized with vast economic impediments that have hamstrung its banking sector. Apart from the 2000 financial crisis that rocked TRNC, the macroeconomic environment in TRNC coupled with poor investment policies have contributed to lack of financial development and innovation in TRNC's banking sector. This can be evidenced by insights drawn from Northern Cyprus Bankers' Association (2003) which showed that the number of banks in TRNC declined form a 37 to 25. The composition of TRNC's banking sector is shown in table 3.1.

Table 3.1: Composition of TRNC's banking sector

Description	Number
Foreign banks	5
State owned banks	2
Cooperative banks	2
Commercial banks	16
TOTAL	**25**

Source: Northern Cyprus Bankers' Association (2003)

With the above in mind, increases in deposits made into TRNC banks increased in September 2015 from 6.05% to 7.75%. In September 2015, total deposits made amounted to 14,007,775 million Turkish Lira. The amount of deposits made by TRNC banks declined in the last quarter of 2015 to close at 13,950,566 million Turkish Lira which represented a 0.408% change from the previous quarter. This is shown in table 3.2.

Table 3.2: Quarterly bank deposit made 2015

YEAR 2015	**Deposit**(Bin TRL)	**% Change from Previous Year**
March	12,258,096	-
June	12,999,984	6.05%
September	14,007,775	7.75%
December	13,950,566	0.408%

Source: Central Bank of TRNC, State Planning Organization (2015)

Table 3.3: Growth in business and personal loans 2011-2015

YEAR	**BUSINESS AND PERSONAL LOANS** (Bin USD)
2011	2,180,450
2012	2,746.080,1
2013	3,361,063
2014	3,743,283
2015	4,247,805

Source: Central Bank of TRNC, State Planning Organization (2015)

Developments in the TRNC can also be described based on the level of business and personal loans that have been made. According to table 3.3, it can be noted that a level of business and personal loans made by banks have been on an upward trend since the period 2011. This signifies that TRNC banks have grown in size and have also improved their strategies to acquire more deposits from the public. This can also entail that the public's trust in domestic banks has improved significantly, ceteris paribus. It can however be noted that the highest level of business and personal loans made by TRNC banks were recorded in the year in 2015. These developments were accounted for by the 23 banks that are currently operating in TRNC and these are shown in table 3.4.

Table 3.4: List of banks in TRNC

Public banks	
• Kıbrıs vakıflar bankası	
Private banks	
• Şekerbank (Kıbrıs) • Iktisat Bank • Credit west Bank • Viya bank • Kıbrıs faisal islam bankası • Nova bank • Al bank	• Near East Bank • Akfinans Bank • Universal Bank • As bank • Capital bank • Türk bankası • Limasol türk kooperatif bankası • K.T. Kooperatif Merkez Bankası
Foreign banks	
• Türk Ekonomi Bankası (TEB) • Garanti Bankası • Halk Bankası • Ziraat Bankası	• Ing Bank • Türkiye Is Bankası • HSBC Bank

Source: (Kuzey Kıbrıs Bankalar Birliği)

3.3 The TRNC banking crisis

Financial regulation of TRNC lied within the responsibilities of Ministry of Finance and Economy and was tasked with the mandate to financially develop TRNC's banking sector. The commencement of the financial crisis hinged on the TRNC's 1976 banking laws which were adopted from Turkey's banking laws (TRNC Banking Laws, 11/1976). This law had inherent problems and one of the major problem was that initial minimum capital requirements for startups were pegged at 50 000 Turkish Lira which at that time was equivalent to USD 119 683, and the new amendments thus sought to increase this figure to USD 2 000 000 (Şafaklı, 2003). Banks in TRNC were subjected to a two-year period of raising their minimum capital

requirements to the new proposed figure. Amendments made to this law also covered aspects of ensuring that bank reserves and capital were linked to the minimum lending rates.

Propositions made about the need to amend the TRNC banking laws are strongly presumed to have been facilitated by local bank owners who were advocating for such reforms to be made (Northern Cyprus Bankers' Association, 2002). Problems ensued when local banks went of business and those that remain in control were predominantly Turkish owned banks. Nothing was done to address this situation and in the year 2000 a financial crisis ensued in TRNC. Reasons behind the financial crisis were assumed to have been necessitated by;

I. Incapability to assess risks: it is strongly contended that TRNC's banks and monetary authorities lacked the capacity to assess probable risks and as such a credit bubble was triggered. Black (1995) contends that untimed credit injection and growth can initiate bubbles. It is worth noticing that credit injection and growth occurred at a time when TRNC banks were in the prime of expansion. This crisis also saw lending booms and fall being the subsequent trend that followed suit.
II. Poor internal credit controls: Banks in TRNC were characterized by ineffective internal controls and as a result loan books were not monitored. Thus, provisions were not made to control and prevent future losses.
III. High leverage: More often, trades were made at rates that overweighed existing capital structures. This drove capital to risk weighted capital below the stipulated mark. Many activities were thus significantly financed by huge borrowed funds and this forced some banks into losses (Erdönmez & Tülay, 2001).
IV. Speculative activities: This was mainly related to rogue activities such as speculative trading.
V. Poor governance: The ability of TRNC to avert a crisis lied in their possession of sound governance structures that were capable of controlling misconducts. Acts of misconducts in which banks ended up speculating were also evident during that time (Şafaklı, 2003). This was also necessitated by the idea that traders were often executing trades with risks that banks were incapable of handling. This meant that losses that emanated had to be met by the banks' shareholders.
VI. Lack of supervision, monitoring and regulation by monetary authorities: This occurred in the wake when regulation of TRNC banks was assumed to be weak as financial

liberation efforts were just being promoted. TRNC banks engaged in lending activities without adequate assessment of potential risks and this was not even monitored or regulated by monetary authorities.

VII. Connected lending: This occurs when lending made to other corporations is highly linked to the bank's owners (Aydin, 2000; Hoenig, 1999). Most projects that were undertaken in TRNC were as a result of connected lending. This transpired with unsecured loans and below market interest rates were levied on such loans. Banks made loses as a result of these irresponsible acts.

VIII. Lack of capital: TRNC's banks were inadequately financed during the aftermath of the financial crisis as a result they had no capability to absorb future shocks. TRNC's banks had lower risk weighted asset ratios and adoptions were made in line with requirements made by Basle Committee that minimum capital to risk weighted assets be pegged at 8% of which TRNC bank complied with.

Despite the above given factors, the TRNC 2000 financial crisis was can also be highlighted to have been necessitated by low levels of economic growth. At the same time, inflationary pressure and interest rates were also high in TRNC. Demirgüç-Kunt and Detragiache (1998) posit that when high inflationary pressure and interest rates become evident in an economy which has low levels of GDP, a financial crisis is possibly in the event of ensuing. In addition, the above-mentioned factors were common features in TRNC's banking sector. Furthermore, this was coupled by a poor macroeconomic performance which saw high interest rates and an expansion in the number of financial institutions increasing in magnitude. Despite efforts to increase bank supervision, bank supervision in TRNC remained weak and most banks kept on operating with low capital requirements. Most bank customers engaged in unscrupulous activities that saw them borrowing a loan from one bank so as to pay another bank loan. Major causes do still pointy to the contention that was utilizing bank funds for their own personal gains at rates that were unprofitable to the bank itself. Though bank regulations had it that bank lending should not exceed 10% of the bank's capital, loans were made at high levels that surpassed this mark. The financial crisis was further made worse by the fact that Yurt Bank had been surrendered under the control of Savings deposit Insurance Fund of Turkey in 1999 (Şafaklı, 2003). This was followed by high levels of withdrawals from the bank by depositors. As a result, other depositors from other banks also followed suit and the problem spread

around TRNC which led to a bank run. In February 2000, attempts were made by the TRNC monetary authorities to offer a 100% recompense of depositors' funds but this did not avert the financial crisis from ensuing further.

3.4 Major problems affecting TRNC's banking sector

3.4.1 Monetary policy problems in TRNC

There are a series of obstacles that continued deepen even after the end of the financial crisis of 2000. These major problems included monetary policy problems which are as a result of the fact that there are several currencies that are currently circulating in TRNC's economy. This renders TRNC's monetary authorities with in capabilities of executing monetary policy. As it stands, 10%, 15% and 14% rates are operational on liquid deposits, foreign currency and minimum reserves deposits respectively (Central Bank of TRNC, 2000). The Central Bank of TRNC (2000) also stipulates that the following items be classified under liquidity management;

I. Discount facilities,
II. One year development bonds,
III. TRNC demand bonds,
IV. TRNC Central Bank's current account balances,
V. Cash.

Monetary policy problems in TRNC are further aggravated by the fact that there is no money market in TRNC. This entails that banks in TRNC are not capable of acquiring funds through the interbank market.

3.4.2 Electronic banking problems

Electronic progress in TRNC banking sector commenced in the early 1980 and during that time banks began to engage in systems automation. Such automation was confined to trade, money transfer and balance enquiry. Systems automation in TRNC's banking sector was criticized on the basis of being poorly integrated into the banking sector. Moreover, it was poorly done in such a manner that it did not result in improvements in the bank's competitive

advantage. Thus, such developments did not improve banks capability to lure customers from their counterparts.

A wind of change became prevalent in the 90s when demographic shifts caused young banks to seek services that people of their age groups were receiving in Turkey (Northern Cyprus Bankers' Association, 2002). As a result, TRNC banks began to engage in proactive thinking and started introducing systems automation in their operations. This became prevalent with the widespread introduction of ATMs around TRNC as most banks feared incidents of losing their customers to their counterparts. Local banks in TRNC began to shift concern and attention towards increasing electronic products and services and these included Point of Sale (POS) and credit cards.

Irrespective of these developments, customer loyalty was greatly affected by local events that rocked TRNC's banking sector. Local banks lost a huge number of customers to Turkish owned banks which had a huge base of retail potential. Reactive and proactive thinking among local banks shifted and emphasis was put on innovating and developing electronic banking products and services that can continually sustain their operations and competitive advantage.

Şafaklı (2003) contends that offering electronic products has however being a daunting task for TRNC banks. This is because for TRNC banks to offer services such as ATMs, POS and international funds transfer, local banks have to be affiliated to a foreign network. Such foreign networks include MasterCard, VISA and SWIFT, MoneyGram and Western Union. Such services have of late being restricted and TRNC banks were prohibited from such but access was only given through BKM Network which is alternatively known as the Turkish Interbank Card Center network.

Problems also rose from the BKM Network as only Turkish banks were very capable of using such as opposed to local banks and hence competitive strength shifted towards Turkish banks. Thus, Turkish banks found it swift to penetrate the retail and electronic banking market. Such things were relatively linked to high sunk costs.

Major electronic banking problems are also as a result of the population size of TRNC. Şafaklı, (2003) further argues that the high number of banks in TRNC is not matched with an equivalent population size. Hence, it is very difficult to engage in electronic banking

investments. This is because the customer portfolio per bank is very low. As such, profits thereof are not adequate enough to cover high operational costs and investment expenses made.

3.4.3 Bank operation problems

The absence of interbank and capital markets in TRNC implies that banks are mainly restricted to intermediatory roles though disintermediation activities do not pose any significant threats. Lately, depositors in TRNC were mainly restricted to savings account and little was done to widen product range by banks. An increase in financial instruments only began when depositors became fully informed of other securities that they were capable of obtaining through the media such as newspapers. There is however an increase in demand for Turkish treasury bonds and Turkish securities in TRNC. Such bonds have an advantage of offering banks and individuals access to money and capital markets in Turkey (Northern Cyprus Bankers' Association, 2002). Asa result, TRNC banks are now providing similar services and products. TRNC have relied significantly on deposits which they utilized to purchase other securities and issue loans. Banks in TRNC have in the past been criticized of failure to initiate strategies that can boost loan demand.

Most banks in TRNC have been adopting a reactive strategy and responding to changes in the environment in proportionate to their own capabilities of possessions. This reactive strategy was also a common feature with the TRNC Central bank and this greatly hampered efforts towards financial development and innovation.

Efforts were however made top address such problems and the Central Bank of TRNC has engaged in services to acquire more qualified and skilled employees who can help not only in bank supervision but also in among other essential tasks. This is followed by a series of new banking regulations that have been posed to ensure that banking standards in TRNC are in line with international standards. Notable examples include enforcements made to ensure that all TRNC banks comply with the Basle II and III requirements.

3.5 Risk

Risk is a broad concept that has to be decomposed into specific segments so that its comprehensive understanding can be enhanced. However, risk can be defined as potency of an

adverse outcome occurring (Institute of Risk Management, 2002). This study will draw core attention to the analysis of banking risks and these are herein discussed as follows;

3.5.1 Banking risks

Banking risks can be evidenced to be diverse and their magnitude of impact also differs with the nature of risk and financial regulation that is prevalent in that economy. However, banking risk can be in the form of;

3.5.1.1 Credit risk

Loans taken by customers do not always have a guarantee that they will be repaid despite the fact that banks might hold collateral security on each loan given. Ross (1996) contends that securities held by bank for credit issued do not offer sufficient assurance that the credit will be paid back. This stems from various accounts that seen various and huge number of bank customers failing to repay their dues. Credit risk is to some extent an issue in TRNC and this is because a lot of bank customers take up loans to buy luxury cars and build apartments. Such risks can lead to capital erosion as the losses outweigh a bank's capital structure. Since loans are one of the main revenue activities undertaken by banks, loans given out by banks are higher than their capital structure. Hence, caution is always required to ensure that banks are adequately financed with excess capital structure that can absorb such losses in the event that they occur (Rose & Scott, 1978).

3.5.1.2 Liquidity risk

This is one of the most prevalent type of risk that characterizes banking sectors around the world and can be contended to be the main cause behind bank runs. Liquidity is prevalent when the bank has sufficient funds to meet potential deposit withdrawals (Rose, 1996). Liquidity can also be used to provide an indication of the capability or performance of the bank to meet its stipulated objectives. Thus, banks with liquidity problems can be postulated to be in dire financial problems.

3.5.1.3 Interest rate risk

Most banking activities are structured in a manner that the bank will earn interest from those activities. However, interest risks occur when interest revenue falls short of expected results or interest costs rise beyond the reach of the bank. Interest risk was very high in TRNC especially towards the 2000 financial crisis (Rose, 1996).

3.5.1.4 Operating risk

Rose (1996) outlined that banks are always confronted with operational risks as errors in judgement, inefficiencies, system break downs, and decline in quality control events are more common. Such things are inevitable and banks around the world are more likely to encounter these problems but what matters most is the ability of the bank to address them.

3.5.1.5 Exchange risk

The world economy has been undergoing a huge series of turnarounds and this has proliferated with the increase in globalization and international trade events. As such, exchange rate volatility is always prone to take effect on any pair of exchange of currency. This affects banks which are more engaged in foreign currency trading or whose assets are more denominate in foreign currency. Such a risk increases with the increase in volatility.

3.5.1.6 Crime risk

With the above risks in mind, crime risk is one of the risks that hampers the performance and integrity of banks not only in TRNC but in the whole world. Most bankers have been engaged in gross misconducts and scandals that saw huge sums of dollars being siphoned out of the banking sector or being diverted towards corrupt activities.

The ability of banks to address these risks rests in their ability to institute quality management activities which can encompass proactive thinking. This can also be supported by diversification and hedging of assets and trading. But in most cases, insurance can be sought from deposit insurance. Bank owners can inject more capital into the bank which is known as recapitalization.

3.6 Risk perceptions and its impact on internet banking in TRNC

Perceived risk defined as the subjectively designated possibility of loss by an internet banking user in considering a specific online proceeding (Cunningham, 1967). Currently there are risk perceptions that are surrounding TRNC bank customers towards innovation. Such perceived perceptions can be stated as follows;

1. Security risks: Foremost, it can be noted that most bank customers are always concerned about security issues. This comes in the wake that huge financial sums of

money have been lost through internet baking to fraud. Estimates revealed that about 61 billion pounds was lost to internet fraud in United Kingdom (UK Government, n.d). Just like any bank customer worldwide, TRNC bank customers still want to be ensured that it is secure to conduct online transaction and any innovation thereof always comes with them asking information. Security risks may also occur as a result of phishing activities. Phishing is a recent fault skill by which phishers fraudulently gets thoughtful information, as well as usernames, passwords and credit card items, by hiding as a trust-worthy malware in an electronic conversation (Reavley, 2005). Such is however linked to innovativeness as banks engage in measures to safeguard their users from risks that can dissuade them from using the bank's services (Sanli & Hobikolu, 2015).

2. Financial risk: It is described as the potential to incur a financial loss by due to transaction errors. Many customers are afraid of losing money while performing transactions or transferring money over the internet. At present, online banking transactions lack assurance which is mostly provided in traditional banking in which formal proceedings and receipts are dominant. İt is difficult, to obtain recompense in the event that transaction errors have been made (Kuisma et al., 2007). There are potential investment costs involved in using internet banking and transactions costs and interest rates levied under internet banking are generally high than traditional banking activities. Thus, perceived financial risk is significantly high as it relates to the possible losses that may result from systems disruptions or embezzlement of reserves through unofficial external entrance. This is usually the notable effect that can compromise a banks' profitability and survival chances and banks usually devotes more financial and human resources to curb such an issue and this has had positive implications on innovation. (Sanli & Hobikolu, 2015).
3. Social risk: It refers to the potentiality that using internet banking may result in dissatisfaction of someone's work section, household and colleagues. It is feasible that one's social status may be enhanced or decreased based on how internet banking is viewed by people around him or her.

   People have a subjective norm of being concerned about the opinions of their colleagues, friends, and family regarding their own actions. Their actions would be encouraged or discouraged by people surrounding them who have favorable or

unfavorable perceptions of internet banking. In this regards, one's view of adopting internet banking would be affected by his or her family members and or social network (Yang et al., 2004). Social risk usually compel banks to innovate their services as feedbacks and suggestions are often govern to users so as to address social concerns that are affecting the bank's market share in relation to other banks (Sanli & Hobikolu (2015).

4. Privacy risk is also a major concern force to reckon with. Customers in TRNC still seek to ensure that their private information as well as nature of transaction remains safe. Any incident that may compromise customer privacy may result in customers switching to other banks for service. However, privacy concerns are not a serious issue among TRNC bankers. More bank users can avoid using bank branches with the notion of promoting privacy and hence they can switch to internet banking. Internet banking usage from privacy risk concerns is therefore an element of innovative response by the bank (Sanli & Hobikolu, 2015).
5. Performance risk: Perceived performance risk refers to concerns that are placed about the potential monetary loss that may be incurred because of deficiencies or malfunctions in activities in IB (Kuisma et al., 2007). Users of IB are always apprehensive about the possibility that the system breaks down while they conduct their online transactions, as these unexpected incidents often lead to unexpected losses in their bank accounts or personal stress (Mattila et al., 2003). Performance rısk is closely attributed to customers' trust in bank's technical potentiality and maintenance of internet banking system. It is important to note that certainty in internet usage has considerable effect on risk perception and customer behavior towards online banking. High bank performance can be hindered by performance risk and banks therefore innovate their operations so as to eliminate things that can compromise their performance hence they innovate. Thus a positive association can be deduced to exist between risk and innovativeness.

   Performance risk perception still plays an important role as far as the issue of risk perception is concerned. This is because TRNC bank customers lost their deposits to the 2000 financial crisis. Despite, the Deposit Insurance offering refunds on these

depositors, customers have remained skeptical about performance issues. This entails that they are exercising caution in choosing which bank to bank with.

Time risk: This refers to the complexity of navigation or the waste of the time and uneasiness incurred based on the delays in executing payments. Two leading causes of dissatisfying online experiences that are caused by time or convenience risk are as a result of disorganized or confusing Websites and pages that are too slow to download (Forsythe & Shi, 2003).Any innovation is greatly welcomed by customers if it can bring about changes or improvements in their ability to save time. Thus, time risk is also an important issue which is influencing the adoption of internet banking technology. This is because major services among others, MoneyGram and Western Union are usually characterized by systems break downs result in time lost and unnecessary inconveniences on the part of customers. Time is another element that banks seek to improve especially in delivering their services. Time lost during queuing or waiting time can cause customers to switch their preference towards other banks. Hence, by will try to avoid such kind of situations and hence they innovate their products.

6. Psychological risk: Customer's self-sensation maybe negatively influenced by the adoption of online banking. Consumers often become worried by reason of their buying attitude. For instance, if a buying experience does not match the expected outcome, one may become stressful. In general, internet banking users undergo a certain degree of uncertainty when they choose the internet as a distribution channel because of the complexity of financial services linked to the physical separation between the bank advisor and the consumer (Flavian et al., 2005; Howcroft et al; 2007). Nevertheless, not every banking consumer has the similar risk-taking ability and uncertainty tolerance degree when he observes financial proceedings online.

3.7 Chapter summary

From the above, it can be noted that the risk perceptions that may be faced in TRNC are as a result of the occurrence of the 2000 financial crisis that resulted in bank runs and a loss of customer's deposits. In addition, the TRNC banking sector has been characterized with

numerous challenges. Such challenges include the lack of a monetary policy that can enhance the ability to control; banking activities. These challenges were also noted to be related to electronic banking and most electronic banking facilities are owned by foreign groups and require that domestic banks join such members so that they can make use of them. Systems automation has proved to be a hard obstacle for TRNC banks especially domestic banks. This is being compounded by bank operation problems with lack of regulation and supervision from monetary authorities. It is of paramount importance to conclude that TRNC banks just like any other bank in the world are confronted with crime, exchange, operating, interest rate, liquidity and credit risks.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

This chapter offers detailed procedures that will be undertaken to examine how risk perceptions and innovativeness affect internet banking users in North Cyprus. Such steps will encompass model formulation, sampling procedures that were employed, design of the research instrument and, validity and reliability tests that used to determine if the research instrument was valid in determining the impact of risk perceptions and innovativeness affect internet banking users as well as determine the reliability of the model variables.

4.2 Research design

It is essential that the relationship that exists between risk perceptions and innovativeness and nature be determined so that appropriate actions can be undertaken to formulate strategies that can promote and increase the internet banking usage among bank users in TRNC. Consequently, Gujarat (2003) highlights that ordinary least squares is an effective tool that can be utilized to determine the relationship that exists between dependent variable and explanatory variables as well as the nature of relationship. In addition, such importance is supported the idea that it gives policy makers and business strategies insights about the direction they can take in formulating policies and business strategies respectively. As established from the conceptual framework risk perceptions and innovativeness have been discovered to posse effects on internet banking usage. This can be expressed in a mathematical form as follows;

Internet banking usage = F (total risk, innovativeness)

Where total risk = (financial risk (FinR), performance risk (PerfR), time risk (TimR), psychological risk (PsyR), privacy risk (PvR), security risk (ScR), social risk (SoR) and innovativeness (IN)

$$TOTR = FinR + PerfR + TimR + SoR + PsyR + PvR + ScR$$

Employing regression concepts by Gujarat (2003), the undermentioned regression can be developed;

$$IBU = \beta_0 + \beta_1 TOTR + \beta_2 IN + \mu$$

Whereby **IBU** represents internet banking usage and the parameters of the models are denoted by $\boldsymbol{\beta_0 - \beta_2}$ while the error term is measured by $\boldsymbol{\mu}$.

4.3 Sampling procedures

The study population is based on the study of university students in TRNC who were randomly selected from Near East University (NEU) and Cyprus International University (CIU). Estimations retrieved from NEU and CIU demarcates that student population of 25 000 and 5 000 students are prevalent at the two institutions respectively (NEU, n.d; CIU, n.d).

Cochran (1977) established a sampling technique upon which a sample size can be determined for population samples that emanate from. This is presumed to be conditional to a margin error of 5% and a confidence level of 95%. This was also reinforced by Glenn (1992) who produced a sampling table using attributes provided by Cochran (1977) with population sizes ranging from 500-100 000. Thus, according to Glenn (1992) populations sizes that fall in the range of 25 000-49 000 have an associated sample size of 394. Thus, a total of 394 questionnaires will be randomly distributed to students at NEU and CIU in the ratio of 83.33:16.67 respectively which gives respective totals of 331 and 63. The use of simple random sampling is justified when the population size is too large and by the idea that it offers accurate description of the population under study (Fischler & Bolles, 1981; Hansen, Hurwitz & Madow, 1953). Additional favor in the use of a simple random sampling also points to the idea that even when the sample size is small, simple random sampling can still yield accurate results with small chances of making errors (Hurvitz & Thompson, 1952).

4.4 Research instrument

The research instrument was adopted from a combination of precepts from reputable studies that addresses the relevant concerns. The initial banking patronage elements that seek to examine the dıfferent ways in which bank users utilize internet banking to execute investment fund transactions pay bills, perform online financial transactions, transfer Money (EFT-Money Order), exchange money, check foreign exchange rates, stock market/bond market, prices, checking account balances, pay debit / credit card and loan even to visit the bank branch were adopted from Demirdogen et al., (2010) which addresses the notion surrounding customer risk perceptions of internet banking.

Financial risk elements were sought to examine among other things, the existence of financial risk when utilizing internet banking and whether the associated risk levels are high or not such were taken from the study by Lee (2009); Martins et al., (2014), and Littler and Melanthiou (2006). On the other hand, Featherman and Pavlou (2003); Martins et al. (2014) and Littler and Melanthiou (2006) also addressed performance risk elements that are related to internet banking and these were adopted into the study.

Other risk elements such as time, social, psychological, privacy and security risks and their relationship with internet banking is well highlighted by the study by Aldas-Manzano et al., (2009), which addresses how individual risk elements impose implications on internet banking. This was reinforced by ideas given by Mauricio & Pavlou (2003) and Demirdogen et al., (2010) outlined that some of these studies do address the influence of risk perceptions on internet banking to some relative degree. However, they do not incorporate the effects that are posed by the innovativeness. This study thus adopts the risk perception precepts of these studies and will be augmented by insights developed by Manzano, Navarre & Sanz-Blas (2009) in which roles of perceived risk and innovativeness are examined. This is because the study by Manzano, Navarre & Sanz-Blas (2009) has a limited scope when it comes to addressing the effects of risk perceptions and hence combing ideas from these researchers will of great benefit. This is essential in ensuring that the study broadly covers areas that are important and can aid in achieving the desired research objectives.

4.5 Validity test of the research instrument

The researcher subjected the research instrument to validity tests and this was accomplished by distributing a total of 7 questionnaires. Of which they were given in the order of 5 and 2 questionnaires to PhD students at NEU and CIU respectively. This is essential so as to ascertain if the targeted population will be able to comprehend the basic aims of the research instrument. More importantly, it seeks to ensure that the objectives of the questionnaire are clearly understood by the respondents and hence attain a high response rate with little or no errors (Chun et al., 1998).

4.6 Reliability tests

A standout amongst the most imperative tools in research is Cronbach Alpha. Bland and Altman, (1997) posit that Cronbach Alpha offers point by point evaluation of the internal consistency of the model variables. Internal consistency evaluations are synonymously alluded to as reliability assessments. Thus, Cronbach Alpha will be used to determine the internal consistency evaluations of internet banking usage, risk perceptions and innovativeness. Low gauges of Cronbach Alpha estimates infer that the unwavering quality of the displayed factors is poor whereas high reliability is denoted by high Cronbach Alpha values. Cronbach Alpha values are presumed to range at least above 70% if better results are to be attained.

4.7 Limitations

The adopted method of acquiring data using questionnaires has inherent problems of delays as some of the respondents took time to complete and return the questionnaires. In addition, this study was only restricted to students of which some of them are international students whose background of the North Cyprus banking sector and trends is limited. This can pose effects on the responses, that is, on expected relationships.

4.8 Data presentation

The obtained findings will be presented in the form of tables, pie charts and bar graphs so as to aid in elucidating how risk perceptions and innovativeness affect internet banking users in North Cyprus. Such presentation will be based on analysis made concerning the demographic features of the respondents as well as the effects posed by risk perceptions and innovativeness on internet banking usage. This will be accomplished through the use of mean, maximum and standard deviations of the model variables.

CHAPTER FIVE

DATA ANALYSIS AND PRESENTATION

5.1 Introduction

The study sought outline how risk perceptions and innovativeness affect internet banking users in North Cyprus. Having randomly distributed respective totals of 331 and 63 questionnaires to NEU and CIU students, an ordinary least squares regression analysis was employed to analyze the relationship between innovativeness, risk perceptions and internet banking. This was accomplished using Statistical Package for Social Sciences (SPSS). The obtained results are herein presented as follows;

5.2 Response rate

A total of 338 questionnaires were successfully retrieved and this represented a response rate of 85.79% with unreturned questionnaires accounting for 14.21%. The response is relatively high to enable sound conclusions to be made about how risk perceptions and innovativeness affect internet banking users in North Cyprus as postulated by Baruch & Holtom (2008). The results are shown in table 5.1.

Table 5.1: Response rate

	Count	**Frequency**
Distributed questionnaires	394	100%
Retrieved questionnaires	338	85.79%
Unreturned questionnaires	56	14.21%

5.3 Demographic features

A significant number of students that participated in the survey were aged between 24-30 years accounting for 35.8% of the 338 students whose questionnaires were retrieved. Those that are above 43 years were 7. The gender distribution was in the proportion of 182 male and 156 female students. The highest numbers of nationalities that participated in the survey were from Turkey and Zimbabwe with frequencies of 140 and 60 respectively

Table 5.2: Demographic features

Variable	Description	Frequency	Percent	t-statistic	p-value
Age group	18-24 years	84	24.9	40.988	0.000
	24-30 years	121	35.8		
	31-36 years	87	25.7		
	37-42 years	39	11.5		
	43+	7	2.1		
	Total	338	100		
Gender	Male	182	53.8	53.820	0.000
	Female	156	46.2		
	Total	**338**	**100**		
Nationality	Turkish	148	43.8	21.867	0.000
	Jordanian	24	7.1		
	Kurdish	15	4.4		
	Syrian	10	3.0		
	Sudanese	7	2.1		
	Ugandan	13	3.8		
	Cameroonian	12	3.6		
	Zimbabwean	60	17.8		
	Nigerian	23	6.8		
	Other	26	7.7		
	Total	**338**	**100**		

Table 5.3: Educational qualifications

Variable	Description	Frequency	Percent
Educational qualifications	Bachelor's degree	165	48.8
	Master's degree	64	18.9
	Doctorate	7	2.1
	Other	102	30.2
	Total	338	100

Table 5.3 denotes that 165 students were undertaking their undergraduate studies while those who were engaged in Masters, Doctorate and other studies at the 2 universities were 64, 7 and 102 respectively.

5.4 Internet banking usage and frequency

From the obtained findings, observations can be made that 125 students do visit bank branches a few times a week. This was followed by those that visit bank branches daily with a total of 98 students, and 94 visit banks a few times a month with 21 students indicating that they rarely visit bank branches. This is common with international students whose bank accounts are opened in the national countries and are in possession of their respective national master cards. This is illustrated using figure 5.1 below.

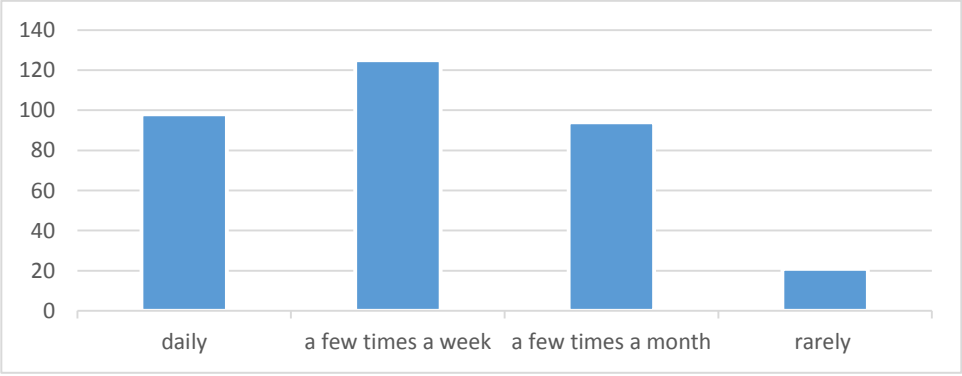

Figure 5.1: Bank branch visits (Source: Computed by Author using Excel based on obtained findings)

The findings further show that the number of students whose internet banking services to check account balances daily is greater than those that use internet banking to pay bills, debits / credit card loans accounting for 13.6% as opposed to 9.5%. The number of students who use internet banking to pay bills, debits / credit card loans a few times a month is higher than those that use it to check account balances during the same level of frequency accounting for 38.8% of the students as compared to 27.8% who use it to check account balances. This is presented in table 5.4 below.

Table 5.4: Internet banking usage either to pay bills, debits / credit card loans or to check account balances

	Pay bills, debits/ credit card loan	**Check account balances**
Daily	9.5%	13.6%
A few times a week	26.0%	27.5%
A few times a month	38.8%	27.8%
Rarely	25.0%	9.8%
Never	-	21.3%

Table 5.4 shows that the number of students who use internet banking services to transfer money a few times a week is higher than those who use internet banking to do investment fund transactions and online financial transactions. The obtained frequencies showed that 127, 106 and 57 students use internet banking a few times a month to transfer money, a few times a week to make financial transactions and a few times a week to execute investment fund transactions.

Those that use internet banking to conduct online financial transactions seem to be relatively more inclined to using internet banking a few times a week. The same can be said about students who use internet banking to execute internet banking transactions. Both investment fund activities, online financial transactions and transferring money activities have a few numbers of students who never make use of these services.

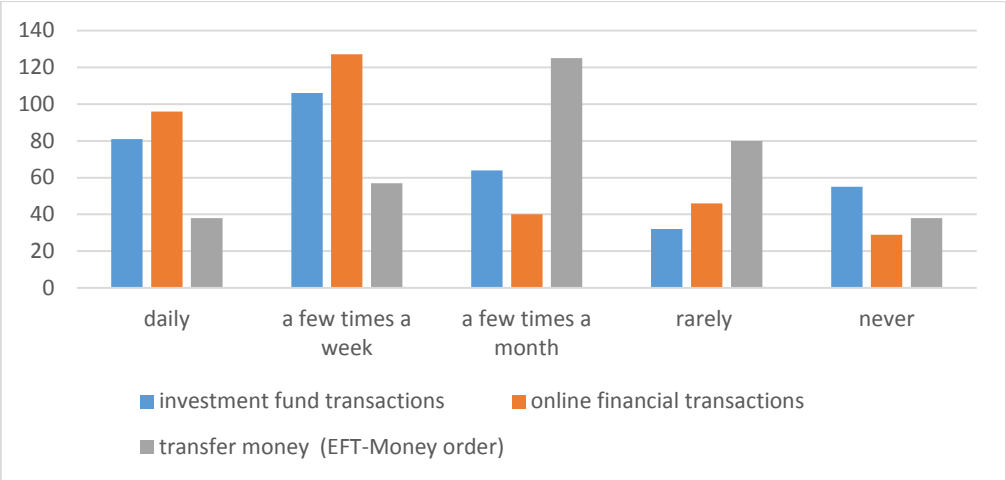

Figure 5.2: Internet banking usage frequencies (Source: Computed by Author using Excel based on obtained findings)

5.5 Internet banking and risk perceptions distributions among the age groups

5.5.1 Risk distribution among the age groups

The study also determined how the individuals in their respective age groups perceived total risk. Figure 5.3, therefore shows that risk perceptions are relatively low among individuals between the age group of 18-24 years but increases between the age group of 24-30 years and increases from the age group of 31-36 years age groups. The basic suggestion is that adult individuals barely use internet banking either because of their risk perceptions about total risk tends to be high and possibly a decline in the number of transactions they are conducting.

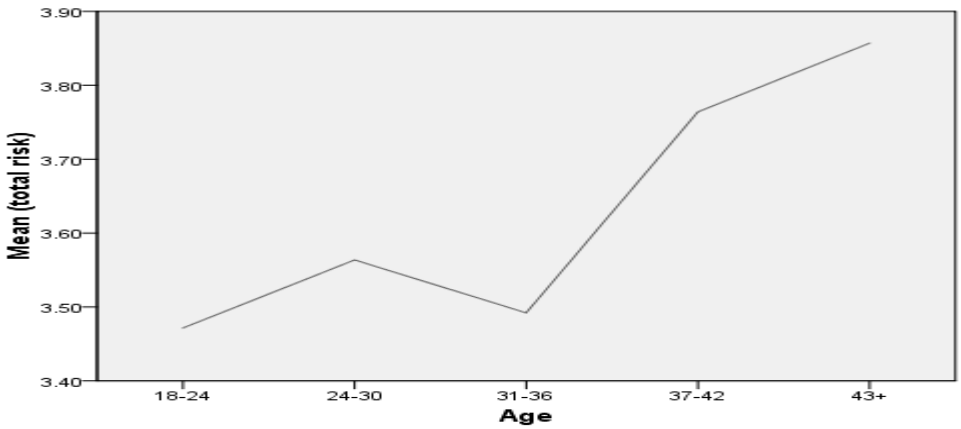

Figure 5.3: Risk distribution among the age groups

5.5.2 Internet banking usage among the age groups

Results also showed that total internet banking usage or intentions is declining with age groups as shown in figure 5.4. Possible reasons may also point to the idea that risk perceptions tend to be high as one approach adulthood. As result, more adult individuals prefer to visit bank branches, that is, preference may be switching towards bank branches as opposed to internet banking as one moves up the age group.

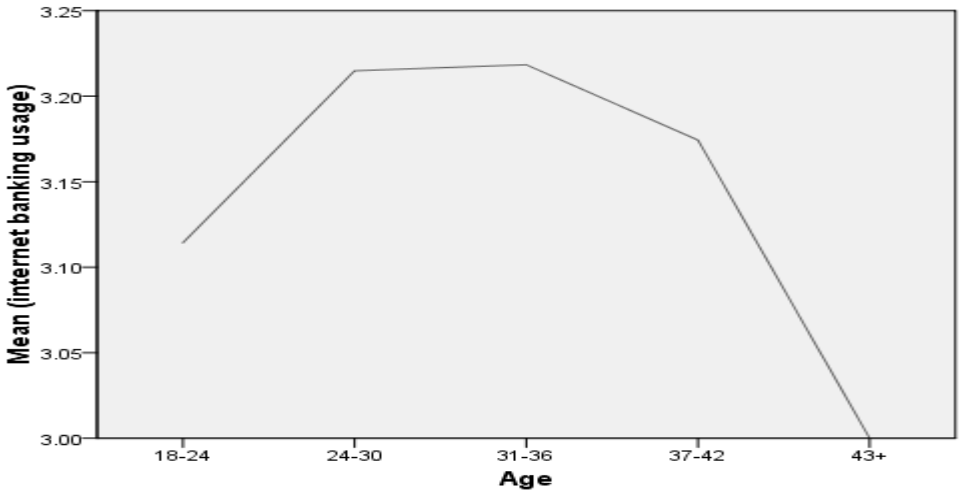

Figure 5.4: Internet banking intentions/ usage among the age groups

5.6 Factor analysis

Table 5.5: Rotated component matrix

	Factor loading (>0.5)	**Cronbach's alpha (> 0.7)**	**(Percentage of total variance explained (%)**	**Cumulative Percentage**	**Eigen values (> 1)**
Compared to my friends I seek out a lot of information about online banking services	,952	0.985	21.439	21.439	16.907
Using an Internet-bill-payment service subjects my checking account to potential fraud	,952				
There is a higher risk that a transaction of transferring money or a standing order may not be processed	,952				
Not encouraged by others to use Internet Banking	,951				
If I use Internet Banking, it will negatively affect the way others think of me	,905				
I am worried that I may not be able to cancel incorrectly entered transactions.	,869				
In general, I am among the first (last)in my circle of friends to visit the new online banking services site when they appear on the banking website	,869				
when transferring money on the internet, I am afraid that I will lose money	,869				
The security systems built into the Internet Banking system aren't strong enough to protect my checking account	,859				
The chances of using the Internet Banking and losing control over the privacy of my payment information is high	,859				
Internet Banking, for me to sign up and use, it would be risky	,859				
Extraction (Percentage of Total variance explained) = 71.99%					

	Factor loading (>0.5)	Cronbach's alpha (> 0.7)	(Percentage of total variance explained (%)	Cumulative Percentage	Eigen values (> 1)
It is very difficult to find out about the financial characteristics	,940	0.980	15.842	37.281	6.675
My signing up and using of Internet Banking would lead me to a loss of privacy because my personal information would be used without my knowledge	,940				
The probability that something's wrong with the performance of Internet Banking is high	,940				
I am worried that somebody can access my account if I use a computer not belonging to me	,928				
When transaction errors occurs ,I worry that I cannot get compensation from banks	,928				
If I heard that a new banking service was available on the web, I would be interested enough to trial it	,928				
I know about new online banking services before most other people in my circle do	,871				
The chances of losing money if I use Internet Banking are high	,944	0.994	13.847	51.128	6.192
Internet Banking might not perform well and create problems with my credit	,944				
Internet Banking servers may not perform well and thus process payments incorrectly	,944				
I would visit a new online banking service site even if in my circle of friends nobody has tried it before	,944				
Some people whose opinion I value think I am not acting correctly when I use banking websites services instead of brick and mortar branches	,918				
Extraction (Percentage of Total variance explained) = 71.99%					

	Factor loading (>0.5)	Cronbach's alpha (> 0.7)	(Percentage of total variance explained (%)	Cumulative Percentage	Eigen values (> 1)
When I send data to banking websites, I am worried that they will be intercepted and modified by unauthorized third parties like hackers	,934	0.961	8.371	59.499	4.821
When I use banking websites I am concerned about having to wait too long for the banking operation to take effect, having to waste time on additional procedures	,934				
When ı use banking websites I feel I waste a lot of time choosing the banking operation I need	,934				
I worry about giving my credit card number or login to banking websites	,845				
The possible time loss from having to set up and learn how to use e-bill payment is high	,845				
It increases the likelihood of receiving spam	,859	0.980	7.190	66.689	3.841
Considering the investment of my time involved to switch to (and set up) Internet Banking ,it would be risky	,849				
I think that if I use Internet Banking then I will lose time due to having to switch to a different payment method.	,769				
Internet hackers (criminals) might take control of my checking account if I use Internet Banking services	,859				
In case of any failure or fault, I worry about making wrong decision while using Internet Banking services	,859	0.842	5.302	71.991	2.426
If I use Internet Banking services ,it would lead me to a psychological loss because it would not fit in well with my self-image or self-concept	,849				
I think that Internet Banking will not fit in well with my self-image or self-concept	,769				
Extraction (Percentage of Total variance explained) = 71.99%					

Based on factor analysis results established in table 5.5 which were conducted using Principal Component Analysis extraction method and Varimax with Kaiser Normalization rotation method, the rotation converged in 6 iterations. The variable internet banking perceptions had a high percentage variation which was explained by the 11 variable elements of its factor loading. Subsequent percentage variation in variables innovativeness, internet banking usage, risk perceptions, banking services and psychological effects that was explained by the respective variable elements following the factor loading test accounted for 15.842, 13.847, 8.371, 7.190, and 5.302 respectively. All the six variable components had a percentage variation total of 71.99%.

The determinant of 0.417 is above 0.1 and hence it was established that there is factor loading among the variables. Based on the established iteration order shown in table 5.5, the six iterations will therefore be named as follows;

1. Internet banking perceptions (IBP)
2. Innovativeness (INV)
3. Internet banking usage (IBU)
4. Risk perceptions (RP)
5. Banking services (BS)
6. Psychological effects (PE)

5.7 Reliability and KMO Bartlett's analysis

Reliability analysis was executed using Cronbach's Alpha analysis so as to determine the internal consistency of the estimated model. Assertions are that an alpha value that ranges from 70% will allow a variable to be highly reliable enough for deducing sound conclusions from its use (Santos, 1999).

Table 5.6: Reliability test

Kaiser Mayer Olkin	**Bartlett's values**			**Cronbach's Alpha**
	Approx. Chi-Square	Df.	Sig.	
0.579	292.554	15	0.000	0.767

Based on the obtained findings, it can be noted that the estimated model does possess an alpha value of 76.7% which is above the standard 70% alpha value. Hence, conclusions can be made that the model has a high internal consistency which synonymously entail that it has a high reliability level. As a result, the estimated model will allow reliable conclusions to be drawn about the effects of risk.

5.7 Two-Way ANOVA

One way ANOVA was conducted so as to establish whether there is a difference between the subjects. That is, between internet banking usage and total risk, and internet banking usage and innovativeness. Based on the formulated results, it can be noted that there is no significant difference between the subjects since the p-values are significant.

Table 5.7: ANOVA Test between subjects effects

Source	Type III Sum of Squares	df	Mean square	F	Sig.
Total risk	107.502	32	3.359	5.093	0.000
Innovativeness	299.218	299	1.0001	4.0222	0.0000

5.8 Cross tabulations

5.8.1 Age and internet banking usage

Based on cross tabulation results of age against the use of internet banking to perform financial transaction, it can be noted that less students between the age of 18-24 years were expected to be using internet banking daily to perform financial transactions with an expected count of 23.9 students using it on a daily basis. The actual results however showed that there are actually more students between the age of 18-24 years who are making use of internet banking to perform financial transactions on a daily basis.

Table 5.8: Cross tabulation of age and performing online transactions

			to perform online financial transactions					
			daily	a few times a week	a few times a month	rarely	never	Total
Age	18-24	Count	25	34	11	11	3	84
		Expected Count	23.9	31.6	9.9	11.4	7.2	84.0
	25-30	Count	37	41	14	18	11	121
		Expected Count	34.4	45.5	14.3	16.5	10.4	121.0
	31-36	Count	24	30	10	13	10	87
		Expected Count	24.7	32.7	10.3	11.8	7.5	87.0
	37-42	Count	10	17	5	4	3	39
		Expected Count	11.1	14.7	4.6	5.3	3.3	39.0
	43+	Count	0	5	0	0	2	7
		Expected Count	2.0	2.6	.8	1.0	.6	7.0
Total		Count	96	127	40	46	29	338
		Expected Count	96.0	127.0	40.0	46.0	29.0	338.0

The number of individuals who uses internet banking to perform online transaction a few times a week is very low for individuals above the age group of 43 years and was recorded to be 5 which is above the expected figure of relatively 3 individuals. Relatively high numbers of individuals who use internet banking daily and a few times a week is highly concentrated among the age groups of 18-24, 25-30 years and 31-36 years age groups. A few individuals can also be observed not to use internet banking to perform online transactions. For instance 3 individuals between the age group of 18-24 years indicated that they totally do not use internet banking to perform online transactions.

5.8.2 Gender and visiting bank branches

It can be noted that there is a high number of male students who visit bank branches a few times a week with a count of 67.3 which is lower than the expected 68. However, more females do visit bank branches a few times a month as compared to male students with respective counts of 48 and 46 respectively. The number of male students who rarely visit bank branches was established to be lower than that of female students with a count of 12 as compared to 9 for female students.

Table 5.9: Gender and visiting bank branches

			visiting bank branch				
			daily	a few times a week	a few times a month	rarely	Total
gender	male	Count	56	68	46	12	182
		Expected Count	52.8	67.3	50.6	11.3	182.0
	Female	Count	42	57	48	9	156
		Expected Count	45.2	57.7	43.4	9.7	156.0
Total		Count	98	125	94	21	338
		Expected Count	98.0	125.0	94.0	21.0	338.0

5.8.3 Educational qualification and investment fund transactions

The daily number of students who utilizes internet banking to conduct investment fund transactions can be observed to be declining as one moves up the educational ladder. That is, towards PhD. For instance, the daily count of bachelor degree students who use internet banking to perform investment fund transactions has a count of 42 while that of master's students is 17 and that of PhD is 0 and other is 22. The usage of internet banking for a few times a week is high for student with other qualifications and bachelor's degrees with respective counts of 106 and 54 respectively. PhD has low counts in usage in all the respective scenarios when it comes to the use of internet baking usage to conduct investment fund transactions. This is shown in table 5.10.

Table 5.10: Educational qualification and investment fund transactions

			Doing investment fund transactions				
			Daily	A few times a week	A few times a month	Rarely	Never
Educational qualification	Bachelor's degree	Count	42	54	30	12	27
		Expected count	39.5	51.7	31.2	15.5	26.8
	Master's degree	Count	17	13	17	8	9
		Expected count	15.3	20.1	12.1	6.1	10.4
	Ph.D.	Count	0	3	2	1	1
		Expected count	1.7	2.2	1.3	0.7	1.1
	Other	Count	22	106	15	11	18
		Expected count	24.4	10.6	19.3	9.7	16.6

5.8.4 Nationality

Checking account balances using internet banking behavior seems to be relatively high among Turkish students as compared to other students. This follows results shown in table 5.9 which showed that daily, few times a week, few times a month, rarely and never counts for Turkish students were recorded to be18, 49, 32, 15 and 34 respectively.

Checking account balances using internet banking is also high among African students such as Zimbabweans and Nigerians with daily, few times a week, few times a month, rarely and never counts of 10, 9, 24, 6 and 11; and 4, 10, 6, 1 and 2 respectively.

In overall, Turkish students have a total count of 148, Jordan with 24, Kurdish with 15, Syrian with 10, Sudanese with 7, Ugandan with 13, Cameroonian with 12, Zimbabweans with 60, Nigeria with 23, and other students with 26.

On the other hand, total counts for daily, few times a week, few times a month, rarely and never counts were recorded to be 46, 93, 94, 33 and 72. Thus, it can be concluded that there is a high number of students who use internet banking a few times a month to check account balances.

Table 5.11: Nationality and checking account balances

			checking account balances					
			daily	a few times a week	a few times a month	rarely	never	Total
nationality	Turkish	Count	18	49	32	15	34	148
		Expected Count	20.1	40.7	41.2	14.4	31.5	148.0
	Jordanese	Count	2	9	5	3	5	24
		Expected Count	3.3	6.6	6.7	2.3	5.1	24.0
	Kurdish	Count	4	2	3	2	4	15
		Expected Count	2.0	4.1	4.2	1.5	3.2	15.0
	Syrian	Count	1	0	6	2	1	10
		Expected Count	1.4	2.8	2.8	1.0	2.1	10.0
	Sudanese	Count	2	1	1	1	2	7
		Expected Count	1.0	1.9	1.9	.7	1.5	7.0
	Ugandan	Count	1	5	4	2	1	13
		Expected Count	1.8	3.6	3.6	1.3	2.8	13.0
	Cameroonian	Count	3	3	6	0	0	12
		Expected Count	1.6	3.3	3.3	1.2	2.6	12.0
	Zimbabwean	Count	10	9	24	6	11	60
		Expected Count	8.2	16.5	16.7	5.9	12.8	60.0
	Nigerian	Count	4	10	6	1	2	23
		Expected Count	3.1	6.3	6.4	2.2	4.9	23.0
	other	Count	1	5	7	1	12	26
		Expected Count	3.5	7.2	7.2	2.5	5.5	26.0
Total		Count	46	93	94	33	72	338
		Expected Count	46.0	93.0	94.0	33.0	72.0	338.0

Table 5.12: Chi-square test for internet banking users

	Male		Female		Pearson Chi-square (df)
	Frequency	**Percent %**	**Frequency**	**Percent %**	
to pay bills, debts/credit card and loan	16	8.79	16	10.26	0.416 (df=3)
	47	25.82	41	26.28	
	73	40.11	58	37.18	
	46	25.27	41	26.28	
to check account balances	23	12.64	22	14.10	4.948 (df=4)
	44	24.18	49	31.41	
	52	28.57	42	26.92	
	17	9.34	16	10.26	
	46	25.27	26	16.67	
to visit bank branch	56	30.77	42	26.92	1.448 (df=3)
	68	37.36	57	36.54	
	46	25.27	48	30.77	
	12	6.59	9	5.77	
to do investment fund transaction	42	23.08	39	25.00	5.695 (df=4)
	61	33.52	45	28.85	
	33	18.13	31	19.87	
	12	6.59	20	12.82	
	34	18.68	21	13.46	
to perform online financial transactions	52	28.57	44	28.21	4.577 (df=4)
	76	41.76	51	32.69	
	19	10.44	21	13.46	
	23	12.64	23	14.74	
	12	6.59	17	10.90	

	Male		Female		Pearson Chi-square (df)
	Frequency	**Percent %**	**Frequency**	**Percent %**	
to exchange money	24	13.19	14	8.97	3.586 (df=4)
	107	58.79	90	57.69	
	22	12.09	26	16.67	
	15	8.24	10	6.41	
	14	7.69	16	10.26	
to transfer money (EFT-Money order)	16	8.79	22	14.10	7.261 (df=4)
	35	19.23	22	14.10	
	75	41.21	50	32.05	
	38	20.88	42	26.92	
	18	9.89	20	12.82	
to check foreign exchange rates, stocks market/ bond market prices	24	13.19	23	14.74	*9.305 (df=4)
	78	42.86	44	28.21	
	49	26.92	60	38.46	
	13	7.14	15	9.62	
	18	9.89	14	8.97	

* Significant at 0.05 level ($p<0.05$)

A chi-square test of independence was employed to examine the relationship between internet banking usage and gender. Chi-square analysis showed that gender had no effect on the frequency of a respondent would use internet to check account balances, perform investment fund transactions, exchange money, transfer money and pay bills, debts, loans etc. This study has revealed that gender has an effect on the frequency a respondent would use internet banking to check foreign exchange rates and stock/ bond market prices. Specifically, male respondents use internet banking more frequently to check foreign exchange rates and stock/ bond market prices compared to female respondents.

5.9 Regression analysis results

A multiple regression analysis was employed to examine the risk perceptions and innovativeness among internet banking users. The major attribute of applying regression

analysis stemmed from its potency to offer insights about the magnitude of change that is posed on internet banking usage by changes in risk perceptions and innovativeness, as well as the nature of that association (Gujarat, 2003).

5.9.1 OLS assumptions

It is of paramount importance that a regression model satisfies all the regression analysis assumptions (Gauss-Markov OLS assumptions). Greene (2009) posits that any regression analysis model that does not satisfy the required assumptions might not be BLUE and hence can result in unreliable estimates. An OLS model that satisfies the OLS assumption is regarded as being BLUE implying Best Linear Unbiased Estimators. With this in mind, diagnostics tests were conducted to determine if the model estimation satisfactory meets the required OLS criteria in relation to;

5.9.1.1 Linearity

This is one of the most important assumptions that form a base in OLS analysis and the basic notion is that all the parameters are linear. Linearity therefore implies that the parameters (alpha and beta) are linear. Problems can ensue when an OLS model is not linear and such problems include having wrong estimates and a wrong model (Greene, 2009). A Pearson correlation coefficient test was therefore utilized to determine if the variables are linear.

The linearity assumptions require that there be no perfect multicollinearity among the variables and this can be establish when the correlation between the variables exceed the cut off of 0.8 (Gujarat, 2003). Based on the established results, it can be noted that all the correlation coefficients are below 0.8 hence conclusions can be made that the variables are linear. The correlation coefficient between innovativeness and internet banking is positive and significant at 1% and stands at 0.779 while that between innovativeness and total risk is also positive and significant at 1% and stands at 0.591.

Table 5.13: Pearson correlation test for Internet banking usage, total risk and innovativeness

Variable	Pearson correlation		
	Internet banking usage	Total risk	Innovativeness
Internet banking usage	1		
Total risk	0.312**	1	
Innovativeness	0.779**	0.591**	1
** Significant at 0.01 level ($p<0.001$)			

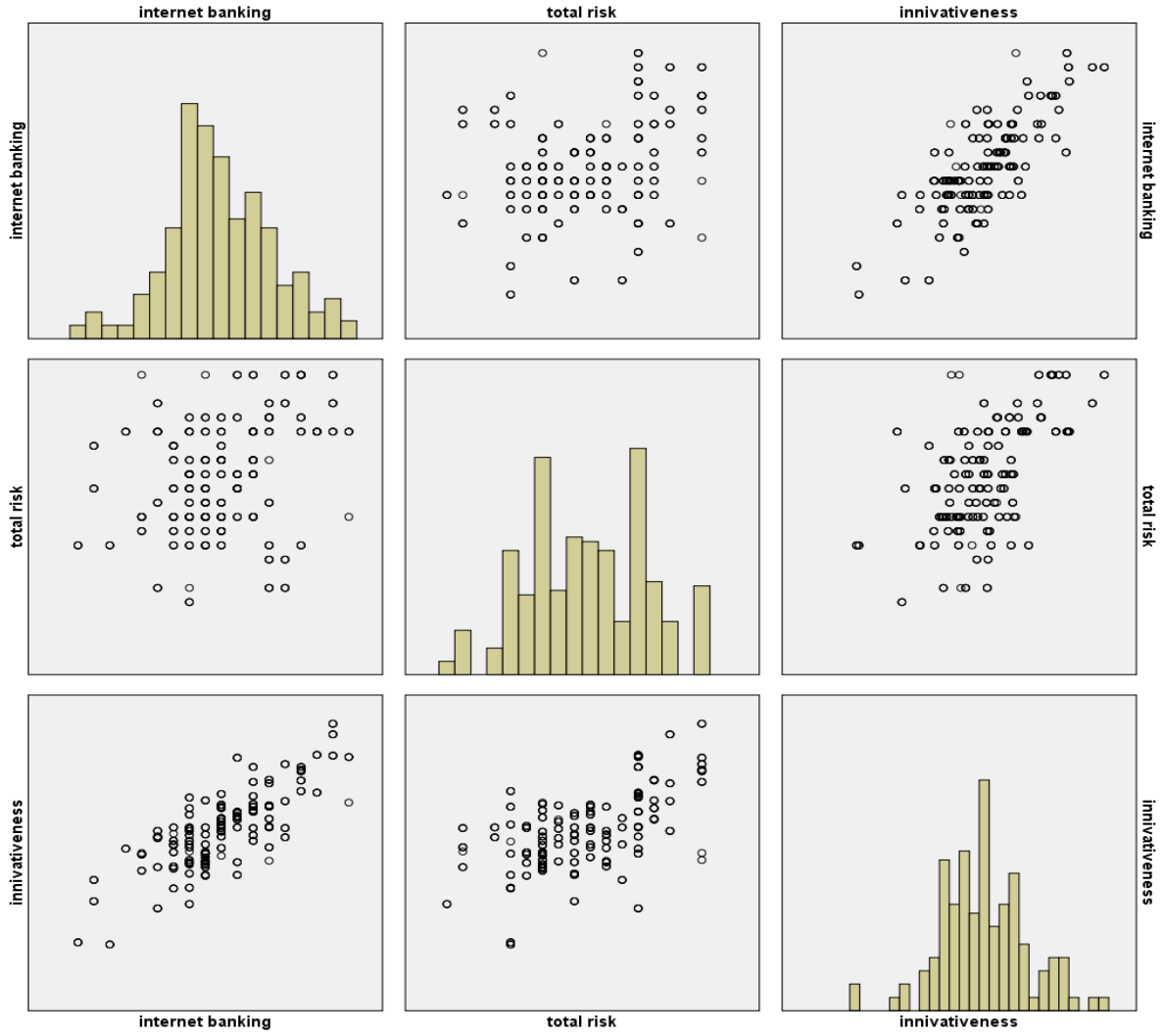

Figure 5.5: Scatterplot for linearity

The absence of multi-collinearity can be reinforced by Variance inflation Factor (VIF) results which seek to establish how much variance in the OLS model is attributed to multi-collinearity problems.

Table 5.14: VIF test for Internet banking usage, total risk and innovativeness

Variable	Collinearity statistics	
	Tolerance	VIF
Total risk	0.651	1.536
Innovativeness	0.651	1.536

The decision criteria is accept that the presence of multi-collinearity when the VIF value is above 3 and that there is perfect multi-collinearity when the VIF is above 5 (Greene, 2009). It can however be noted that there is no multi-collinearity since the VIF values for total risk and innovativeness are below 3.

5.9.1.2 Serial correlation

This assumption is based on the principle that the error terms must be correlated and if they are correlated, serial correlation can be said to be taking effect. Serial correlation test can be undertaken using the Durbin Watson statistic which has values that span from 0-4. Values below 2 indicate that there is positive serial correlation while those above 2 indicate that there is negative serial correlation (Greene, 2009). Values close 2 indicate that there is no serial correlation. The most effective way is however to use Serial Correlation LM test.

Table 5.15: Durbin Watson serial correlation test

Durbin Watson	1.969

Table 5.14 shows that the Durbin Watson statistic is very close to 2 and this indicates that there is no serial correlation. This further implies that the estimated parameters are best linear unbiased estimators (BLUE) and hence the estimated results are more likely to offer a sound description of the risk perceptions, innovativeness among internet banking users.

5.9.1.3 Normally distributed and homoscedasticity

A normal PP plot and standardized residual were used to determine if the data is normally distributed and observations of normality can be made when the histogram possesses a bell liked shaped structure. On the other hand, the residuals will lie close to the normality line plot. This can be evidenced and concluded that the error terms are normally distributed as the histogram closely resembles a normality shape and the residuals are very closely lying to the normality line plot. Homoscedasticity implies that the variance is constant and this is graphically shown by the Normal PP- Plot which shows that the residuals are constantly distributed along the PP-Plot.

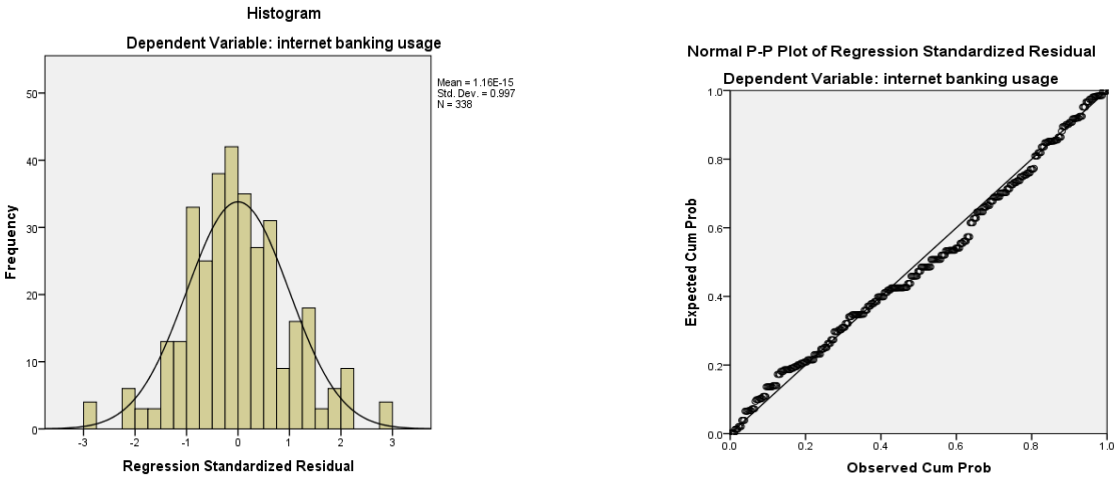

Figure 5.6: Distribution of the standardized residuals and normal PP-plot

5.9.2 Regression analysis results

5.9.2.1 ANOVA results

Analysis of variance (ANOVA) was conducted so as to determine whether the model is correctly specified. A correctly specified model is one whose mean and variance are constant and ANOVA seeks to determine if the estimated model has equal variance and mean. Based on the presented results, it can be concluded that the model is correctly specified as the obtained p-value is significant at 1%.

Table 5.16: Analysis of variance

	Sum of squares	**df**	**Mean square**	**F**	**Sig**
Regression	95.317	2	47.658	298.927	0.000*
Residual	53.410	335	0.159		
Total	148.726	337			

** Significant at 0.001 level.*

5.9.2.2 Model summary

Changes in banking usage that are explained by innovativeness and risk perceptions accounted for 64.1% implying that 35.9% of the changes observed in banking usage are explained by variables outside the model which can include changes in the macroeconomic or regulatory environment. The insignificant difference between R-square and Adjusted R-square of 0.04 implies that all the relevant variables have been included to estimate the effect of innovativeness and risk perceptions among banking users in North Cyprus. The Durbin Watson value is close to 2 meaning that there are no problems of serial correlation.

Table 5.17: Model summary

R-square	Adjusted R-square	Std. Error	Durbin Watson
0.641	0.639	0.399	1.969

5.9.2.3 Regression analysis

Regression analysis was conducted using SPSS 22 so as to ascertain the impact of innovativeness and risk perceptions on internet banking. This in motivated by the notion that ordinary least squares (OLS) analysis enables one to estimate both the direction and magnitude of effect from the interaction between the variables (Gujarat, 2003).

Table 5.18: Regression analysis

	Coefficients	**Std. Error**	**Sig**	**Tolerance**	**VIF**
Constant	0.236	0.137	0.085*	-	-
Total risk	-0.202	0.036	0.000*	0.651	1.536
Innovativeness	1.105	0.049	0.000**	0.651	1.536
R-square		0.641	Std. Error Estimate		0.399
Adjusted R-square		0.639	N.		338
F-statistic (Prob)		0.000	Durbin Watson		1.969
Internet banking Usage **(IBU)** = 0.236 – 0.202 **TOTR** + 1.105**INV**					

**, ** Significant at 1% and 5% significance levels*

The analyzed results do provide evidence that total risk is significantly and inversely related to internet banking usage with by 0.202. This shows that an increase in total risk by 1% with result in a decline in intentions to use internet banking usage by 20.2%. This is reinforced by ideas given by Farzianpour et al. (2014) which showed that internet banking usage is negatively related with risk. Possible reasons can be attributed to the idea that an increase in internet banking usage risk will heighten chances of bank users losing money.

Innovativeness has positive implications on internet banking usage and this is augmented by the obtained results which showed that an improvement in banking innovativeness by 1% will results in an increase in internet banking usage by 101.5%. Such is supported by Sanli and Hobikolu (2015) who established that internet banking innovativeness is surrounded by convenience, cost effective, time saving aspects and flexibility and hence it will continue to draw more users with the passage of time.

The relationship among the variables can be significant at 1% since all the p values are less than 1% hence the relationship between risk perceptions, innovativeness can be said to be significant. The obtained R-square does exhibit that relatively high variations in internet banking of 64.1% are explained by risk perceptions and innovativeness. The obtained F-

statistic which is significant indicates that the model is correctly specified and hence conclusions can be made that the obtained results can be used for policy related decisions.

5.9.2.4 Hypothesis results

Table 5.19: Main hypothesis results

Hypothesis (H_0)	**P- value**	**Decision**
Total risk negatively effects internet banking usage.	0.000	**Accept**
Innovativeness positively affects internet banking usage.	0.000	**Accept**

Hypothesis results for total risk and innovativeness were established from the regression analysis p-values and based on the results, it can be accepted and concluded that total risk has significant negative effects on internet banking usage while innovativeness has positive effects on internet banking usage.

Table 5.20: Comparison of obtained results with similar studies

Author	Methodology	Obtained Results	Researcher's findings
Morteza et al,. (2015)	Structural equation modelling	Positive relationship between innovativeness and internet banking usage. Risk negatively affects internet banking usage.	Similar
Sanli and Hobikoğlu (2015)	Regression analysis	Innovativeness has positive implications on internet banking usage	Similar
Farzianpour et al., (2014)	Regression analysis	Negative relationship between internet banking and total risk	Similar
Mäenpää et al., (2008)	Descriptive	Internet banking risks have been established to be causing an increase in internet banking usage	Similar
Polatoglu & Ekin (2001)	Descriptive	Baking services are positively related with internet banking usage	Similar

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of findings

The study sought to provide an outline of the effects of innovativeness and risk perceptions of bank users on internet banking. The findings showed that more bank users do visit bank branches a few times a week followed by those that visit bank branches daily with a few number barely visiting bank branches.

The findings further show that the number of students who use internet banking services to check account balances daily is greater than those that use internet banking to pay bills, debits / credit card loans accounting. The number of students who use internet banking to pay bills, debits / credit card loans a few times a month is higher than those that use it to check account balances during the same level of frequency. In addition, bank users who use internet banking to conduct online financial transactions seem to be relatively more inclined to using internet banking a few times a week.

The study results provided evidence of the existence of a positive association between innovativeness and internet banking usage among bank users. Further findings also showed that internet banking usage is negatively related to risk. Lastly, risk perceptions and innovativeness have been established to be having significant effects on internet banking usage.

6.2 Conclusions

Conclusions can therefore be made that innovativeness has a significant positive implication on internet banking usage. Hence, the more banks will innovate their services the more bank users are drawn to affiliate with the bank. Further conclusions can be made that an increase in the risk environment will have negative implications on internet banking usage.

Some risk elements do not pose negative effects on internet banking usage especially under conditions that the customers are loyal and the banks offers high quality services. Moreover, the more banks continue to innovate their services the more bank users are inclined to use those services and internet banking is among the services that will continue to evolve in both innovation and usage.

6.3 Managerial implications and suggestions for future studies

Recommendations can therefore be made that bank managers must enact measures that guard against financial risks that may befall bank users. Such may be accomplished through improving the banks information systems and continually educate bank users about the bank's internet banking usage.

Management must ensure that new information systems and softwares that improve the security of transactions, minimize loss of money, loss of time and protect consumers' privacy should are put in place and continually updated on a regular basis.

From observations made, it was noted all these risks that related to internet banking are information systems related and strong emphasis should be placed by management to provide assurance, convenience and safety in executing transactions. Measures can also be put to improve the quality of services offered by bank branches so as to encourage more customers to visit bank branches.

Improvements in service quality by banks can be in line with the service quality aspects of reliability, tangibility, assurance, responsiveness and empathy. Suggestions for future studies can be made to analyze how total perceived risk and innovativeness affect internet banking usage among bank users. Bank managers must be well placed, informed and educated to address all the necessary risks that bank users might face. Such may thus relate to financial, social, psychological, time, social, privacy, performance risk and psychological risks.

This study was mainly drawn towards analyzing risk perception among university students, suggestions can therefore be made that future studies address individual risk elements and innovativeness effects of a particular group of bank customers on individual banks.

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LIST OF APPENDICES

Appendix I: Research Questionnaire

Risk Perceptions and Innovativeness of Internet banking users in North Cyprus: Questionnaire

This survey is about Perceived risk and Internet banking users' innovativeness in North Cyprus. Perceived risk is the customers' perception of the uncertainty results of buying the internet banking service. Thank you very much for participating

SECTION I: PERSONAL INFORMATION

1. Please indicate the requested information in the spaces provided:

Name :			
Age:			
Gender:	Male	Female	
Nationality:			
Department			
Education level:	Bachelor degree	Master's degree	Doctoral degree

SECTION II: Internet banking use

2. Do you use internet banking services ?

1) yes	2) No

2. To what extent do you use the following to do banking?

Internet banking patronage	
1	To Pay Bills, debit/credit card and loan.
2	To check account balances.
3	To Visit the bank branch.
4	To do Investment Fund Transactions.
5	To perform online Financial transactions.
6	To Exchange money
7	To transfer Money (EFT-Money Order).
8	To Check foreign exchange rates, stock market/bond market, prices
Reference	Demirdogen, O. Yaprakli, S. Yilmaz, M. K., & Husain, J. (2010). Customer Risk Perceptions of Internet Banking-A study in Turkey. *Journal of Applied Business Research*, *26*(6), 57.

SECTION III: PERCEIVED RISKS

4. Perceived risks

Please rank each statement using the appropriate score to indicate your risk perceptions about internet banking you use.

	FINANCIAL RISK
1.	When transferring money on the internet, am afraid that I will lose money due to careless mistakes such as wrong input of account number and wrong input of the amount of money.
2.	When transaction errors occur, I worry that i cannot get compensation from banks.
Reference	Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. Electronic Commerce Research and Applications, 8(3), 130-141.
3.	Using an Internet-bill-payment service subjects my checking account to potential fraud.
4.	Using an Internet bill-payment service subjects my checking account to financial risk.
5.	The chances of losing money if I use Internet Banking are high
6.	My signing up for and using an Internet Banking service would lead to a financial loss for me.
Reference	Martins, C. Oliveira, T. &Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, *34*(1), 1-13.

FINANCIAL RISK	
7.	There is no risk of fraud when using Internet Banking.
8	There is a higher risk that a transaction of transferring money or a standing order may not be processed.
Reference	Littler, D. &Melanthiou, D. (2006). Consumer perceptions of risk and uncertainty and the implications for behaviour towards innovative retail services: the case of internet banking. *Journal of retailing and consumer services*, *13*(6), 431-443.
PERFORMANCE RISK	
9	Internet Banking might not perform well and create problems with my credit.
10	The security systems built into the Internet Banking system aren't strong enough to protect my checking account.
11	The probability that something's wrong with the performance of Internet Banking is high.
12	Considering the expected level of service performance of Internet Banking, for me to sign up and use, it would be risky.
Reference	Martins, C., Oliveira, T., &Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, *34*(1), 1-13.
13	Internet Banking servers may not perform well and thus process payments incorrectly.
14	It is very difficult to find out about the financial characteristics (period, profitability etc) of the financial product/service acquired or about the online banking operation..
15	I am concerned that the banking operation does not provide the financial advantages listed on the website.
	Featherman and Pavlou (2003). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived risk.
16	There is a higher risk that the service may not be available because of slow download speeds, the server being down or the web site is undergoing maintenance
17	I'm sure that Internet banking would do actually what I want
	Littler, D. &Melanthiou, D. (2006). Consumer perceptions of risk and uncertainty and the implications for behaviour towards innovative retail services: the case of internet banking. *Journal of retailing and consumer services*, *13*(6), 431-443.
TIME RISK	
18	I think that if I use Internet Banking then I will lose time due to having to switch to a different payment method.
19	Using Internet Banking would lead to a loss of convenience for me because I would have to waste a lot of time fixing payment errors.
20	Considering the investment of my time involved to switch to (and set up) Internet Banking, it would be risky.
21	The possible time loss from having to set up and learn how to use e-bill payment is high.
	Martins, C. Oliveira, T. &Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, *34*(1), 1-13.

	TİME RISK
22	When i use banking websites I feel I waste a lot of time choosing the banking operation I need.
23	When I use banking websites I am concerned about having to wait too long for the banking operation to take effect, having to waste time on additional procedures.
Reference	Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C., &Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. International Journal of Bank Marketing, 27(1), 53-75.
	PSYCHOLOGICAL RISK
24	**I** think that internet banking will not fit in well with my self-image or self-concept.
25	If I use Internet Banking services, it would lead me to a psychological loss because it would not fit in well with my self-image or self-concept.
26	I think using internet banking can cause stress and anxiety.
27	In case of any failure or fault, I worry about making wrong decision while using Internet Banking services.
Reference	Martins, C. Oliveira, T., &Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, *34*(1), 1-13.
	SOCİAL RİSK
28.	If I use internet banking, it will negatively affect the way others think of me.
29.	My signing up for and using Internet Banking would lead to a social loss for me because my friends and relatives would think less highly of me.
Reference	Martins, C. Oliveira, T. & Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, *34*(1), 1-13.
30.	Some people whose opinion I value think I am not acting correctly when I use banking websites services instead of brick and mortar branches.
31.	My friends and relations think I am being imprudent when I use banking websites services instead of brick and mortar branches.
32.	I am afraid to ask for help from bank's personnel in case of any failure or fault in Internet Banking transactions.
Reference	Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C., &Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing*, *27*(1), 53-75.

SOCIAL RISK	
33.	Not encouraged by others to use internet banking.
Reference	Demirdogen, O. Yaprakli, S. Yilmaz, M. K., &Husain, J. (2010). Customer Risk Perceptions of Internet Banking-A study in Turkey. *Journal of Applied Business Research*, *26*(6), 57.
PRIVACY RISK	
34.	The chances of using the internet banking and losing control over the privacy of my payment information is high.
35.	My signing up and using of Internet Banking would lead me to a loss of privacy because my personal information would be used without my knowledge.
36.	Internet hackers (criminals) might take control of my checking account if I use Internet Banking services.
Reference	Martins, C. Oliveira, T. & Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, *34*(1), 1-13.
37.	I think banking websites could provide my personal information to other companies without my consent.
38.	It increases the likelihood of receiving spam.
Reference	Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C., &Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. International Journal of Bank Marketing, 27(1), 53-75.
	SECURITY RISK
39	I worry about giving my credit card number or login to banking websites.
40	When i send data to banking websites, i am worried that they will be intercepted and modified by unauthorized third parties like hackers.
Reference	Aldas-Manzano, J. Lassala-Navarre, C. Ruiz-Mafe, C. &Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in internet banking usage. *International Journal of Bank Marketing*, *27*(1), 53-75.
41	İ am worried that I may not be able to cancel incorrectly entered transactions.
42	I am worried that somebody can access my account if I use a computer not belonging to me.
Reference	Demirdogen, O. Yaprakli, S. Yilmaz, M. K. &Husain, J. (2010). Customer Risk Perceptions of Internet Banking-A study in Turkey. *Journal of Applied Business Research*, *26*(6), 57.

SECTION IV

5. Innovativeness

Please rank each statement using the appropriate score to indicate your innovativeness in the case of internet banking.

	INNOVATIVENESS
1.	In general, I am among the first (last) in my circle of friends to visit the new online banking services site when they appear on the banking website.
2.	If I heard that a new banking service was available on the web, I would be interested enough to trial it.
3.	Compared to my friends I seek out a lot of information about online banking services.
4.	In general, I am the first in my circle of friends to know of any new online banking services.
5.	I would visit a new online banking service site even if in my circle of friends nobody has trialed it before.
6.	I know about new online banking services before most other people in my circle do.
Reference	Aldás- Manzano, J., Lassala -Navarré, C., Ruiz- Mafé, C., & Sanz-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. International Journal Of Bank Marketing, 27(1), 53-75.

	BANKING
1.	I intend to begin/continue using Internet banking in the future.
2.	I predict that I will use or continue using Internet banking.
3.	I will frequently use Internet banking in the future.
4.	I will recommend others to use Internet banking.
5.	I think that I will not use/continue using Internet banking in the future.
Reference	Suh, B. & Han, I. (2003). Effect of trust on customer acceptance of Internet banking. *Electronic Commerce research and applications*, *1*(3), 247-263.

Appendix II: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.558
Bartlett's Test of Sphericity	Approx. Chi-Square	469.574
	df	3
	Sig.	.000

Appendix III: Pearson correlation coefficient

		Internet banking usage	Total risk	innovativeness
Internet banking usage	Pearson Correlation	1	.378**	.762**
	Sig. (2-tailed)		.000	.000
	N	338	338	338
Total risk	Pearson Correlation	.378**	1	.624**
	Sig. (2-tailed)	.000		.000
	N	338	338	338
innovativeness	Pearson Correlation	.762**	.624**	1
	Sig. (2-tailed)	.000	.000	
	N	338	338	338

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix IV: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.772[a]	.596	.594	.42341	2.031

a. Predictors: (Constant), innovativeness, Total risk

b. Dependent Variable: Internet banking usage

Appendix V: Regression analysis ANOVA results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.669	2	44.334	247.295	.000[b]
	Residual	60.058	335	.179		
	Total	148.726	337			

a. Dependent Variable: Internet banking usage

b. Predictors: (Constant), innovativeness, Total risk

Appendix VI: Regression coefficient and VIF results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.290	.146		1.985	.048		
	Total risk	-.022	.006	-.161	-3.613	.000	.610	1.639
	innovativeness	1.037	.053	.862	19.395	.000	.610	1.639

a. Dependent Variable: Internet banking usage