



Customer Acceptance and Bank Employee Perceptions of Internet Banking

By

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**A thesis submitted in the partial fulfillment of
the requirements for the degree of
MSc in Information Technology Management**

Faculty of Informatics

December 2009

Dissertation Release Form

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Acknowledgements

To begin with thanking God for the ability he has given me, I take this great opportunity to express my respect and gratitude to my dissertation supervisors, Professor Ashly Pinnington and Dr. Saad Amin for their guidance, support and patience throughout all the stages of my dissertation.

I would like to express my heartfelt and deep gratitude to my husband, parents and my brothers without whose love, continues support and care, it would have been difficult for me to complete this education and work.

Abstract:

The purpose of this research is to attain an in-depth understanding of the bank managers' and employees' perception of internet banking and investigate factors influencing customer adoption of internet banking (IB) and customer retention in the context of IB.

Secondary research was conducted to gain an in-depth understanding of the issues and generate a model and hypotheses for achieving the aim of the research. Two distinct types of questionnaires for bank employees and customers were prepared, also questions were provided for interviews conducted with managers. Three banks were selected as case studies and sites for conducting the quantitative survey. Questionnaires were distributed through emails or hard copies. The collected data were analysed using SPSS software to test the hypotheses.

The results show that usage of IB has significant impacts on the bank's efficiency and effectiveness, market effects and profitability. Factors such as Demographic Characteristics (age, gender, and educational level), User Factors (customer knowledge, accessibility to the internet and prior experience with the internet) and User Perception of Usefulness (time saving and control) are influential in customer adoption of internet banking and factors including User Perception of Usefulness (cost saving and control), Customer Service Quality (responsiveness) and Online Information Quality (simplicity of use and navigation) have positive relationships with user satisfaction.

Unlike many other research studies which focus on whether to identify the factors influencing customer adoption of IB or customer satisfaction, this study combines and investigate both and moreover investigates the relation between the influential factors and customer retention and loyalty to IB. Results show that user satisfaction is influential in user loyalty to the usage of IB. Furthermore it evaluates the bank employees' and managers' perceptions of IB. According to the results, they perceive IB useful, efficient and effective, profitable, increasing customer satisfaction and market effects, reducing overall cost and no security issues.

Findings from this study provides insights for the banks in Dubai by identifying the significant IB drivers, understanding key attributes for customer satisfaction and user loyalty to IB and recommendations to enhance the IB system to increase the number of online subscribers, motivate the users to utilize the IB in performing their transactions and retain the current users in order to reduce the overall cost of the bank, increase the volume of the sale, maintain good image in the market, sustain their competitive position in the market and increase the bank profitability.

Table of Contents

1. Introduction	10
1.1 Information Technology and Banks	11
1.2 Internet Banking and its Importance	11
1.3 Problems	12
1.4 Research Aim and Objectives	12
1.5 Organization of Research	13
 2. Literature Review.....	 14
2.1 Introduction	15
2.2 Internet banking and Customers	15
2.2.1 Technology Acceptance Model	15
2.2.2 Service Quality	19
2.2.3 Customer Satisfaction, Customer Loyalty and Retention	22
2.3 Internet Banking and Bank Managers and staffs	24
2.3.1 Cost reduction	24
2.3.2 Efficiency and effectiveness	24
2.3.3 Perceived usefulness	25
2.3.4 Customer service and satisfaction	25
2.3.5 Security	25
2.3.6 Bank profitability	25
2.3.7 Market effects	25
2.3.8 Staff information	26
2.4 Summary of the Chapter.....	27
 3.Case studies	 29
3.1 Introduction	30
3.2 Emirates NBD Bank	30
3.2.1 Internet Banking	31
3.3 Standard Chartered Bank	32

3.3.1 Internet Banking	32
3.4 United Arab Bank	33
3.4.1 Internet Banking	33
3.5 Summary of the Chapter.....	33
4. Methodology	34
4.1 Introduction.....	35
4.2 Research Framework.....	35
4.3 Desk Research	38
4.3.1 Progress	38
4.3.2 Hypothesis	43
4.3.3 Problems Encountered.....	44
4.3.4 Accomplishment.....	44
4.4 Case studies.....	44
4.4.1 Progress	44
4.4.2 Problems Encountered	44
4.4.3 Accomplishment	45
4.5 Interviews.....	45
4.5.1 Progress.....	45
4.5.2 Problems Encountered	45
4.5.3 Accomplishment	46
4.6 Survey.....	46
4.6.1 Progress.....	46
4.6.2 Problems Encountered	46
4.6.3 Accomplishment	46
4.7 Summary of chapter.....	47
5. Data Analysis & Outcomes	48
5.1 Introduction	49
5.2 Internet banking adoption and customer satisfaction	
with the usage of internet banking	51
5.2.1 Findings for Hypotheses 1	52

5.2.1.1 Conclusion H1	55
5.2.2 Findings for Hypotheses 2	56
5.2.2.1 Conclusion for the findings of H2	61
5.2.3 Findings for Hypotheses 3	61
5.2.3.1 Conclusion of the findings of H3	64
5.2.4 Findings for Hypothesis 4	64
5.2.4.1 Conclusion H4	67
5.2.5 Findings of the hypothesis 5	67
5.2.5.1 Conclusion H5	69
5.2.6 Findings for Hypothesis 6	69
5.2.6.1 Conclusion H6	72
5.2.7 Findings for Hypothesis 7	72
5.2.7.1 Conclusion H7	72
5.2.8 Findings for Hypothesis 8	73
5.2.8.1 Conclusion H8	74
5.3 Managers and staffs' perception toward online banking implications	75
5.3.1 Findings for Hypothesis 9	75
5.3.1.1 Conclusion H9	76
5.3.2 Findings for Hypothesis 10	77
5.3.2.1 Conclusion H10	79
5.3.3 Findings for Hypothesis 11	80
5.3.3.1 Conclusion H11	81
5.3.4 Findings for Hypothesis 12	81
5.3.4.1 Conclusion H12	82
5.3.5 Findings for Hypothesis 13	83
5.3.5.1 Conclusion H13	84
5.3.6 Findings for Hypothesis 14	84
5.3.6.1 Conclusion H14	85
5.3.7 Findings for Hypothesis 15	85
5.3.7.1 Conclusion H15	86

5.4 Resulted Model	87
5.5 Findings of internet banking interviews	88
5.6 Summary of chapter	90
6. Discussions and Conclusions	91
6.1 Introduction of Chapter	92
6.2 Banks employees' survey and managers' interview	92
6.3 Banks' customer survey	96
6.4 Recommendations and implications for practitioners	99
6.5 Summary of Chapter	101
7. Future Research and Conclusion	102
7.1 Introduction	103
7.2 Future academic research	103
7.3 Overall conclusion	104
References	105
Appendices	112
Appendix A: Customer Questionnaire	112
Appendix B: Staff Questionnaire	115
Appendix C: Managers Interview	118
Appendix D: Data Analysis.....	120
Appendix E: Recommendations for each hypothesis.....	140

List of Tables:

Table 2. 1 IB-Adoption and TAM model.....	18
Table 2. 2 the managers' and employees' perceptions of IB	27
Table 4. 1 Methodologies Adopted	36
Table 4. 2 Description of Research Methods	37
Table 4. 3 Desk Research Exposition.....	39
Table 5. 1 Managers' Interview	90
Table 6. 1 Results of Employee Survey	92
Table 6. 2 Results of Customer Survey.....	96
Table 6. 3 Demographic Results	97

List of Figures:

Figure 4. 1 Model Generated from the Literature Review	40
Figure 5. 1 Augemented Model of IB-Adoption and Customer Loyalty	87

Chapter 1:

Introduction

1.1 Information Technology and Banks:

In the past two decades information technology has continued to expand on the numbers of users and progress in a wide variety of uses and functions. These changes have impacted on different types of industries and business. Banks are one of the sectors which have applied information technology in order to be able to respond to changes in "...customer preferences and needs, increasing competition from non-banks, changes in demographic and social trends, channel strategies, ..." (Arnold and Sunday, 2008: 6).

Banks provide their services through two main avenues known as "Branches" and "Channels". Channels consist of "ATM", "CDM" and "Online Banking" or "E-Banking". Online banking includes "Internet Banking" and "Mobile Banking". In this research the main target and focus is delivering bank services through internet banking.

1.2 Internet Banking (IB) and its Importance:

IB enables customers to perform financial transactions through a secured website. It has several features which are divided into the following categories (Wikipedia, 2007):

- 'Transactional (e.g., performing a financial transaction such as an account to account transfer, paying a bill, wire transfer ... and applications ... apply for a loan, new account, etc.)
 - Electronic bill presentment and payment - EBPP
 - Funds transfer between a customer's own checking and savings accounts, or to another customer's account
 - Investment purchase or sale
 - Loan applications and transactions, such as repayments
- Non-transactional (e.g., online statements, check links, co-browsing, chat)
 - Bank statements'

Development and employment of IB has the advantages of offering access to banking services 24 hours and seven days of the week across the world (Arnold and Sunday, 2008: 6). The Internet has increased bank efficiency, customer convenience of accessing bank services (Kolodinsky et al, 2004) and has enhanced financial performance (Rod et al, 2009). Banks that are utilising internet can offer lower service fees since the operating and fixed costs incurred by physical facilities and extra employees are reduced (Jun and Cai, 2001). Internet banking costs are estimated at 25 to 30 percent that of traditional banking expenses (Ho and Ko, 2008). Thus by encouraging customers to adopt and utilise internet banking, banks are able to reduce extra expenses and increase profitability (Sathye, 1999) in addition customers

may benefit from higher quality services at any time, without geographical boundaries and delivered more conveniently with lower cost. IB usage can save a considerable amount of time and can give customers more control over their bank accounts and transactions.

1.3 Problems:

IB has high potential for increasing performance and offers many benefits but obtaining the desired levels of performance can be hindered by customers' reluctance to accept the new system (Davis, 1989). Identifying and more precisely defining the factors affecting customers' acceptance of IB will help banks to apply the appropriate strategies in order to expedite the migration of customers to IB (Sathye, 1999). As defining these factors is very important several research studies have been conducted and different factors have been identified but few research investigations have investigated the factors in Dubai. As Dubai is a multinational city it is significant and essential to banks in this city to identify the relevant factors in order to employ the appropriate strategies.

Few research studies have been conducted for analysing the factors affecting customer retention which is more critical than obtaining new customers. Complexity, service quality, difficulties in accessibility, perceived usefulness, cost savings and limited user-control might encourage customers to reject continuing with IB (Ho and Ko, 2008). According to Taylor and Joseph (1992) customer satisfaction has a significant effect on continued usage of IB and the antecedent of customer satisfaction is service quality. Customers' decision whether or not to continue usage of internet banking will be influenced by various factors (Ho and Ko, 2008) so discovering these factors will assist managers to employ suitable strategies for retaining the bank's online customers.

1.4 Research Aim and Objectives:

Aim:

To obtain an understanding of key strategic factors which hinders banks to enhance performance and increase profitability through internet banking.

Objectives:

- Identifying key factors affecting customer acceptance of internet banking.
- Identifying key factors impacting customer retention and their loyalty to internet banking.
- Bank managers and employees' perception of internet banking.

1.5 Organization of the Research

The entire study is developed in seven chapters. A brief outline of each chapter is as follows:

Introduction:

This section provides an overview of information technology and banks, internet banking, problems and aim and objectives of the research.

Literature review:

It focuses on developing an in-depth understanding of the key areas and factors affecting customer acceptance of internet banking, customer satisfaction, customer retention and their loyalty to internet banking and bank employees' perceptions of internet banking.

Case study:

It provides an overview of the selected banks' histories and available online services.

Methodology:

It identifies the methods applied to conduct the survey. The main avenues of research utilised were desk research, case studies, interviews and a survey conducted on internet banking through questionnaires.

Data analysis and outcomes:

In this section the results obtained from the survey and interviews are analysed using SPSS software in order to test the research hypotheses and achieve the research aim and objectives.

Discussions and conclusions:

Further discussion of the outcomes and implications for practitioners are mentioned in order to assist banks to employ the appropriate strategies to enhance banks' performance and increase profitability through applying internet banking.

Future research and conclusion:

Overall conclusion is discussed and future research is recommended in order to provide a firmer basis for making decisions about the appropriate and most efficient strategies for increasing online customers and developing their loyalty to both IB and the bank and its services.

Chapter 2:

Literature Review

2.1 Introduction:

In the service industry especially in the banking sectors, the internet has been employed as a medium for enhancing service quality. IB has become a necessity for organisations in the industry seeking to maintain competitive advantage, increase efficiency and enhance financial performance (Rod et al, 2009). Therefore many studies have been conducted in order to identify how banks or other service sectors can acquire more customers through IB.

An extensive literature review has been conducted to investigate the main factors which influence customers to adopt IB and what makes them loyal toward IB. The TAM model, SERVQUAL and SERVPREF and their relevant augmented research investigation have been reviewed as the basis for this study. Additional literature about bank managers' and employees' perceptions of IB from the perspectives of cost reduction, efficiency and effectiveness, perceived usefulness, customer service and satisfaction, security, bank profitability, market effects and staff information have been reviewed.

2.2 Internet banking and Customers:

In this section, literature which investigates factors influencing customer adoption of IB and their satisfaction and purchase intention toward IB will be reviewed.

2.2.1 Technology Acceptance Model:

The TAM (Technology Acceptance Model) investigates factors affecting information technology acceptance which is derived from the Theory of Reasoned Action (TRA) developed by Davis in 1986 (cited in Money et al 2004). The fundamental concept of TRA is that people will accept a behavior if they realize that the outcome is positive (Compeau and Higgins, 1995).

Davis (1989) claims that two main factors, perceived usefulness and ease of use, influence user acceptance of information technology. He defined perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance” (p.320). He continues and explains that usefulness is derived from the word useful: “capable of being used advantageously” and he has defined perceived ease of use as “the degree to which a person believes that using a particular system would be free of effort” (p. 320). He conducted research divided into several steps in order to investigate and create new reliable and valid scales for measuring and assessing two constructs of perceived ease of use and perceived usefulness. 14 items for each category were generated from the past studies and literature reviews. After assessing the semantic content of the scales through pre-test interviews, 10 items which were best suited to the definitions of the constructs were kept and the remaining scales were further reduced to six items for each construct in the phase of

‘Study 1’. According to Davis (1989), the scales for perceived usefulness are job performance, work more quickly, increase productivity, effectiveness, makes job easier and usefulness and items for perceived ease of use are: easy to learn, controllable, clear and understandable, flexible, easy to become skillful and easy to use. In the next phase termed ‘Study 2’ he examined the relation between usefulness, ease of use and self-protected usage. The major conclusion of his study indicated that perceived usefulness is a strong factor in user acceptance of information technology. The regression results propose that “ease of use may be an antecedent to usefulness, rather than a parallel, direct determinant of usage;” (p.334). He proposed there is a relation of usefulness, ease of use and self-protected usage which can be represented as a chain of: ease of use → usefulness → usage.

Taylor and Todd (1995) incorporated the TAM model and diffusion of technological innovation and included individual differences for measuring user acceptance of technology. Rogers (2004: 4983) in “Diffusion of Innovation” has described innovation as “an idea, practice, or object that is perceived as new by individual or other units of adaption;” and explained that some innovations diffuse faster than the others depending on their characteristics which determine the rate of adaptation. He identified the innovation characteristics as relative advantage, compatibility, complexity, trialability and observability. He defined relative advantage as the degree to which an innovation is perceived to be more beneficial than its substitutions and can be measured in social prestige, convenience, economic terms and satisfaction. He highlighted that the degree of the perception of relative advantage determines the rate of innovation adoption. Compatibility is defined as the degree of perceived consistency of innovation towards current needs, values and past experiences. Complexity is defined as the degree of difficulty perceived by the adopter for using and learning the innovation. Trialability is defined as the degree to which an innovation can be tried and experimented. Observability is the degree of visibility of the innovation.

Kolodinsky et al (2004) have examined customer adoption of E-banking products by using TAM and Diffusion of Technology models. They studied how socioeconomic and demographic characteristics along with consumer perception of relative advantage, compatibility, complexity/ simplicity, trialability, observability, risk and product involvement affect adaptation of e-banking. They found that income, age, gender, marital status, education level, relative advantage, simplicity and compatibility are important in technology acceptance. They claimed that people with higher income tend to accept or already have adopted computer (PC) banking more so than others. Respondents who are above 65 were less likely to adopt computer banking, and middle aged respondents were less likely to adopt PC banking than the younger respondents who were below 35 years old. Single-males were less likely to accept PC banking than the married respondents. Respondents with higher education were more likely to adopt PC banking. Respondents who had a more positive perception about compatibility and relative advantage were more likely to adopt PC banking.

Trialability was not significant and the probability of technology acceptance in risk-averse people was low.

Taylor and Todd (1995) presented an augmented TAM model in which they evaluated whether the TAM can predict the behavior of both inexperienced and experienced users and whether the determinants of IT usage are identical for both groups. They reported that the TAM model can predict the behavior of both experienced and inexperienced users, however they found out that perceived usefulness was the most powerful predictor of intention for inexperienced users and their expectations are formed by assessing the costs and benefits of the new system while the experienced users consider usefulness less and their main focus and emphasis is on perceived behavioral control.

Globerson and Maggard (1991) reported that factors including time saved, money saved, convenience, self control, self image, risks and self-fulfillment are the seven main determinants which consumers consider for using self-service or full-service systems. Convenience is the accessibility of the self-service facility to the user. Time saved is the amount of time saved through using the self-service rather than full-service. Self-control is the amount of dependency of the user on the servers for performing an activity. Self-control was found to be an important factor since some customers prefer to use self-service when they have self-control despite it costing them the same amount money and time as using full-service. Money saved is the amount of money saved while using the self-service comparing to the full-service. Self-image is affected by the nature of the task that the users need to perform. Risk depends on the nature of the tasks. Self-fulfillment pertains to the customer image and depends on the nature of the tasks. Globerson and Maggard (1991) reported 7 factors mentioned above which influence customer decision of using self-service or full-service and concluded that self-control is the most important factor which motivates customers in using the self-service system.

Sathye (1999) employed a model consisting the profile of respondents (age, occupation, income, education, nature of business and location) and six main determinants of no security concern, ease of use, awareness of service and its benefits, reasonable price, no resistance to change and availability of infrastructure, for investigating factors influencing customer adoption of IB. He found that security concerns and absence of awareness of service and its benefits are barriers toward customers' adoption of online banking in Australia. He suggested that since the young, educated and wealthy groups of customers tend to adopt IB more, they should be targeted first for fast migration of customers to online banking.

Gan et al (2006) proposed a model comprising seven dimensions including the following factors which are the determinants of the process of consumer decision making when choosing between electronic banking and non-electronic banking. The dimensions are: Service quality dimensions (reliability, assurance and responsiveness), Perceived risk factors (financial risk, performance risk, physical risk, social risk and psychological risk), User input

factors (control, enjoyment, intention to use), Price factors (costs associated with electronic banking and bank charges), Service product characteristics (core services, service feature, service specification and service targets), Individual factors (consumer knowledge and consumer resources) and Demographic characteristics (age group, gender, marital status, educational qualification, ethnic background, area of residence, annual income and employment level). They noticed that service quality, perceived risk factors, user input factors, education and employment are the main factors affecting user decision to choose IB. Their results showed that younger people and educated people are more likely to adopt IB which is consistent with Sathye (1999) and Kolodinsky et al's (2004) findings. In contrast to the findings of Sathye (1999) and Kolodinsky et al (2004), they noticed that high income respondents were less likely to adopt IB as they may prefer non-electronic banking while doing complex transactions.

Summary of the influential factors in IB adoption using the TAM model or the augmented TAM which were discussed earlier are presented in the table below.

Authors	Influential Factors in IB Adoption Using the TAM model or the Augmented TAM
Davis (1989)	Perceived usefulness (job performance, work more quickly, increase productivity, effectiveness, make job easier, usefulness), Perceived ease of use (easy to learn, controllable, clear, flexible, easy to become skillful, easy to use)
Rogers (2004)	Relative advantage (Social prestige, convenience, economic terms, satisfaction)
Kolodinsky et al (2004)	Demographic characteristics (income, age, gender, marital status, education level), relative advantage, simplicity, compatibility
Taylor & Todd (1995)	Augmented TAM (included user experience)
Globerson and Maggard (1991)	Time saved, money saved, convenience, self control, self image, risks, self-fulfillment.
Sathye (1999)	Demographic (age , education level, income), security concerns, absence of awareness of service and its benefits.
Gan et al (2006)	Service quality dimensions, perceived risk factors, user input factors (control, enjoyment, intention to use), price factors, service product characteristics, individual factors (customer knowledge and resources), demographic characteristics (age, gender, marital status, income)

Table 2. 1 IB-Adoption and TAM model

2.2.2 Service Quality:

Quality is an indistinct construct and its determinants and properties are not easily defined, especially in services industries which are based on intangible and heterogeneous performance rather than objects. Realizing how customers perceive and evaluate service quality has always been difficult and while specifying appropriate measurements has always been problematic, a substantial number of research studies have demonstrated the strategic benefits of quality in the market share (Parasuraman et al 1985). Researchers have investigated and introduced different quality models through which quality can be measured. One of the most used and practical models is SERVQUAL.

The SERVQUAL (Service Quality) model which is based on gap theory was developed by Parasuraman, Zeithaml and Berry (1985). Gap theory suggests that differences between executive perceptions and consumer expectations determine the perception of service quality. They stated that quality can be reduced to a comparison between expectation and performance. SERVQUAL identifies 10 key categories by which consumers basically evaluate service quality regardless of the type of service. These factors are labeled as “Service Quality Determinants” which are identified as reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/ knowing and tangibles. Parasuraman et al (1988) later developed a more refined set of service quality scales to provide a precise, reliable and meaningful instrument for assessing quality in different service sectors. 10 dimensions including 97 items adopted from their previous research representing the service-quality construct were selected to assemble the incipient item pool for the SERVQUAL instrument. After data collection and assessment of the results in the first stage they reduced the dimensions down to 7 including 34 items. In the second stage the fresh data obtained from the first stage was re-evaluated to confirm the dimensionality and reliability of the scales. After two stages of scales refinement, the final SERVQUAL instrument was produced containing 22 items and representing five dimensions which are reliability, responsiveness, assurance, tangible and empathy. Their findings demonstrated that reliability is the most important dimension, assurance is in second place from the importance perspective and empathy is the least important dimension.

SERVQUAL is applicable to various service sectors for understanding customers’ expectations and perceptions of services in order to improve the service quality. The SERVQUAL instrument is valuable for periodically monitoring service quality inclination, assessing quality in five dimensions, ascertaining the relative significance of the five dimensions in overall customer perception of service quality, identifying the performance of unit managers of multi-unit retail companies, assessing service performance of a retailer comparing it to its’ competitors and identifying the strengths and weaknesses of a retailer in service quality dimensions to investigate and identify the appropriate strategy to compete with the competitors.

SERVQUAL is extensively used in the banking industry for evaluating and assessing service quality (Gan et al 2006). Jun and Cai (2001) investigated user perception of service quality which impacts on user satisfaction/dissatisfaction through three main quality perspectives of online system quality, customer service quality and product quality. They consisted of seventeen sub-dimensions of reliability, courtesy, competence, credibility, product variety, responsiveness, communication, access, collaboration, understanding of the customers, continuous improvement, ease of use, accuracy, contents, security, timeliness and ease of use. The focus of this study was to find out the key attributes of IB quality which impact on user satisfaction through assessing the IB users' comments. The authors had used a broad range of sub-dimensions for assessing the key attributes of quality, however after analysing the frequent mentioned quality dimensions by the IB users, they concluded that the six sub-dimensions of the three main dimensions including customer service quality (responsiveness, reliability, access), online system quality (ease of use, accuracy) and product quality (product variety/ diverse features) are the main factors which impact on customer satisfaction or dissatisfaction.

Rod et al (2009) extended the study of Jun and Cai (2001) and presented a model which was designed to examine the relation between three dimensions of service quality (online customer service quality, online information system quality, banking service product quality), overall IB service quality perception and customer satisfaction. Their research findings demonstrated that there is a significant relation among the aforementioned dimensions. They found out that online customer service quality, online information system quality and banking service product quality influence overall IB service quality which is positively related to user satisfaction. Rod et al highlighted that online information system quality has more impact on perception of overall IB quality. They eliminated the assurance dimension of SERVQUAL in the context of IB due to the non-human nature of IB services and used the following dimensions for evaluating IB quality: online customer service quality (tangibles, reliability, responsiveness and empathy), Online information system quality (ease of use, accuracy, security/privacy, contents, timeliness, aesthetics) and banking service product quality. Rod et al (2009) examined the influence of the three broad dimensions of online customer service quality, online information system quality and product quality on the overall IB service quality and its subsequent impact on customer satisfaction while Jun and Cai (2001) evaluated the impacts of the three broad dimensions on customer satisfaction or dissatisfaction directly. The authors used the SERVQUAL model and the 11 variables stated above to really understand the relation among the three dimensions of service quality that influence on the overall IB service quality and its subsequent impact on the user satisfaction.

Since Yang et al (2004) believed that SERVQUAL had been designed for measuring traditional service quality rather than web service quality and it addressed customer-to-employee and not customer-to-website interactions, they extended the SERVQUAL in order to identify the scales for measuring web-quality services. To achieve their objective they

selected online banking as a sample industry as it embraces a complicated and intensive service process. Through a content analysis they identified 17 scales categorized into three dimensions in order to evaluate online service quality which are customer service quality consisting of ten dimensions (responsiveness, reliability, competence, access, personalization, courtesy, continuous improvement, communication, convenience and control), online system quality consisting of six dimensions (ease of use, accuracy, security, content, timeliness and aesthetic) and product portfolio (product or service variety and diverse features). Due to the practical constraints of the research study, the authors selected six scales of responsiveness, reliability, competence, ease of use, security and product portfolio according to their theoretical analysis and the most frequently cited scales in their content analysis phase of the research in order to investigate the scales for measuring online service quality. Each of the scales were comprised of sub-dimensions such as reliability which consisted of correct online transactions, precise records, accurate performance and accomplishment of promises; responsiveness was composed of quick response to customer requests, speed in resolving customer issues and fast services; competence pertains to the ability of the employees in resolving customer issues, replying to their inquiries and agreement with customer requests; ease of use pertains to the amount of effort required for website navigation, following catalogues and completing transactions; security referred to the risk affiliated with online transactions, privacy of personal information and assurance in completing transactions; product portfolio referred to the product diversity, feature variety and free useful services. They also included the demographic profile of respondents in their research including such variables as: gender, education, age, annual household income, living country, duration of using personal computer, duration of using internet as purchasing channel, frequency of using internet, and frequency of browsing websites per week. They found out that responsiveness, ease of use, reliability and product portfolio are salient in overall service quality and customer satisfaction. Security also was found to be important in overall service quality. Responsiveness and reliability in overall service quality and responsiveness and ease of use in customer satisfaction in that order are the most important factors.

SERVQUAL has been used widely across different industries but criticisms of this model have been made. Cronin and Taylor (1992) claimed that SERVQUAL is inadequate from the perspective of the conceptualisation and operation of service quality. Accordingly they presented a SERVPERF model which is based on a performance-only model and considers only the perception of consumers of the service providers' performance for assessing perceived service quality while the SERVQUAL model which is based on the gap theory model indicates that perceived service quality is the difference between what the customer should expect and what the customer perceives of the provided service. The difference between SERVQUAL and SERVPERF is in the concept. Cronin and Taylor (1992) used the same dimensions as Zeithaml et al (2001) had used in their model.

Jain and Garima (2004: p.34) investigated the differences between SERVQUAL and SERVPERF models and found out that “while the SERVPERF scale is a more convergent and discriminant valid explanation of the service construct, possesses greater power to explain variations in the overall service quality scores” ,in contrast, SERVQUAL due to its diagnostic power is more suitable for diagnosing service quality shortfalls.

2.2.3 Customer Satisfaction, Customer Loyalty and Retention:

Different research has investigated the factors influencing customer adoption of IB, however little research has been conducted in evaluating factors affecting consumer loyalty and continuing use of IB. Most of the research just evaluates the factors for adopting new technology and does not consider that the customer may stop using the new technology at a later date (Ho and Ko, 2008). The followings are the review of the literature pertaining to factors influencing customer satisfaction with the usage of IB and customer loyalty toward IB.

Jun and Cai (2001) in a content analysis of the key determinants of IB service quality, investigated the dimensions of IB service quality which were significantly associated with the customers’ satisfaction or dissatisfaction. They found that customer service quality (responsiveness, reliability and access), online system quality (ease of use, accuracy) and banking service product quality (product variety/diverse features) have great impact on customers’ satisfaction or dissatisfaction with using IB. Accordingly, they recommended the banks to focus more on the aforementioned dimensions and consistently attempt to provide high service quality to strengthen their competitive position in the market and establish long-term relationships with their IB users. They had directly examined the influence of service quality dimensions (customer service quality, online system quality and product quality) on customer satisfaction and found that IB dimensions are influential in customer satisfaction, however Rod et al (2009), Yang et al (2004) and Jun et al (2003) had examined the relation between service quality dimensions, overall service quality and customer satisfaction and found that quality dimensions (customer service quality, online information system quality and product quality) impact on perceived overall service quality which subsequently influences customer satisfaction. Yang et al (2004) reported that responsiveness, reliability and ease of use are critical factors in online users’ satisfaction and improvements in the level of aforementioned factors are a necessity in retaining the users loyal to the online service industries. Jun et al (2003) in their exploratory study of online service quality, while assessing the relation between the service quality dimensions, overall service quality and user satisfaction, found that out of six dimensions of creditability, security, access, ease of use, attentiveness and reliable/prompt response, three dimensions of reliable/prompt response, attentiveness and ease of use impact on the perceived overall service quality which will influence on customer satisfaction and retention; Hence due to the importance of the obtained

results, they recommended the online retailers to identify the factors influencing the user satisfaction in order to retain users loyal to the online services and improve profitability.

Jun and Cai (2001), Rod et al (2009), Yang et al (2004) and Jun et al (2003) had examined the influence of user perception of online service quality on the users' satisfaction and loyalty to the usage of IB, however Ho and Ko (2008), Meuter et al (2000) and Curran and Meuter (2005) had investigated and studied the factors which influence on users' satisfaction and intention of continuing usage of IB from a different angle and perspective which was mainly based on the user perception of usefulness. Meuter et al (2000) reported that users are satisfied when they perceive the self-service useful from the perspectives of ability to avoid interference with the service people, convenience, time saving, ease of use and financial saving. Curran and Meuter (2005) found that user perception of usefulness is an important factor in customer intention of continuing the usage of IB. A broader perspective has been presented by Ho and Ko (2008) who indicated that ease of use, self control, cost saved and usefulness will create customer value which subsequently will have a positive influence on the user intention of continuing using IB. Specifically in relation to the broader issue of customers switching their business to another bank, Mols (1998) reported that internet-banking users when compared to non-users are more satisfied with their banks and have a lower tendency to change their banks

According to the above literature reviews, customer satisfaction with the usage of IB and their loyalty toward IB can be considered from two perspectives of user perception of IB quality dimensions (whether directly or indirectly through user perception of overall service quality) and user perception of usefulness. Hence in this study user satisfaction with the usage of IB will be examined by considering the user perception of IB quality dimensions and their perception of usefulness and consequently influence of user satisfaction with the usage of IB will be considered in the user loyalty toward IB usage.

2.3 Internet Banking and Bank Managers and staff:

Despite the importance of employees' and managers' perceptions of IB's implications and potential effects, little research has been conducted to evaluate the topic. The following is a review of key literature examining the perceptions of managers and employees towards IB and the implications that follow.

2.3.1 Cost reduction:

According to Yang et al (2007) IB reduces daily operating costs And Ghasemi (2007) declares that e-banking by reducing operating costs will create value in the organization. Geyskens et al (2000) stated that IB can provide supply-side benefits by reducing production and transaction costs. Production costs are the costs pertaining to accomplishing a desired task and transaction costs are the costs caused as a result of performing physical activities. Kiang et al (2000) stated that cost reduction through IB is generated from having less paperwork and reducing the opportunity for human error during banking transactions.

Lymperopoulos and Chaniotakis (2004) claim that one of the implications of IB is the decreasing number of employees in the branches. According to Trethwan and Scullion (1997) in the past banks needed a large number of staff to do paperwork generated from mass marketing which was incurring their biggest costs but due to the technology of IB the number of people employed has reduced and therefore cost has decreased.

Yang et al (2007), Ghasemi (2007) and Geyskens et al (2000) all believe similarly that the IB usage, reduces the operating, production or transaction costs; however Kiang et al (2000) and Trethwan and Scullion (1997) maintain that reduction in costs is primarily through the usage of the IB leading to less paperwork or human error. In summary, a fair number of research studies have found that usage of IB reduces costs which banks can benefit from and consequently increase their profitability.

2.3.2 Efficiency and effectiveness:

According to Trethwan and Scullion (1997) due to the usage of IB the number of customers who visit the bank has decreased. Furthermore they argue that IB helps banks to focus on other important activities such as marketing within their existing account bases. Yang et al (2007) believe that IB improves a bank's competitive position in the market and asserted that IB will reduce the workload and inputs from traditional teller services to a great degree but it will create an extra workload (up to 21%) due to the processing of online requests.

In overall, usage of the IB facilitates customers to do some of their transactions from their home or workplaces therefore reducing the number of visits to the branches which consequently minimises the queues in the banks, reduces the paperwork and extra workload incurred accordingly. Hence bank employees will have more time to focus on the important

activities and bring more business through marketing and sales in order to improve the bank's competitive position in the market.

2.3.3 Perceived usefulness:

Ghasemi (2007) reported that usage of IB provides banks with the ability of completing specific tasks more quickly and also enables staffs to enhance their job performance, effectiveness and productivity which results in the perception of usefulness by the bank staff.

2.3.4 Customer service and satisfaction:

White and Thornton (2001) believe that self-service distribution channels such as IB will attract customers, retain convenience and improve customer satisfaction. According to Yang et al (2007) the addition of IB has increased customer satisfaction. Mols (1998) reported that IB users when compared to non-users are more satisfied with their banks and have a lower tendency to change their banks.

2.3.5 Security:

According to Yang et al (2007) security has improved and threats toward IB have decreased considerably. Ghasemi (2007) believes that security is one of the main factors of perception of usefulness which affects the propensity of the customer to use IB.

2.3.6 Bank profitability:

Kimball and Gregor, (1995) declare that IB enables banks to retain their customers and attract new customers. According to Geyskens et al (2000: p.6) 'The Internet can increase sales in three ways: market expansion, brand switching and relationship deepening.' Mols (1998) believes that IB users are themselves a direct source of advertisement in attracting and encouraging new customers to do business with their bank if they perceive that IB with their bank is useful and cost effective. The authors believe that IB is one of the alternative methods for attracting new customers and if it creates value and useful perception for the users, it can increase sales and the bank's profitability by obtaining new customers, market expansion and relationship deepening.

2.3.7 Market effects:

According to Ghasemi (2007), one of the critical strategic value creations of adopting IB is "increasing the ability to compete" and "improving customer services". Birch and Young (1997) argue that competitors who are using fully electronic channels due to lower cost can operate well even from overseas which is a threat for traditional banking in competing and retaining customers. Filotto et al (1997) stated that one of the major risks for local banks is market penetration by foreign competitors who are capable of delivering services efficiently through using modern IB technologies.

Lymperopoulos and Chaniotakis (2004) reported that IB can assist banks in service differentiation. Birch and Young (1997) believe that as products can be easily replicated by other banks in IB, it is difficult to differentiate services and products and it is expected that the products and services will be more innovative but the life span of the innovated product will become progressively shorter.

According to these authors, IB is a new avenue for improving customer service and service differentiation and has increased the level of competition in the market through performing with a lower cost structure compared to traditional banking and it eliminates geographical boundaries.

2.3.8 Staff information:

According to Lymperopoulos and Chaniotakis (2004) perceptions and attitudes toward IB differ among employees who hold different positions in the branch hierarchies and ‘employees holding different positions within retail banks have varying degrees of customer-orientation, satisfaction, motivation and role clarity due to a variety of factors’ (Lymperopoulos and Chaniotakis, 2004: p.308). In addition employees with different work experience and level of education have different attitudes and perceptions toward IB’s implications.

Summary of the reviews of the literature regarding the managers' and employees' perceptions of IB which were discussed in this section, have been presented in the table below:

Factor	Perception	Authors' Names
Cost reduction	<ul style="list-style-type: none"> • IB reduces daily operating costs, production or transaction costs. • IB is due to the less paper work and human potential errors. 	<ul style="list-style-type: none"> • IB reduces daily operating costs, production or transaction costs. • IB is due to the less paper work and human potential errors.
Efficiency & effectiveness	<ul style="list-style-type: none"> • IB reduces the walk-in customers, queues, paperwork, extra work load. • Staff can focus on sales, improve banks competitive position 	Trethwan and Scullion(1997), Yang et al (2007).
Perceived usefulness	Completing specific tasks quickly, enhance job performance, effectiveness and productivity.	Ghasemi (2007)
Satisfaction	IB attract customers, retain convenience, increases customer satisfaction.	White and Thornton (2001), Mole (1998).
Security	Security has improved, threats have decreased	Yang et al (2007), Ghasemi (2007)
Bank Profitability	IB attracts new customers, retains current customers, increases sales	Kimball and Gregor, (1995), Geyskens et al (2000), Mols (1998)
Market effects	IB increases competition, improves customer service, eliminates geographical boundaries.	Ghasemi (2007), Birch and Young (1997), Filotto et al. (1997), Lymperopoulos and Chaniotakis (2004)

Table 2. 2 the managers' and employees' perceptions of IB

2.4 Summary of the Chapter:

The main objectives of this chapter were to provide an overview of previous studies and a framework for developing the research. Various models and scales which have been investigated and developed by previous researchers for adopting IB. They include measuring user perception of usefulness of IB, customer service quality, online information quality, product portfolio, customer satisfaction and customer loyalty and retention.. Furthermore, managers' and employees' perceptions of IB implications such as cost reduction, efficiency and effectiveness, perceived usefulness, customer service and satisfaction, security, bank profitability, market effects and staff information have been reviewed.

The hypotheses and the model for the research objectives found in Chapter 4 have been derived and generated from this review of the literature.

Chapter 3:

Case studies

3.1 Introduction:

Since one of the main objectives of this research is to assess the bank managers' and employees' perception of internet banking, case studies have been used to prepare a platform for conducting the survey. After investigating and studying the history and background of different banks in Dubai three banks of Emirates NBD, Standard Chartered and United Arab Bank have been selected in order to conduct the survey through distributing questionnaires among their employees and interviewing with the concerned managers. Three different types of banks were selected to avoid any subjective results. Emirates NBD is a local bank and asset wise is the biggest bank in UAE, Standard chartered is an international bank which is quite significant to select as the survey is conducting in Dubai which is a multinational city and United Arab Bank which is a medium bank and recently has upgraded its internet banking system. In this chapter the banks profile and history have been reviewed.

3.2 Emirates NBD Bank:

Emirates NBD which is formed from the merger of Emirates Bank and National Bank of Dubai in 16th of October 2007 after listing their shares in Dubai Financial Market officially, is the biggest bank in the Middle East asset wise. Their assets were more than AED 282 billion as at the end of the year 2008. The Emirates NBD is operating in the UAE, Saudi Arabia, England, Qatar, Jersey, India, Singapore and Iran. Emirates NBD by having over 120 combined branches and over 650 ATM machines, is a leader in retail banking in UAE. The bank is also powerful in corporate banking with a combined market share of almost a fifth of corporate loans. The bank has a fast growing Islamic banking, private banking services, asset management products and strong investment. Emirates NBD has received outstanding awards such as UAE Bank of the Year for 2008 by The Banker Magazine, Best Bank in the UAE and Best Trade Finance Provider Awards for the Year 2008 by Global Finance Magazine and the best deal of the year in the Middle East in 2007 (merger of Emirates Bank and National Bank of Dubai) by The Banker Magazine. (Emirates NBD, 2008). According to Emirates NBD CEO, Punder (2008) "... this merger will create a bank with the scale, financial strength and service quality standards to compete effectively in the increasingly dynamic and competitive UAE and GCC markets"

The National Bank of Dubai was established by Ali Bin Abdullah Al Owais, the father of the late Chairman of the Bank, Sultan Ali Al Owais in 1963. The bank was very successful and was keeping pace along with Dubai's development. A new headquarter was opened in 1970 by H. H. Sheikh Rashid. The bank has strong association and involvement with almost every sector of business community such as the port, oil business and the merchants. (NBD, 2002)

Emirates bank has incepted its career in 1977 and within two decades had appeared as one of the best financial institutes. "Euromoney - Europe's leading banking, finance and capital

markets magazine - granted Emirates Bank the "Best Bank in the UAE" award in 1998 – 1999". (Emirates Bank, 2009)

3.2.1 Internet banking:

NBD Online is a fast and flexible internet banking which includes the following services: (NBD, 2002)

- **“Enquiries**
 - Account Statement History and Transaction Extract (MS Excel, Text, MS Money)
 - Change mailing address and contact details
 - Cheque Book request
 - Consolidated Account Balance enquiries (Current, Fixed Deposit, Loans, Call, Credit Card)
 - Customisation of Login ID, Password and PIN
 - E-mail alerts
 - E-mail messaging to the Bank.
 - Trade Finance Enquiries (L/C, Gtee, BNC, MBC, etc)
 - View and Print Transaction Logs
- **Financial Transactions**
 - Apply/Amend Guarantees
 - Apply/Amend Letters of Credit
 - Bill Payments – DEWA/ Etisalat/ NBD Credit Cards
 - Outward Remittances – Demand Draft/Telegraphic Transfer/Managers Cheque
 - Setup of Standing Instructions (Own Account Transfer or Outward Remittances)
 - Transfer of Funds between Own Accounts and Third Party NBD Accounts
 - Salary Payments (NBD Accounts and Non-NBD Accounts)
 - Bulk Payments (NBD accounts and Non NBD Accounts)
- **Special Features**
 - Dual Authorization capabilities
 - Multi User capability with the ability to restrict access to functions accounts and apply different transaction limits for different Users.
 - 24 Hour Customer service through our Call Centre ”

3.3 Standard Chartered Bank:

Standard chartered bank was formed in 1969 from the merging of the Chartered Bank of India, established in 1853, and the Standard Bank of British South Africa, established in 1863. Standard Chartered Bank is an international bank. From the early 1990s it has started developing its business in the markets of Asia, the Middle East and Africa with more than 1700 branches in over 70 countries. It has started its business in UAE in 1958. The first branch was established in Sharjah and gradually other branches have been developed in Dubai. Dubai is now the administrative hub of Middle East and South Asia. The bank with 11 branches is one of the foreign international banks in UAE which has the most extensive branch networks. It consists of three principle business groups of personal banking, global markets and corporate and institutional banking. (Standard Chartered, 2009)

The banks strategic intent is: “To be the world's best international bank leading the way in Asia, Africa and the Middle East” and values are “courageous, responsive, international, creative and trust worthy”. (Standard Chartered, 2009)

3.3.1 Internet banking:

Standard chartered online banking contains mobile banking and IB, its internet banking includes the below services, which the bank believes that these services will give the users complete control over their accounts and will save their time and money. (Standard Chartered, 2009)

- Access to account information and download transaction history.
- Applying for wide range of products, requesting for cheque book or statement from home.
- Funds transfers and bill payments.
- Set up standing orders.
- The latest information on rates.
- Review credit cards’ details at a glance and viewing credit card transaction history.
- Access to loans summary and history

3.4 United Arab Bank:

In 1975 United Arab Bank (UAB) was incorporated with French international financial conglomerate, Societe Generale (SG) as a joint venture. In February 2005 SG sold its share in UAB to UAE shareholders. In December 2007 UAB has allied with the Commercial Bank of Qatar (Cb). Cb has acquired 40% share through this alliance. Cb also has similar alliance with National Bank of Oman (NBO) commenced from mid 2005. The aliened banks are focusing on potential cooperation, implementing best practices and extending and improving shared services and products. (United Arab Bank, 2009)

UAB is consisting of ten branches which the head office is located in Sharjah. The financial services include corporate and retail banking. UAB vision is "United Arab Bank will be the trusted partner and the UAE bank of choice for our customers, shareholders, and employees, leading the way to greater financial prosperity while remaining committed to the highest integrity standards." and their values are integrity, customer focus, competence, consistency and courteousness. (United Arab Bank, 2009)

3.4.1 Internet banking:

UAB Online is free of charge for its customer through which users can perform their banking transactions securely. UAB internet banking is easy to use and convenient which includes the below features: (United Arab Bank, 2009)

- Transfer funds between your own accounts
- Transfer funds to third party accounts
- Request for Remittances (to any beneficiary both within the UAE and overseas)
- View the latest balance and detailed Account Statements with search options
- Request for cheque book
- View of foreign exchange rates
- Message alerts on your web page for exciting promotions offered by UAB
- And as additional features for commercial customers:
- Authorization of several subscribers with individual limits for each user
- Payroll Management and Transfers
- Display of cheques under collection

3.5 Summary of the Chapter:

The main objectives of this chapter were to provide an overview of the history of the selected banks to provide an insight that when these banks have been established and how they have been developed. Also in this chapter the online banking facilities that each bank is offering currently have been highlighted.

Chapter 4:

Methodology:

4.1 Introduction:

This chapter summarizes various methods of the research on the grounds of why they were adopted and an explanation of how each method was developed. It discusses the research progress, problems encountered and accomplishments achieved during each phase of implementing the research methods. For conducting the survey a model and hypotheses were generated from the reviewing of the existing works throughout the dissertations, journals, articles, books and etc. Questionnaires were provided accordingly and were distributed between the bank customers and employees of the selected banks (Case studies) via email or hard copies, furthermore interviews were conducted with the concerned managers of the case studies' banks. After collection of the results, the data were modeled and analysed with the SPSS software in order to justify the hypotheses. The research techniques used in this study were mainly quantitative however qualitative technique was also employed in interviewing with the bank managers.

4.2 Research Framework:

With a view to attain an in-depth understanding of factors affecting customer acceptance of internet banking and customer retention toward internet banking and assessing the banks' managers and employees' perception toward internet banking, it is necessary to employ a variety of research methods. This chapter summarizes various methods of research on the grounds of why they were adopted and an explanation of how each method was developed. The below table provides a short description of each phase of the study and the research techniques that were implemented during these phases.

Research Phase	Topic Under Discussion	Method
Phase One	To gain background knowledge of online banking as well as in-depth understanding of the available issues and benefits of usage of internet banking.	Secondary research (Desk research)
Phase Two	Selection of two of the existing issues to be investigated in the dissertation according to their importance which are: ➤ Issues related to customer acceptance of internet banking ➤ Issues related to customer retention	Secondary research
Phase three	Identifying the factors creating the above issues and framework of the research.	Secondary research
Phase Four	Providing questionnaires for bank staffs, bank customers and managers' interview. Undermining and studying different banks and their histories and selecting three of them for case study.	Secondary Research
Phase Five	Conducting the study by distributing questionnaires, interview, collecting the results and analysing them	Secondary research Interview Survey Case studies

Table 4. 1 Methodologies Adopted

The research techniques used in this study were mainly quantitative. According to Urban Wallace Associates (2005) quantitative research is appropriate for:

- Measuring attitudes and behaviors.
- Identifying number of people who use or are interested in a particular services or products.
- Identifying number of people in a population who share a specific idea or characteristics.
- To profile a group of people based on shared characteristics
- Statistical techniques can be used to provide a model for anticipating whether people holding particular characteristics or opinions will act in a certain way.

Since the aim is to create a model including factors affecting customer acceptance of internet banking and customer retention by measuring customer perception, which itself is a kind of attitude toward specific characteristics, quantitative model is the appropriate technique of the research. However qualitative technique is aimed to be used in conducting interviews.

The steps taken in conducting the research include:

- Generation of models and hypothesis
- Providing questionnaires
- Distributing questionnaires and conducting interviews
- Collection of empirical data
- Modeling and analysis of data
- Evaluating the results

There were four main types of research carried out which are outlined below:

Research Method	Grounds for choosing the method
Desk Research	Involved consistent study of existing works throughout the dissertation by using books, online articles and journals, magazines, presentations, speeches, case studies and e-mails. In the first phase, it was used to gain a clearer understanding of the online banking and current issues. For phase two it was used to select two main issues from the issues found in phase one. For phase three, it was used to identify the most effective factors in creating the selected issues. For phase four, it was applied to provide questionnaires for staffs, customers and questions for managers' interview. Finally in phase five, was used to learn software SPSS for analysing the results.
Case Studies	Selecting three banks as case studies to conduct the survey and interview provided a wide perception toward the current selected issues and enabled us to sample data for justifying the hypothesis.
Interviews	The interviews were conducted with top managers who closely encounter the available issues.
Surveys	Questions were compiled after researching on various surveys available on "Internet Banking", also it was supported by the dissertation supervisor. Questionnaires were distributed via email or hard copy; results were gathered and analysed by SPSS.

Table 4. 2 Description of Research Methods

Following pages provide further analysis on each research method. They also talk about how the research progressed, what were the problems encountered and how the success was accomplished.

4.3 Desk Research:

Desk research was conducted at every phase of the project.

4.3.1 Progress:

The survey on Internet Banking with the main objectives of identifying the factors influencing customer adoption of internet banking, customer satisfaction and customer retention toward internet banking was the result of desk research. This method was employed at every phase of the research in order to fulfill the main objectives of the dissertation. It also helped in verifying some conclusions derived from the analysis of interviews, surveys and case studies.

The approach taken at each phase of the project is outlined in the following table:

Phase	Field	Approach
Phase One	Identify	Largely, online articles, books, personal observation and experiences were analysed in order to gain an understanding of issues related to online banking. Surveys were also looked at in order to obtain statistical data.
Phase Two	Selection	<p>Once an understanding of various topics was gained, key issues started emerging. Two main issues were selected in order to investigate more in the dissertation which are :</p> <ul style="list-style-type: none"> • Factors affecting customer acceptance of internet banking and their satisfaction • Factors affecting customer retention and their purchase intention <p>These were researched further and are presented in the next phases and findings section. This area was developed using white papers and articles, mainly from the internet.</p>
Phase three	Appraisal	<p>Further research was done through online articles, dissertations and journals to identify and appraise key factors affecting customer acceptance of internet banking and their retention. A model was generated to identify which factors affect customer acceptance of internet banking and their satisfactions and their impacts on customer retention and also plots the relationships between different factors.</p> <p>Further intense studies were conducted in order to gain an in-depth understanding of the banks staffs' and managers'</p>

		<p>perceptions toward the internet banking issues and related factors.</p> <p>After appraisal and analysis of the internet banking issues and the related factors hypothesis were generated to help us in investigating the main effective factors related to the issues.</p>
Phase Four	Questionnaires	<p>More research and studies through online articles, journals and dissertations were conducted in order to provide questionnaires. Three types of distinct questionnaires for bank customers, staffs and interview with bank managers were prepared.</p> <p>Profiles of different banks were reviewed through online articles and their websites and three of them were chosen as case studies to conduct the survey and interview.</p>
Phase Five	Wrap up	<p>Questionnaires were reviewed, modified and refined with the assistance of dissertation supervisor and using the relevant articles and journals. Through books and internet SPSS was learnt for the result analysis. Also desk research was helpful in the wrapping up the final conclusion.</p>

Table 4. 3 Desk Research Exposition

The following figure is a model generated after intensive literature review which demonstrates influential factors in IB adoption and user loyalty toward IB.

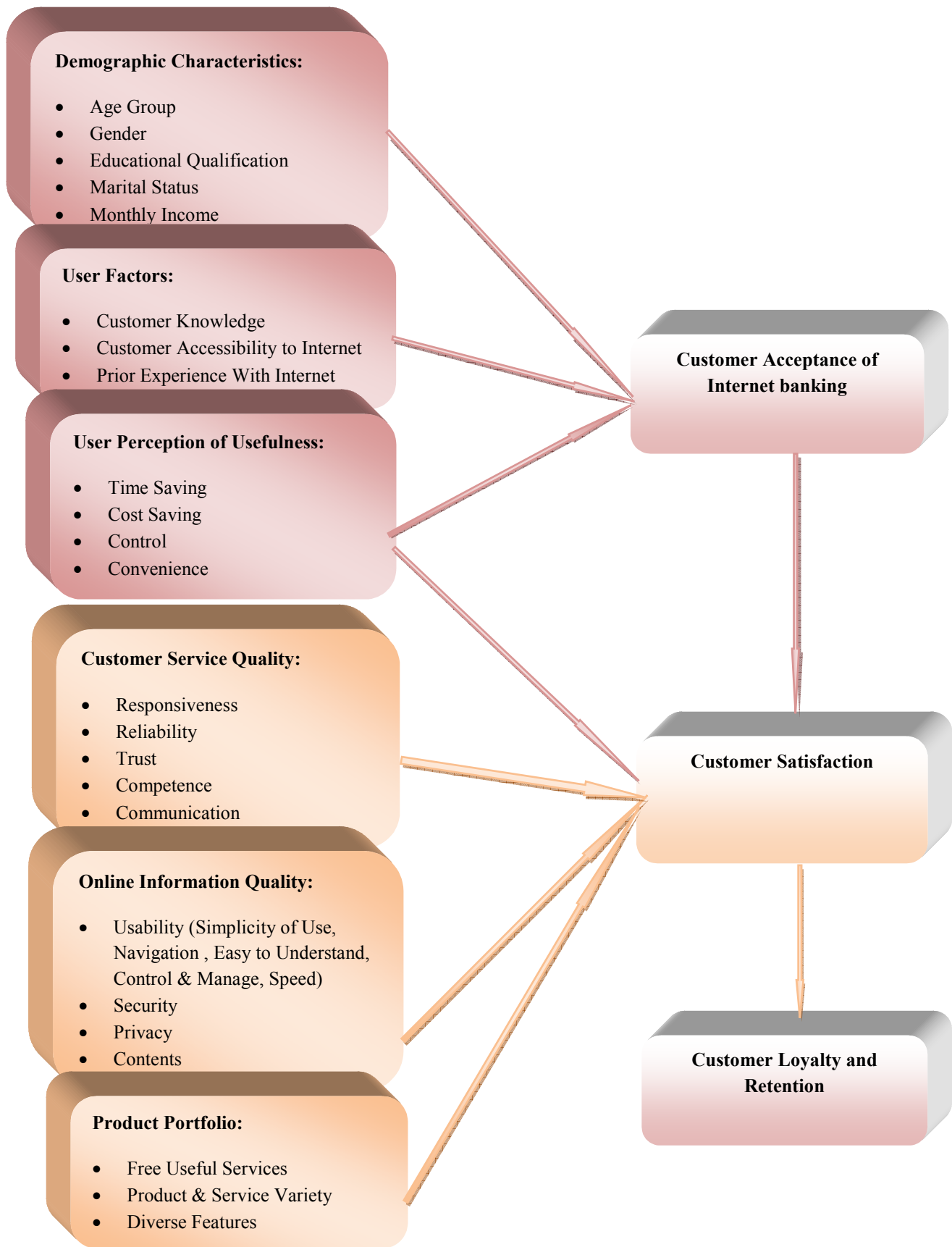


Figure 4. 1 Customer adoption of IB and their retention model from the Literature Review

Questionnaire for customers were designed base on the scales in the generated model which is shown in Figure 4.1. The base of the scales in the model is originated from TAM model by Fred Davis in 1986 and SERVQUAL model by Parasuraman, Zeithaml and Berry (1985) which is further expanded by refined scales obtained through comprehensive literature review. Questions are designed according to SERVPERF model which evaluates customers' perception of IB service quality.

Figure 4.1 is generated from intensive literature review which is applied to achieve two main objectives of the paper:

- Identifying key factors influencing customer adoption of internet banking.
- Identifying key factors influencing customer retention and their loyalty to internet banking.

As it is shown in figure 1 Demographic Characteristics, User Factors and User Perception of Usefulness are assumed to be influential in customer acceptance of internet banking and after customer acceptance of internet banking User Perception of Usefulness, Customer Service Quality, Online Information Quality and Product Portfolio may impact customer satisfaction which will influence Customer Loyalty and Retention. The figure includes the below scales:

Demographic characteristics:

According to the literature review people within different range of age, educational qualification, monthly income, marital status and gender, have different tendency of accepting internet banking.

User factors:

Customer knowledge such as awareness of the existence of internet banking and ability of using internet banking, customer accessibility to internet and customer prior experience with internet influences customer acceptance of internet banking.

User perception of usefulness:

The perception of whether internet banking will save customer time, reduces cost compared to the incurred cost from traditional banking, is more convenient than traditional banking and enables to have more control over banking transactions has direct impact on customers' acceptance of internet banking and their satisfaction.

Customer service quality:

It includes below scales which will impact customer satisfaction.

Responsiveness: indicates if prompt services are provided to customer inquiries and requests.

Reliability: indicates if the retrieved data and transactions are accurate and reliable.

Trust: indicates that whether the website information is sincere and honest which can obtain customer trust.

Competence: indicates if the employees have adequate knowledge to reply to the online customers' inquiries.

Communication: indicates if there are available avenues from which online users can interact with banks and ask or resolve the issues they face with or inquiries have arisen.

Online information quality:

It includes the below scales which impact customer satisfaction.

Usability: indicates if the usage of the website is simple, easy to understand, controllable and manageable, easy to navigate and fast.

Security: indicates if the website is secured enough to prevent any kind of fraud.

Privacy: indicates that whether the online users perceive privacy in providing sensitive information for online transactions.

Contents: indicates if the website contents are easy to understand and adequate explanation is provided regarding the available services and products.

Product portfolio:

Includes the scales which indicates if the website offers free useful services and contains variety of products/ services and diverse features

Different set of questions was prepared for the bank staff in order to evaluate the staffs' perception toward internet banking. Except demographic questions 27 questions were provided to evaluate and investigate factors such as Customer Awareness of Internet Banking, Perceived Usefulness, Efficiency and Effectiveness, Security, Staff Responsiveness, Staff Competence, Customer Satisfaction, Cost for the bank, Bank Profitability, Market Effects and Future Implications.

4.3.2 Hypothesis:

After intensive research and appraisal, below hypothesis are generated.

- Customer acceptance of internet banking, customer retention and their satisfaction
 - H1: Demographic characteristics influence customer acceptance of internet banking.
 - H2: User factors impacts customer acceptance of internet banking.
 - H3: User perception of usefulness influences customer acceptance of internet banking.
 - H4: User perception of usefulness influences customer satisfaction.
 - H5: Customer service quality influences customer satisfaction.
 - H6: Online information quality influences customer satisfaction.
 - H7: Product portfolio influences customer satisfaction.
 - H8: Customer satisfaction is positively related to customer loyalty and retention.
- Managers and staffs' perception toward online banking implications
 - H9: Bank employees perceive internet banking useful.
 - H10: Bank employees perceive internet banking efficient and effective.
 - H11: Bank employees believe that security issues are no longer matter of concern.
 - H12: Bank employees believe that internet banking increases customer satisfaction.
 - H13: Bank employees believe that internet banking will reduce overall cost.
 - H14: Bank employees perceive internet banking profitable for bank.
 - H15: Bank employees believe that internet banking increases market effects.

4.3.3 Problems Encountered

The main problem with desk research was obtaining relevant information regarding “staffs and managers’ perception toward internet banking”. Since almost all the available articles and researches were mainly related to customer perception toward new products and very limited and few articles had focused and evaluated staffs’ and managers’ perception toward new products or services.

4.3.4 Accomplishment

Information gained from this method did provide valuable insights and views with respect to the internet banking issues and benefits. It was very helpful in finding factors related to the issues, providing a model and preparing the survey.

4.4 Case studies:

The main aim of case studies was to prepare a platform for conducting the survey. The banks which have been studied and selected as case studies are Emirates NBD, United Arab Bank and Standard chartered. Three different types of banks were selected to avoid any subjective results. Emirates NBD asset wise is the biggest bank in UAE, Standard chartered is an international bank which is quite significant to select as the survey is conducting in Dubai which is a multinational city and United Arab Bank which is a medium bank and recently has upgraded its internet banking system. The banks profile and history have been reviewed in the chapter three.

4.4.1 Progress:

Profile of different banks were studied, reviewed and analysed through their websites and online articles to select the appropriate banks as case studies. After selecting five banks and contacting the banks and completing the approval procedures three banks did approve to conduct the survey without publishing their names and obtained data and results.

4.4.2 Problems Encountered:

The main and major problem was contacting the banks and obtaining approval.

Firstly, finding the concerned person for obtaining approval was at least through five steps contacts in which the minimum period taken was two weeks.

Secondly, after reaching the concerned person for approval, it took at least two weeks to get the reply disregard of obtaining the positive response for approval.

Thirdly, two banks after one month effort rejected the conduction of survey do to their confidentiality policies. The others accepted to conduct the survey conditionally if the survey results would not be published.

4.4.3 Accomplishment:

Distributing the questionnaires among the selected banks' customers and staffs and having interview with their top managers, provided the opportunity and the ability of sampling data for justifying the hypothesis, generalizing the acquired results for the larger population and achieving the main objective of the dissertation.

4.5 Interviews:

Interviews were conducted in order to gain a better understanding of the area of study. They were mainly questionnaire based. Different set of questions were asked from top managers of the banks including branch manager, customer services and sales manager, head of online banking and project manager of alternative channels in order to evaluate the managers' perception toward internet banking. Managers were selected from two different areas:

- IT department, whom would provide a deep insight toward online banking and the problems encountered.
- Service department, whom were interacting directly with the customers and internet banking related issues.

The content of the interview was consisting of three major questions in which each was consisting of related sub questions. The interview was designed to investigate: (also see appendix)

- The major challenges and difficulties which the bank has had faced with by applying and using internet banking
- The perception of managers toward internet banking from the aspects of efficiency, effectiveness and profitability
- Further improvements that the banks needs in the field of internet banking.

4.5.1 Progress:

The interviewees were very helpful in not only providing an understanding of the topic areas, but also in providing additional information and views.

4.5.2 Problems Encountered:

Two of the managers had little information regarding internet banking and the existing issues. Although this made it difficult to gain views from them on different aspects, they did strengthen the findings.

4.5.3 Accomplishment:

The interviews proved very helpful especially interview with the head of online banking and project manager of alternative channels was very effective in gaining a strong understanding of the online banking and the related issues.

4.6 Survey:

The survey was consisting of two types of questionnaires for bank staffs and bank customers. The surveys titled “Internet Banking Survey” (see appendix) consisting 29 questions for bank customers and 27 for bank staffs excluding demographic questions, came into light through research conducted on various online banking articles and journals. Each question contained the following 6 scale options for answering: (1) Strongly Disagree (2) Disagree (3) Neither Agree Nor Disagree (4) Agree (5) Strongly Agree (6) I Don’t Know.

The study had two key objectives:

- Identifying key factors impacting bank customers’ acceptance of internet banking and their satisfaction and investigating the relation of customer satisfaction and his retention and loyalty to internet banking. (Customer survey)
- Identifying banks’ employees perception toward inward banking

4.6.1 Progress:

140 customer questionnaires were distributed among different people and banks’ customers through email and distribution of hard copies to walking customers of the case study banks. 74 questionnaires were returned in which 22 of the questionnaires were almost half-filled which resulted in the cancellation of their inclusion. Therefore the final number of qualified surveys was 52. In the survey pertaining to the bank staffs, 180 questionnaires were distributed through emails and hard copies, 80 questionnaires were returned and only 61 of them were qualified for analysis.

4.6.2 Problems Encountered:

Despite the maximum effort was exerted to have the minimum number of questions while covering all the areas of the research, yet the questionnaires were quite long which resulted in reluctance of the respondents to participate.

4.6.3 Accomplishment:

The views and findings expressed in the surveys were consistent with the discovery of other more recent findings. The results of this survey, together with other views, have been used as the foundation for identifying key factors of the research objectives.

4.7 Summary of chapter:

The primary objectives of this chapter were to provide a conceptual overview about the methodology of the research in terms of: (1) generation of a model for customer survey and hypotheses (2) providing questionnaires for customer survey (contains 29 questions excluding demographic questions), bank employee survey (contains 27 questions excluding the demographic questions) and interview (3) distributing the questionnaires and conducting interviews (4) collection of empirical data and obtaining 52 valid responses for customer survey, 61 valid responses for employee survey and 5 managers view of IB through interview.

Chapter 5:

Data Analysis & Outcomes

5.1 Introduction:

The main objective of this chapter is to describe the data analysis and to demonstrate the results of the study. The statistical analyses of the data collected from the questionnaires have been presented in two sections within this chapter: the first section presents the analyses of data pertaining to the internet banking adoption and customer satisfaction with the usage of internet banking; and the second section presents the evaluation of the managers and staff perceptions toward internet banking implications.

For data analyses, statistical significance and correlation tests were conducted using SPSS software to justify the hypotheses. The null hypothesis in this research is that the variables are independent. Significance test was to assess whether the sample chosen is really from the population or it is selected by chance and also to examine whether the variables are dependent or independent and if the association is significant or insignificant. Since the data is discreet and non directional, Pearson Chi-square/ two-sided has been used. Where the probability is low enough (typically $p < 0.05$ or $p < 0.01$ or $p < 0.001$), the null hypothesis is rejected and concluded that the variables are dependent and the association is significant hence the conclusion can be generalized from the sample to the population.

Correlation test was applied to investigate whether the variables are correlated and to ensure that the significance test applied through Chi-square test is reliable. Where the correlation coefficient r is between 0.5 and 1.0 the correlation is considered in this dissertation as large or strong; if the correlation coefficient r is between 0.30 and 0.49 the correlation is medium or modest; if the correlation coefficient r is less than 0.30 then the correlation is weak and there is no correlation between variables if the correlation coefficient r is 0.00.

The findings from the first section related to customer survey are summarized below briefly.

- 1) The following data analyses findings are the ones in which the relation between the variables have been found significant and the variables were correlated.
 - Each variable of age (Qi), sex (Qii), education (Qiv), customer knowledge (Q1 and Q2), accessibility to the internet (Q3), prior experience with internet (Q4), having control (Q7) and time saving (Q8) found to be associated with internet banking adoption (Q5).
 - Each variable of having control (Q7), cost saving (Q9), responsiveness (Q11), simplicity of use (Q16) and navigation (Q17) found to be significant in customer satisfaction (Q28).
 - Customer satisfaction (Q28) is associated with customer retention (Q29).
- 2) The data analyses in which the relations between the variables were significant in the Chi-square test but were not significant in the correlation test and the variables were correlated weakly have been added to the appendix D.

- The relation of each factor of reliability (Q12) and easy to understand (Q18) with customer satisfaction (Q28) were significant in Chi-square test, however the relations were not significant in the correlation test and their association were weak.
- 3) The data analyses findings in which the relations between variables neither were significant nor correlated, have been appended in the appendix D and the summary of the results are as below:
- No association found for each factor of Marital (Qiii), income (Qv), cost saving (Q9), convenience (Q10) with internet banking adoption (Q5).
 - No association found for each factor of time saving (Q8), convenience (Q10), trust (Q13), competence (Q14), communication (Q15), controlling and managing (Q19), speed (Q20), privacy (Q21), security (Q22), contents (Q23, Q24), product portfolio (Q25, Q26, Q27) with customer satisfaction (Q28).

The findings from the first section related to bank employees' survey are summarized below briefly. The following pairs of questions are associated with each other and have a significant relation.

Q6 (Perceived Usefulness-specific tasks) is associated with Q7 (Perceived Usefulness-job performance); Q8 (Efficiency & Effectiveness-minimizing queues), Q9 (Efficiency & Effectiveness-competitive position) and Q10 (Efficiency & Effectiveness-extra workload) are associated with each other; Q11(Security-fraud is difficult) is associated with Q12 (Security-detecting fraud); Q15 (Satisfaction-complaints) is associated with Q17 (Satisfaction-improved satisfaction); Q18 (Cost-employee reduction) is associated with Q19 (Cost-operating cost); Q20 (Profitability-volume of sale) is associated with Q21 (Profitability-customer retention); Q22 (Market Effects-competition) is associated with Q23 (Market Effects-service differentiation).

5.2 Internet banking adoption and customer satisfaction with the usage of internet banking:

In this section analyses have been employed on the data obtained from the customer survey questionnaires. Summary of the gathered data from the customer questionnaire is represented in the table below:

Descriptive Statistics												
	N	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age	52	1	4	93	1.79	.138	.997	.994	1.063	.330	.010	.650
Income	50	1	4	96	1.92	.117	.829	.687	.825	.337	.507	.662
Q1	52	1	2	101	1.94	.033	.235	.055	-3.908	.330	13.799	.650
Q2	52	1	4	146	2.81	.087	.627	.394	-2.316	.330	4.771	.650
Q3	52	1	3	146	2.81	.073	.525	.276	-2.743	.330	6.600	.650
Q4	52	1	4	152	2.92	.060	.436	.190	-3.382	.330	14.786	.650
Q5	52	1	3	140	2.69	.101	.729	.531	-1.976	.330	1.980	.650
Q6	52	1	4	129	2.48	.154	1.111	1.235	-.351	.330	-1.358	.650
Q7	51	1	4	143	2.80	.105	.749	.561	-1.146	.333	1.495	.656
Q8	52	2	4	154	2.96	.047	.341	.116	-.677	.330	6.210	.650
Q9	52	1	4	151	2.90	.096	.693	.481	-1.339	.330	2.848	.650
Q10	51	1	4	151	2.96	.093	.662	.438	-.819	.333	1.974	.656
Q11	52	1	4	147	2.83	.094	.678	.460	-.560	.330	.867	.650
Q12	52	1	4	153	2.94	.080	.574	.330	-1.300	.330	4.489	.650
Q13	52	1	4	147	2.83	.086	.617	.381	-.402	.330	.799	.650
Q14	51	1	4	132	2.59	.102	.726	.527	-.483	.333	.066	.656
Q15	52	1	4	147	2.83	.081	.585	.342	-1.802	.330	4.279	.650
Q16	52	1	4	145	2.79	.084	.605	.366	-.981	.330	1.893	.650
Q17	52	1	4	148	2.85	.093	.668	.446	-1.046	.330	2.052	.650
Q18	52	1	4	142	2.73	.092	.660	.436	-.498	.330	.586	.650
Q19	52	1	4	147	2.83	.090	.648	.420	-.718	.330	1.364	.650
Q20	52	1	4	145	2.79	.104	.750	.562	-.499	.330	.337	.650
Q21	52	1	4	145	2.79	.092	.667	.445	-.559	.330	.826	.650
Q22	51	1	4	124	2.43	.126	.900	.810	-.472	.333	-.870	.656
Q23	52	1	4	136	2.62	.096	.690	.477	-.805	.330	.436	.650
Q24	52	1	4	131	2.52	.112	.804	.647	-.300	.330	-.349	.650
Q25	52	1	4	122	2.35	.109	.789	.623	-.462	.330	-.806	.650
Q26	52	1	4	136	2.62	.117	.844	.712	-.175	.330	-.455	.650
Q27	52	1	4	137	2.63	.123	.886	.785	-.426	.330	-.442	.650
Q28	52	2	4	156	3.00	.073	.524	.275	.000	.330	.913	.650
Q29	52	1	4	151	2.90	.088	.634	.402	-1.841	.330	4.854	.650
Valid N (listwise)	46											

5.2.1 Findings for Hypotheses 1:

H1: Demographic characteristics influence customer acceptance of internet banking.

In order to justify hypothesis 1, the results from demographic questions (Age, Gender, Marital Status and Income) and question 5 (internet banking (IB) adoption) are considered in the analysis.

According to the results obtained from the data analysis below, the relation between age and Q5 (IB adoption) is significant and they have a negative correlation. The relation between education and IB adoption (Q5) is significant and they have a positive correlation and also sex is significant in the IB adoption. Gender and income are not significant in IB adoption.

Qi. 'Age' * Q5. 'IB-Adoption':

- Qi. Age domains: between 18 to 30; between 31 to 40; between 41 to 50; over 51.
- Question 5 (Q5): I use online banking. (Demonstrates whether the respondent uses internet banking).

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.986 ^a	3	.029
Likelihood Ratio	6.771	3	.080
Linear-by-Linear Association	6.659	1	.010
N of Valid Cases	52		

a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is .77.

Correlations

		Age	Q5
Age	Pearson Correlation	1	-.361**
	Sig. (2-tailed)		.008
	N	52	52
Q5	Pearson Correlation	-.361**	1
	Sig. (2-tailed)	.008	
	N	52	52

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

The two variables (Qi. 'Age' * Q5. 'IB-Adoption') when cross-tabulated are significant and moderate Chi-Square ($\chi = 8.99$, $p < 0.05$). Using Pearson correlation test, the variables are negatively and moderately associated ($r = -0.361$) and significant ($p < 0.01$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=52 cases and nothing is missing.

Qii. 'Gender' * Q5. 'IB-Adoption':

- Sex: male and female.
- Question 5 (Q5): I use online banking. (Demonstrates whether the respondent uses internet banking).

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	17.634 ^a	1	.000		
Continuity Correction ^b	14.183	1	.000		
Likelihood Ratio	15.993	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	52				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.15.

b. Computed only for a 2x2 table

The two variables (Qii. 'Gender' * Q5. 'IB-Adoption') when cross-tabulated are strongly significant and high Chi-Square ($\chi = 17.63$, $p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=52 cases and nothing is missing.

Qiv. 'Education Level' * Q5. 'IB-Adoption':

- Education domain: diploma or higher diploma; bachelor; Master; PHD or higher.
- Question 5 (Q5): I use online banking. (Demonstrates whether the respondent uses internet banking).

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.006 ^a	3	.019
Likelihood Ratio	9.999	3	.019
N of Valid Cases	52		

a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is .15.

The two variables (Qiv. 'Education Level' * Q5. 'IB-Adoption') when cross-tabulated are significant and moderate Chi-Square ($\chi = 10.006$, $p < 0.05$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=52 cases and nothing is missing.

5.2.1.1 Conclusion H1:

By eliminating the variables marital status and monthly income, hypothesis 1 is accepted.

5.2.2 Findings for Hypotheses 2:

H2: User factors influence customer acceptance of internet banking.

In order to justify hypothesis 2, user factors including Customer Knowledge, Customer Accessibility to Internet and Prior Experience of Customer with Internet which are encapsulated in questions one, two, three and four along with questions five pertaining to user acceptance of internet banking will be analysed.

- Question 1 (Q1): I am aware of online banking. (Identifies whether the respondent is aware of internet banking)
- Question 2 (Q2): I know how to use online banking. (Identifies whether the respondent knows how to use internet banking)
- Question 3 (Q3): I have access to internet at least twice a week. (Identifies if the respondent have access to internet)
- Question 4 (Q4): I have been using internet for more than one year. (Identifies if the respondent has prior experience with internet)
- Question 5 (Q5): I use online banking. (Demonstrates whether the respondent uses internet banking).

According to the results obtained from the data analyses below, customer knowledge (Q1, Q2), accessibility to the internet (Q3) and prior experience with the internet (Q4) are significant in the IB adoption (Q5) and each of the mentioned factors is correlated with the IB adoption.

Q1. 'IB-Awareness' * Q5. 'IB-Adoption':

- Question 1 (Q1): I am aware of online banking.

- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	17.510 ^a	1	.000	.003	.003
Continuity Correction ^b	11.292	1	.001		
Likelihood Ratio	12.354	1	.000		
Fisher's Exact Test					
Linear-by-Linear Association	17.173	1	.000		
N of Valid Cases	52				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .46.

b. Computed only for a 2x2 table

Correlations

		Q1	Q5
Q1	Pearson Correlation	1	.580**
	Sig. (2-tailed)		.000
	N	52	52
Q5	Pearson Correlation	.580**	1
	Sig. (2-tailed)	.000	
	N	52	52

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

The two variables (Q1. 'IB-Awareness' * Q5. 'IB-Adoption') when cross-tabulated are strongly significant and high Chi-Square ($\chi = 17.51$, $p < 0.001$). Using Pearson correlation test, the variables are positively and strongly associated ($r = 0.58$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=52 cases and nothing is missing.

Q2. 'IB-Usage' * Q5. 'IB-Adoption':

- Question 2 (Q2): I know how to use online banking.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.743 ^a	2	.000
Likelihood Ratio	31.204	2	.000
Linear-by-Linear Association	40.030	1	.000
N of Valid Cases	51		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .14.

Correlations

		Q2	Q5
Q2	Pearson Correlation	1	.895**
	Sig. (2-tailed)		.000
	N	51	51
Q5	Pearson Correlation	.895**	1
	Sig. (2-tailed)	.000	
	N	51	51

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

The two variables (Q2. 'IB-Usage' * Q5. 'IB-Adoption') when cross-tabulated are strongly significant and very high Chi-Square ($\chi = 42.74$, $p < 0.001$). Using Pearson correlation test, the variables are positively and strongly associated ($r = 0.89$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=51 cases and one is missing.

Q3. 'Access' * Q5. 'IB-Adoption':

- Question 3 (Q3): I have access to internet at least twice a week.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.243 ^a	2	.000
Likelihood Ratio	13.155	2	.001
Linear-by-Linear Association	15.964	1	.000
N of Valid Cases	52		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .46.

Correlations

		Q3	Q5
Q3	Pearson Correlation	1	.559**
	Sig. (2-tailed)		.000
	N	52	52
Q5	Pearson Correlation	.559**	1
	Sig. (2-tailed)	.000	
	N	52	52

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

The two variables (Q3. 'Access' * Q5. 'IB-Adoption') when cross-tabulated are strongly significant and high Chi-Square ($\chi = 18.24$, $p < 0.001$). Using Pearson correlation test, the variables are positively and strongly associated ($r = 0.56$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=52 cases and nothing is missing.

Q4. 'Internet-Usage' * Q5. 'IB-Adoption':

- Question 4 (Q4): I have been using internet for more than one year.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.524 ^a	2	.023
Likelihood Ratio	5.369	2	.068
Linear-by-Linear Association	4.276	1	.039
N of Valid Cases	51		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .16.

Correlations

		Q4	Q5
Q4	Pearson Correlation	1	.292*
	Sig. (2-tailed)		.037
	N	51	51
Q5	Pearson Correlation	.292*	1
	Sig. (2-tailed)	.037	
	N	51	51

*. Correlation is significant at the 0.05 level (2-tailed).

The two variables (Q4. 'Internet-Usage' * Q5. 'IB-Adoption') when cross-tabulated are significant and moderate Chi-Square ($\chi = 7.52$, $p < 0.05$). Using Pearson correlation test, the variables are positively and weakly associated ($r = 0.29$) and significant ($p < 0.05$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=51 cases and one is missing.

5.2.2.1 Conclusion for the findings of H2:

According to the data analysis which has been discussed above, it is found that user factors including customer knowledge, customer accessibility to internet and prior experience of customer with internet influences customer acceptance of internet banking and they are the key factors and prerequisites of adopting IB. Hence hypothesis 2 is accepted and supported and the result can be generalized from the sample to the population.

5.2.3 Findings for Hypotheses 3:

H3: User perception of usefulness influences customer acceptance of internet banking.

In order to justify hypothesis three, factors such as perception of having control, time saving, cost saving, convenience which are included in the questions seven, eight, nine and ten along with questions five are considered and analysed.

- Question 7 (Q7): Online banking enables me to be fully involved in my banking transactions. (Evaluates user control over his transactions.)
- Question 8 (Q8): Online banking is time saving. (Evaluates whether users perceive usage of internet banking comparing to the traditional banking is time saving.)
- Question 9 (Q9): Online banking cost is much lower than traditional banking. (Evaluates if users find usage of internet banking more economical and cost saving comparing to the traditional banking.)
- Question 10 (Q10): Transactions through online banking are more convenient. (Evaluates if the users discover accomplishing transactions through internet banking more convenient than walking to the banks.)
- Question 5 (Q5): I use online banking. (Demonstrates whether the respondent uses internet banking.)

Results obtained from the data analyses below shows that factors such as having control (Q7) and time saving (Q8) have significant relation with the IB adoption, however cost saving (Q9) and convenience (Q10) are not significant in the IB adoption.

Q7. ‘Having Control’ * Q5. ‘IB-Adoption’:

- Question 7 (Q7): Online banking enables me to be fully involved in my banking transactions.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.145 ^a	2	.000
Likelihood Ratio	9.724	2	.008
Linear-by-Linear Association	13.111	1	.000
N of Valid Cases	46		

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .22.

Correlations

		Q7	Q5
Q7	Pearson Correlation	1	.540**
	Sig. (2-tailed)		.000
	N	46	46
Q5	Pearson Correlation	.540**	1
	Sig. (2-tailed)	.000	
	N	46	46

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

The two variables (Q7. ‘Having Control’ * Q5. ‘IB-Adoption’) when cross-tabulated are strongly significant and high Chi-Square ($\chi = 17.15$, $p < 0.001$). Using Pearson correlation test, the variables are positively and strongly associated ($r = .540$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=46 cases and 6 are missing.

Q8. 'Time Saving' * Q5. 'IB-Adoption':

- Question 8 (Q8): Online banking is time saving.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	16.341 ^a	1	.000	.004	.004
Continuity Correction ^b	10.500	1	.001		
Likelihood Ratio	10.014	1	.002		
Fisher's Exact Test					
Linear-by-Linear Association	16.015	1	.000		
N of Valid Cases	50				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .48.

b. Computed only for a 2x2 table

Correlations

		Q8	Q5
Q8	Pearson Correlation	1	.572**
	Sig. (2-tailed)		.000
	N	50	50
Q5	Pearson Correlation	.572**	1
	Sig. (2-tailed)	.000	
	N	50	50

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

The two variables (Q8. 'Time Saving' * Q5. 'IB-Adoption') when cross-tabulated are strongly significant and high Chi-Square ($\chi = 16.34$, $p < 0.001$). Using Pearson correlation test, the variables are positively and strongly associated ($r = .57$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=50 cases and 2 are missing.

5.2.3.1 Conclusion of the findings of H3:

According to the data analysis which has been discussed above, it is found that user perception of usefulness from the perspective of time saving, and control influences customer acceptance of internet banking but perception of usefulness from the aspects of cost saving and convenience does not influence the IB adoption. Hence hypothesis 3 is partially supported and the result can be generalized from the sample to the population.

5.2.4 Findings for Hypothesis 4:

H4: User perception of usefulness influences customer satisfaction.

In order to justify hypothesis four, factors such as control, time saving, cost saving, convenience which are included in the questions seven, eight, nine and ten along with questions 28 are considered and analysed.

- Question 7 (Q7): Online banking enables me to be fully involved in my banking transactions. (Evaluates user control over his transactions.)
- Question 8 (Q8): Online banking is time saving. (Evaluates whether users perceive usage of internet banking comparing to the traditional banking is time saving.)
- Question 9 (Q9): Online banking cost is much lower than traditional banking. (Evaluates if users find usage of internet banking more economical and cost saving comparing to the traditional banking.)
- Question 10 (Q10): Transactions through online banking are more convenient. (Evaluates if the users discover accomplishing transactions through internet banking more convenient than walking to the banks.)
- Question 28 (Q28): I am satisfied with online banking. (Identifies if the customer is satisfied with the usage of internet banking.)

The results obtained from the data analyses below demonstrate that the factors of having control (Q7) and cost saving (Q9) are significant in the customer satisfaction (Q28), however time saving (Q8) and convenience (Q10) are not significant in the customer satisfaction.

Q7. ‘Having Control’ * Q28. ‘Satisfaction’:

- Question 7 (Q7): Online banking enables me to be fully involved in my banking transactions.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.173 ^a	2	.000
Likelihood Ratio	16.020	2	.000
Linear-by-Linear Association	20.182	1	.000
N of Valid Cases	44		

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .68.

Correlations

		Q7	Q28
Q7	Pearson Correlation	1	.685**
	Sig. (2-tailed)		.000
	N	44	44
Q28	Pearson Correlation	.685**	1
	Sig. (2-tailed)	.000	
	N	44	44

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

The two variables (Q7. ‘Having Control’ * Q28. ‘Satisfaction’) when cross-tabulated are strongly significant and very high Chi-Square ($\chi^2=22.17$, $p<0.001$). Using Pearson correlation test the variables are positively and strongly associated ($r=0.69$) and significant ($p<0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=44 cases and 8 are missing.

Q9. 'Cost Saving' * Q28. 'Satisfaction':

- Question 9 (Q9): Online banking cost is much lower than traditional banking.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.511 ^a	2	.005
Likelihood Ratio	7.012	2	.030
Linear-by-Linear Association	4.180	1	.041
N of Valid Cases	42		

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .36.

Correlations

		Q9	Q28
Q9	Pearson Correlation	1	.319*
	Sig. (2-tailed)		.039
	N	42	42
Q28	Pearson Correlation	.319*	1
	Sig. (2-tailed)	.039	
	N	42	42

*. Correlation is significant at the 0.05 level (2-tailed).

The two variables (Q9. 'Cost Saving' * Q28. 'Satisfaction') when cross-tabulated are significant and medium Chi-Square ($\chi = 10.51$, $p < 0.01$). Using Pearson correlation test the variables are positively and moderately associated ($r = 0.32$) and significant ($p < 0.05$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=42 cases and 10 are missing.

5.2.4.1 Conclusion H4:

According to the results obtained from the data analysis, it is found that user perception of usefulness from the aspects of having control and cost saving influences customer satisfaction but convenience and time saving are not very influential in customer satisfaction therefore hypothesis 4 is partially accepted and it can be generalized to the population.

5.2.5 Findings of the hypothesis 5:

H5: Customer service quality influences customer satisfaction.

In order to justify hypothesis five, the influence of customer service quality from the aspects of responsiveness, reliability, trust, competence and communication on customer satisfaction will be analysed, for this purpose questions 11, 12, 13, 14 and 15 will be analysed and compared with question 28.

- Question 11 (Q11): Prompt services are provided to my requests. (Evaluates the user perception toward service responsiveness.)
- Question 12 (Q12): Retrieved data and my transactions are always accurate. (Evaluates the perception of the users regarding the reliability of the retrieved data)
- Question 13 (Q13): Information offered in the website is sincere and honest. (Evaluates the trust of the users toward the available information on the website.)
- Question 14 (Q14): Employees have adequate knowledge to reply to my questions. (Evaluates user perception toward the employees' competence.)
- Question 15 (Q15): I can ask my inquiries through phone banking or email. (Evaluates user access to customer service for any inquiries.)
- Question 28 (Q28): I am satisfied with online banking. (Identifies if the customer is satisfied with the usage of internet banking.)

The results obtained from the data analyses below show that only the responsiveness (Q11) is significant in customer satisfaction (Q28) and the reliability (Q12), trust (Q13), competence (Q14) and communication (Q15) are not significant in the customer satisfaction.

Q11. ‘Responsiveness’ * Q28. ‘Satisfaction’:

Question 11 (Q11): Prompt services are provided to my requests.

Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.292 ^a	2	.026
Likelihood Ratio	5.922	2	.052
Linear-by-Linear Association	4.094	1	.043
N of Valid Cases	41		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .10.

Correlations

		Q11	Q28
Q11	Pearson Correlation	1	.320*
	Sig. (2-tailed)		.041
	N	41	41
Q28	Pearson Correlation	.320*	1
	Sig. (2-tailed)	.041	
	N	41	41

*. Correlation is significant at the 0.05 level (2-tailed).

The two variables (Q11. ‘Responsiveness’ * Q28. ‘Satisfaction’) when cross-tabulated are significant and moderate Chi-Square ($\chi = 7.29$, $p < 0.05$). Using Pearson correlation test the variables are positively and weakly associated ($r = 0.320$) and significant ($p < 0.05$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=41 cases and 11 are missing.

5.2.5.1 Conclusion H5:

According to the results obtained from the analysis, customer service quality from the perspective of responsiveness is significant and influences customer satisfaction. Customer service quality from the aspects of reliability, trust, competence and communication are not very significant and will not influence the customer satisfaction considerably.

5.2.6 Findings for Hypothesis 6:

H6: Online information quality influences customer satisfaction.

In order to justify the above hypothesis, online information quality from the aspects of usability, privacy, security and contents will be analysed and compared with the user satisfaction. Usability itself includes five factors of simplicity of use, navigation, controlling and managing, easy to understand and speed. For this purpose questions from 16 to 24 will be assessed along with question 28. Questions 16 to 20 are for evaluating usability, question 21 is for evaluating privacy, question 22 is for evaluating security, questions 23 and 24 are for assessing contents and question 28 indicates user satisfaction.

- Question 16 (Q16): Using the bank's website is simple, even for the first time. (Evaluates the user perception toward the simplicity of using the website.)
- Question 17 (Q17): The organization and structure of online content is easy to follow and know where I am when navigating. (Evaluates the perception of the user toward navigation in the website.)
- Question 18 (Q18): In this website everything is easy to understand. (Evaluates if the website is easy to understand.)
- Question 19 (Q19): When I am navigating this website, I feel I am in control of what I can do. (Evaluates whether the user have control while navigating in the website.)
- Question 20 (Q20): Moving between pages is fast. (Evaluates the speed of moving between website pages.)
- Question 21 (Q21): Bank will not misuse my personal information. (Evaluates the user perception toward privacy.)
- Question 22 (Q22): I feel secure in providing sensitive information for online transactions. (Evaluates the user perception toward security.)
- Question 23 (Q23) and Question 24 (Q24): Evaluates the user perception toward the content of the website.
 - Q23: The content of the website is concise and easy to understand.
 - Q24: Adequate explanation is provided regarding services/products.
- Question 28 (Q28): I am satisfied with online banking. (Identifies if the customer is satisfied with the usage of the internet banking.)

The obtained results show that simplicity of use (Q16) and navigation (Q17) are significant in the customer satisfaction (Q28), however being easy to understand (Q18), controlling (Q19) and speed (Q20), privacy (Q21), security (Q22) and contents (Q23, Q24) are not significant in customer satisfaction.

Q16. ‘Simplicity of Use’ * Q28. ‘Satisfaction’:

- Question 16 (Q16): Using the bank’s website is simple, even for the first time.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.513 ^a	2	.039
Likelihood Ratio	4.787	2	.091
Linear-by-Linear Association	4.549	1	.033
N of Valid Cases	45		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .16.

Correlations

		Q16	Q28
Q16	Pearson Correlation	1	.322*
	Sig. (2-tailed)		.031
	N	45	45
Q28	Pearson Correlation	.322*	1
	Sig. (2-tailed)	.031	
	N	45	45

*. Correlation is significant at the 0.05 level (2-tailed).

The two variables (Q16. ‘Simplicity of Use’ * Q28. ‘Satisfaction’) when cross-tabulated are significant and moderate Chi-Square ($\chi = 6.51$, $p < 0.05$). Using Pearson correlation test the variables are positively and moderately associated ($r = 0.32$) and significant ($p < 0.05$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship

can be generalized from the sample to the population. This result is based on N=45 cases and 7 are missing.

Q17. ‘Navigation’ * Q28. ‘Satisfaction’:

- Question 17 (Q17): The organization and structure of online content is easy to follow and know where I am when navigating.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.991 ^a	2	.011
Likelihood Ratio	6.464	2	.039
Linear-by-Linear Association	7.948	1	.005
N of Valid Cases	43		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .14.

Correlations

		Q17	Q28
Q17	Pearson Correlation	1	.435**
	Sig. (2-tailed)		.004
	N	43	43
Q28	Pearson Correlation	.435**	1
	Sig. (2-tailed)	.004	
	N	43	43

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

The two variables (Q17. ‘Navigation’ * Q28. ‘Satisfaction’) when cross-tabulated are significant and moderate Chi-Square ($\chi = 8.99, p < 0.05$). Using Pearson correlation test the variables are positively and moderately associated ($r = 0.435$) and significant ($p < 0.01$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=43 cases and 9 are missing.

5.2.6.1 Conclusion H6:

According to the above data analysis results, usability from the aspects of simplicity of use and navigation influence the customer satisfaction. The remaining scales of online information quality do not have significant influence on customer satisfaction.

5.2.7 Findings for Hypothesis 7:

H7: Product portfolio influences customer satisfaction.

In order to justify the above hypothesis, the impact of product portfolio from the aspects of useful free services, product/ service variety and diverse features on user satisfaction will be evaluated. Therefore questions 25, 26 and 27 along with question 28 will be analysed.

- Question 25 (Q25): The bank offers free useful services. (Identifies if the bank offers free useful services.)
- Question 26 (Q26): Bank provides wide ranges of product packages. (Evaluates if the bank offers wide range of product packages.)
- Question 27 (Q27): The bank provides services with features I want. (Identifies if the bank provides services with the user required features.)
- Question 28 (Q28): I am satisfied with online banking. (Identifies if the customer is satisfied with the usage of internet banking.)

5.2.7.1 Conclusion H7:

According to the obtained results, product portfolio is not significant in user satisfaction, hence hypothesis 7 is rejected.

5.2.8 Findings for Hypothesis 8:

H8: Customer satisfaction is positively related to customer loyalty and retention

In order to justify the above hypothesis questions 28 and 29 will be assessed and evaluated.

- Question 28 (Q28): I am satisfied with online banking. (Identifies if the customer is satisfied with the usage of internet banking.)
- Question 29 (Q29): I will continue using online banking. (Identifies whether the user will continue the usage of internet banking.)

The Result below shows that customer satisfaction (Q28) is highly correlated with the purchase intention of the user with the IB usage (Q29) and their relation is significant.

Q28. ‘Satisfaction’ * Q29. ‘Loyalty’:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.449 ^a	2	.000
Likelihood Ratio	12.483	2	.002
Linear-by-Linear Association	15.714	1	.000
N of Valid Cases	45		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .16.

Correlations

		Q28	Q29
Q28	Pearson Correlation	1	.598**
	Sig. (2-tailed)		.000
	N	45	45
Q29	Pearson Correlation	.598**	1
	Sig. (2-tailed)	.000	
	N	45	45

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

The two variables (Q28. 'Satisfaction' * Q29. 'Loyalty') when cross-tabulated are strongly significant and high Chi-Square ($\chi^2=17.45, p<0.001$). Using Pearson correlation test the variables are positively and moderately associated ($r=0.598$) and significant ($p<0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=45 cases and 7 are missing.

5.2.8.1 Conclusion H8:

Hypothesis 8 is accepted and found that customer satisfaction is positively related to customer retention and loyalty.

5.3 Managers and staffs' perception toward online banking implications

The analyses below have been applied on the **employees' survey**.

5.3.1 Findings for Hypothesis 9:

H9: Bank employees perceive internet banking useful.

In order to justify the above hypothesis, questions six and seven will be considered.

- Question 6 (Q6): Using online banking enables my bank to accomplish specific tasks more quickly. (Identifies if the bank can save time by using internet banking.)
- Question 7 (Q7): Using online banking has improved my job performance. (Identifies if applying internet banking improves staffs' performance.)

Q6 ‘Perceived Usefulness-specific tasks’ * Q7 ‘Perceived Usefulness-job performance’:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.325 ^a	4	.000
Likelihood Ratio	19.335	4	.001
Linear-by-Linear Association	14.104	1	.000
N of Valid Cases	59		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .34.

Correlations

		Q6	Q7
Q6	Pearson Correlation	1	.493**
	Sig. (2-tailed)		.000
	N	59	59
Q7	Pearson Correlation	.493**	1
	Sig. (2-tailed)	.000	
	N	59	59

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

The two variables (Q6 ‘Perceived Usefulness-specific tasks’ * Q7 ‘Perceived Usefulness-job performance’) when cross-tabulated are highly significant and very high Chi-Square ($\chi = 30.33$, $p < 0.001$). Using Pearson correlation test the variables are positively and moderately associated ($r = .493$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=59 cases and 2 are missing.

5.3.1.1 Conclusion H9:

According to the results, we accept hypothesis 9 which indicates bank employees perceive internet banking useful.

5.3.2 Findings for Hypothesis 10:

H10: Bank employees perceive internet banking efficient and effective.

In order to justify hypothesis 10 we do consider questions eight, nine and ten.

- Question 8 (Q8): Online banking has minimized the queues in branches. (Identifies if internet banking minimizes the banks' queues.)
- Question 9(Q9): Online banking services enhance bank's competitive position in the market. (Identifies if internet banking enhances bank's competitive position in the market.)
- Question 10 (Q10): Online banking has reduced extra workload on staffs. (Analysis if internet banking has reduced extra workload on staffs.)

Q8 'Efficiency & Effectiveness-minimizing queues' * Q9 'Efficiency & Effectiveness-competitive position':

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	32.893 ^a	4	.000
Likelihood Ratio	26.256	4	.000
Linear-by-Linear Association	21.333	1	.000
N of Valid Cases	55		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .27.

(Q10 ‘Efficiency & Effectiveness-extra workload’ * Q9 ‘Efficiency & Effectiveness-competitive position’):

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.859 ^a	4	.000
Likelihood Ratio	19.158	4	.001
Linear-by-Linear Association	16.044	1	.000
N of Valid Cases	55		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .27.

Q8 ‘Efficiency & Effectiveness-minimizing queues’ * Q10 ‘Efficiency & Effectiveness-extra workload’:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	44.427 ^a	4	.000
Likelihood Ratio	32.457	4	.000
Linear-by-Linear Association	18.509	1	.000
N of Valid Cases	55		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .16.

Correlations

		Q8	Q9	Q10
Q8	Pearson Correlation	1	.629**	.585**
	Sig. (2-tailed)		.000	.000
	N	55	55	55
Q9	Pearson Correlation	.629**	1	.545**
	Sig. (2-tailed)	.000		.000
	N	55	55	55
Q10	Pearson Correlation	.585**	.545**	1
	Sig. (2-tailed)	.000	.000	
	N	55	55	55

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

The two variables (Q8 ‘Efficiency & Effectiveness-minimizing queues’ * Q9 ‘Efficiency & Effectiveness-competitive position’) when cross-tabulated are strongly significant and very high Chi-Square ($\chi = 32.89$, $p < 0.001$). (Q8 ‘Efficiency & Effectiveness-minimizing queues’ * Q10 ‘Efficiency & Effectiveness-extra workload’) when cross-tabulated are strongly significant and very high Chi-Square ($\chi = 24.86$, $p < 0.001$). (Q10 ‘Efficiency & Effectiveness-extra workload’ * Q9 ‘Efficiency & Effectiveness-competitive position’) when cross-tabulated are strongly significant and very high Chi-Square ($\chi = 44.43$, $p < 0.001$). Using Pearson correlation test the variables are positively and strongly associated (Q8*Q9: $r = 0.63$, Q8*Q10: $r = 0.585$, Q9*Q10: $r = 0.545$) and strongly significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=55 cases and 6 are missing.

5.3.2.1 Conclusion H10:

According to above conclusions we do accept hypothesis 10 which indicates bank employees perceive internet banking efficient and effective.

5.3.3 Findings for Hypothesis 11:

H11: Bank employees believe that security issues are no longer matter of concern.

In order to justify the above hypothesis questions 11 and 12 will be analysed.

- Question 11(Q11): Fraud is very difficult through online banking. (Identifies if fraud is difficult.)
- Question 12(Q12): In case of any fraud, it is easily detected. (Identifies in case of any fraud, it is detectable easily.)

Q11 ‘Security-fraud is difficult’ * Q12 ‘Security-detecting fraud’:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.063 ^a	4	.000
Likelihood Ratio	34.588	4	.000
Linear-by-Linear Association	12.360	1	.000
N of Valid Cases	61		

a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is 1.77.

Correlations

		Q11	Q12
Q11	Pearson Correlation	1	.454**
	Sig. (2-tailed)		.000
	N	61	61
Q12	Pearson Correlation	.454**	1
	Sig. (2-tailed)	.000	
	N	61	61

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

5.3.3.1 Conclusion H11:

The two variables (Q11 'Security-fraud is difficult' * Q12 'Security-detecting fraud') when cross-tabulated are highly significant and very high Chi-Square ($\chi = 37.06$, $p < 0.001$). Using Pearson correlation test the variables are positively and moderately associated ($r = .454$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on $N=61$ cases and nothing is missing.

5.3.4 Findings for Hypothesis 12:

H12: Bank employees believe that internet banking increases customer satisfaction.

In order to justify the above hypothesis we consider and analyse questions 15 and 17.

- Question 15 (Q15): Customer complaints have reduced as a result of the introduction of online banking. (Identifies if customer complaints have reduced as a result of internet banking)
- Question 17(Q17): Online banking has improved customer service and satisfaction. (Identifies if internet banking has improved customer service and satisfaction)

Q15 ‘Satisfaction-complaints’ * Q17 ‘Satisfaction-improved satisfaction’:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.510 ^a	4	.000
Likelihood Ratio	34.576	4	.000
Linear-by-Linear Association	12.952	1	.000
N of Valid Cases	55		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .33.

Correlations

		Q15	Q17
Q15	Pearson Correlation	1	.490 ^{**}
	Sig. (2-tailed)		.000
	N	55	55
Q17	Pearson Correlation	.490 ^{**}	1
	Sig. (2-tailed)	.000	
	N	55	55

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

5.3.4.1 Conclusion H12:

The two variables (Q15 ‘Satisfaction-complaints’ * Q17 ‘Satisfaction-improved satisfaction’) when cross-tabulated are highly significant and very high Chi-Square ($\chi = 43.51$, $p < 0.001$). Using Pearson correlation test the variables are positively and moderately associated ($r = .49$) and significant ($p < 0.001$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=65 cases and 6 are missing.

5.3.5 Findings for Hypothesis 13:

H13: Bank employees believe that internet banking will reduce overall cost.

In order to justify the above hypothesis questions 18 and 19 will be considered and analysed.

- Question 18 (Q18): Online banking has reduced number of employees. (Identifies whether the internet banking has reduced number of employees.)
- Question 19 (Q19): Online banking has reduced daily operating costs. Such as: (transaction costs, physical distribution costs, reducing paper work, human error and subsequent customer dispute. (Identifies whether internet banking has reduced daily operating costs.)

Q18 ‘Cost-employee reduction’ * Q19 ‘Cost-operating cost’:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.457 ^a	4	.033
Likelihood Ratio	8.447	4	.077
Linear-by-Linear Association	6.180	1	.013
N of Valid Cases	59		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .41.

Correlations

		Q18	Q19
Q18	Pearson Correlation	1	.326*
	Sig. (2-tailed)		.012
	N	59	59
Q19	Pearson Correlation	.326*	1
	Sig. (2-tailed)	.012	
	N	59	59

*. Correlation is significant at the 0.05 level (2-tailed).

5.3.5.1 Conclusion H13:

The two variables (Q18 'Cost-employee reduction' * Q19 'Cost-operating cost') when cross-tabulated are significant and medium Chi-Square ($\chi = 110.46$, $p < 0.05$). Using Pearson correlation test the variables are positively and moderately associated ($r = 0.33$) and significant ($p < 0.05$). The null hypothesis is rejected and there is a moderate level of confidence that the relationship can be generalized from the sample to the population. This result is based on $N=59$ cases and 2 are missing.

5.3.6 Findings for Hypothesis 14:

H14: Bank employees perceive internet banking profitable for bank.

In order to justify the above hypothesis questions 20 and 21 will be analysed.

- Question 20 (Q20): Online banking has increased the volume of sale. (Identifies if internet banking has increased the volume of the sale.)
- Question 21 (Q21): Online banking has helped to increase and retain customers of the bank. (Identifies if internet banking has increased and retained bank customers.)

Q20 'Profitability-volume of sale' * Q21 'Profitability-customer retention':

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.044 ^a	4	.000
Likelihood Ratio	24.105	4	.000
Linear-by-Linear Association	9.348	1	.002
N of Valid Cases	60		

a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is .40.

Correlations

		Q20	Q21
Q20	Pearson Correlation	1	.398**
	Sig. (2-tailed)		.002
	N	60	60
Q21	Pearson Correlation	.398**	1
	Sig. (2-tailed)	.002	
	N	60	60

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

5.3.6.1 Conclusion H14:

The two variables (Q20 'Profitability-volume of sale' * Q21 'Profitability-customer retention') when cross-tabulated are strongly significant and high Chi-Square ($\chi = 25.04$, $p < 0.001$). Using Pearson correlation test the variables are positively and moderately associated ($r = 0.398$) and significant ($p < 0.01$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=60 cases and 1 is missing.

5.3.7 Findings for Hypothesis 15:

H15: Bank employees believe that internet banking increases market effects.

In order to justify the above hypothesis questions 22 and 23 will be analysed.

- Question 22 (Q22): Online banking increases competition in the market. (Indicates if internet banking increases competition in the market.)
- Question 23 (Q23): Online banking provides opportunities for service differentiation. (Indicates if internet banking provides opportunities for service differentiation.)

Q22 ‘Market Effects-competition’ * Q23 ‘Market Effects-service differentiation’:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.788 ^a	4	.000
Likelihood Ratio	21.010	4	.000
Linear-by-Linear Association	8.734	1	.003
N of Valid Cases	61		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .49.

Correlations

		Q22	Q23
Q22	Pearson Correlation	1	.382**
	Sig. (2-tailed)		.002
	N	61	61
Q23	Pearson Correlation	.382**	1
	Sig. (2-tailed)	.002	
	N	61	61

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

5.3.7.1 Conclusion H15:

The two variables (Q22 ‘Market Effects-competition’ * Q23 ‘Market Effects-service differentiation’) when cross-tabulated are strongly significant and very high Chi-Square ($\chi = 23.79$, $p < 0.001$). Using Pearson correlation test the variables are positively and moderately associated ($r = 0.382$) and significant ($p < 0.01$). The null hypothesis is rejected and there is a high level of confidence that the relationship can be generalized from the sample to the population. This result is based on N=61 cases and nothing is missing.

5.4 Resulted Model:

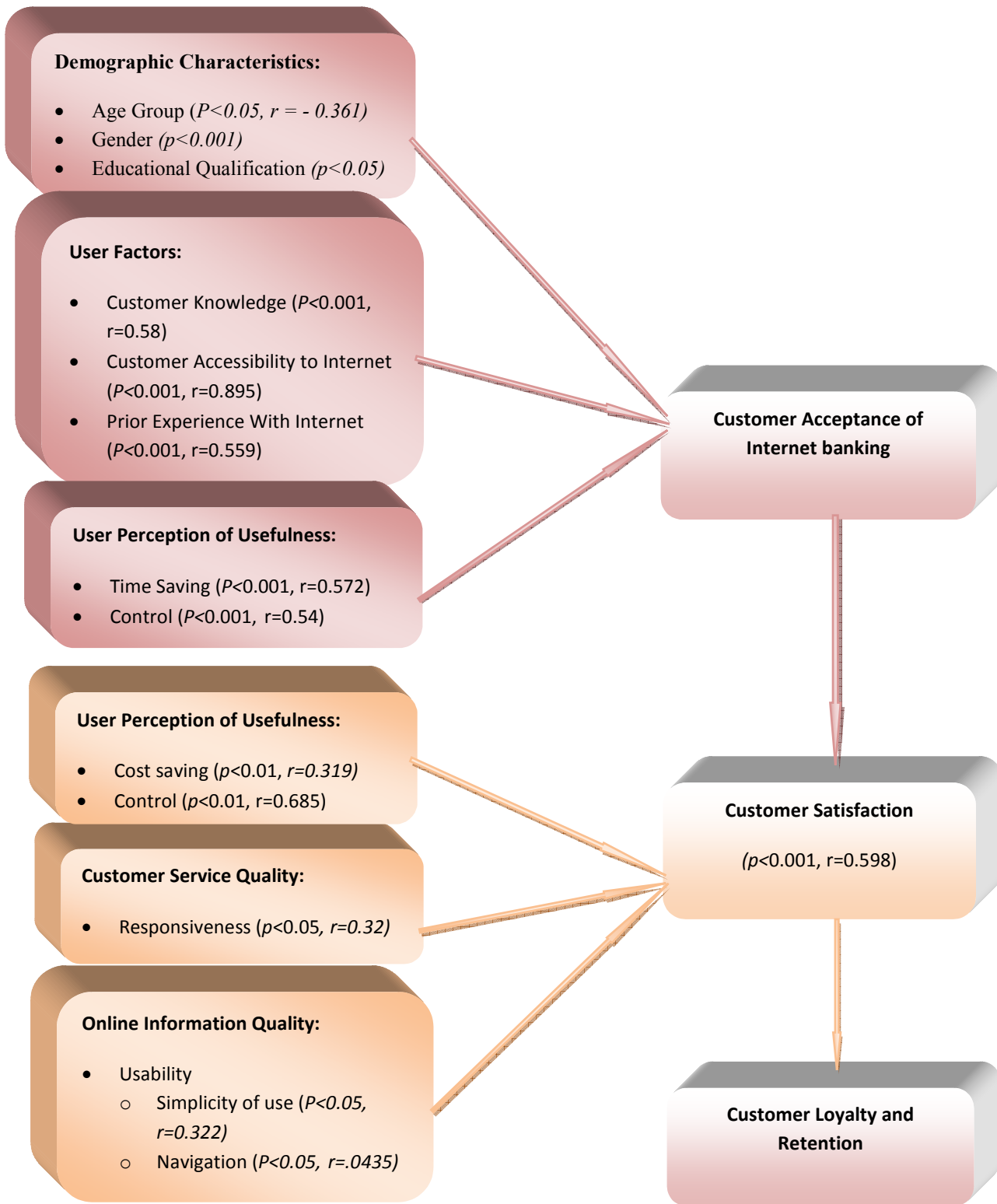


Figure 5. 1 Augmented Model of IB-Adoption and Customer Loyalty

5.5 Findings of internet banking interviews:

Topic of discussions	Sub topics	X : Project Manager-Alternative channels	X: Head of Online Banking	X: Customer Service Manager	Y: Branch Manager and Assistant Branch Manager	Z: Branch Manager
Major challenges & difficulties that bank has faced with internet banking	IT Related Problems	<ul style="list-style-type: none"> Their software is in house and IT problems are prevented By previous & précised planning and estimating 	<ul style="list-style-type: none"> It is in house software And there is no specific infrastructure problem as the problems are handled and resolved immediately. Technical infrastructure needs regular planning. 	<ul style="list-style-type: none"> Lack of having enough educated staffs with IT back ground in helpdesk for assisting internet banking users Security should be enhanced via users Extra workload Number of online subscribers and users are increasing daily while number of back office staffs for processing the requests are constant therefore requests are getting delayed. 	<ul style="list-style-type: none"> Encouraging customers to use internet banking (mandatory opening of online banking account for all customers) Four years earlier educating online users was a problem but now this problem has decreased considerably Website is very user friendly so there is no problem with the usage. 	<ul style="list-style-type: none"> Customer awareness and skills of using internet banking is the problem which the bank is facing with.
	Other Problems	<ul style="list-style-type: none"> Handled problems including: Dealing with different platforms, software development, different data bases, middleware dealing with both sides (server & user), traffic, bandwidth, overload, integration, interfacing, mapping and operating system Cost is eliminated There is no security problem It causes extra workload As it is user friendly, there is no problem to use. 				
Perception of managers toward internet banking from the aspects of efficiency, effectiveness and profitability	Cost	<ul style="list-style-type: none"> Overall reduces cost Disagrees reducing number of employees due to the establishing new segments, new staffs are required 	<ul style="list-style-type: none"> Reduces cost. It does not reduce number of employees. 	<ul style="list-style-type: none"> Reduces cost Reduces front desk employees 	<ul style="list-style-type: none"> Reduces cost 	<ul style="list-style-type: none"> Reduces cost Reduces number of employees
	Efficiency & Effectiveness	<ul style="list-style-type: none"> Efficiency & effectiveness has enhanced. Improves customer service and reduces paperwork, errors and customer dispute Focus is changing from individual transactions to corporate transactions. 	<ul style="list-style-type: none"> Improves customer service Reduces paper work, errors and customer dispute Minimizes the queues in the branches Helps staffs to be more sales oriented and cross selling rather than processing and doing small 	<ul style="list-style-type: none"> It is fast Fewer visitors therefore minimized queues. Reduces errors Less paper works therefore keeps the staff to approach sales goals 	<ul style="list-style-type: none"> Improves customer service Reduces paper works Minimizes queues in the branches as some requests such as remittance applications can be filled online. Saves 	<ul style="list-style-type: none"> Improves customer service Reduces paper works and errors Minimizes queues Helps staffs to focus more on sale rather than paper works and small services

			inquiries.		employees time	
	Customer Satisfaction	<ul style="list-style-type: none"> • Increase of the number of subscribers very fast is an evidence of increasing customer satisfaction. 	<ul style="list-style-type: none"> • Has Increased customer satisfaction 	<ul style="list-style-type: none"> • Customer satisfaction increases. • Reduces number of customer visits of the branch • Reduces the customers' need for calling customer service. 	<ul style="list-style-type: none"> • Increases customer satisfaction • Customers do not need to walk to the branches • It is free of charges • Online services are available 24 hours, seven days of the week and throughout the world 	<ul style="list-style-type: none"> • Saves customers' time therefore Increases their satisfaction
	Perceived Usefulness	<ul style="list-style-type: none"> • Enables employees to accomplish tasks more quickly and efficiently • Has improved job performance. 	<ul style="list-style-type: none"> • Eliminates unneeded works 	<ul style="list-style-type: none"> • Employees can accomplish their own tasks more quickly and efficiently 	<ul style="list-style-type: none"> • Helps staffs to accomplish some tasks more quickly and efficiently • Improves productivity 	<ul style="list-style-type: none"> • Enables employees to accomplish their tasks more quickly and efficiently • Improves job performance
	Bank Profitability	<ul style="list-style-type: none"> • It is a long term strategic benefits for acquiring business. • Increases sale and profitability. Subscribers and the number of transactions and payments are increasing month by month. • Increases and retains banks customers. 	<ul style="list-style-type: none"> • It is alternative mode of doing work • Increases sale 	<ul style="list-style-type: none"> • Increases sale and profitability • Increases and retains customers of the bank 	<ul style="list-style-type: none"> • Increases sale and profitability • Increases and retains customers 	<ul style="list-style-type: none"> • Increases sale and profitability • By increasing customer satisfaction, tendency of changing their current bank will decrease and also they will be a source of advertisement for obtaining new customers
	Market Effects	<ul style="list-style-type: none"> • Has increased competition in the market. • Improves bank image. 	<ul style="list-style-type: none"> • Increases competition • Improves bank image 	<ul style="list-style-type: none"> • Increases competition in the market. • A good and very secured internet banking improves bank 	<ul style="list-style-type: none"> • Improves bank image 	<ul style="list-style-type: none"> • Increases competition in the market

				image		
Managers perception toward further improvement		<ul style="list-style-type: none"> • Improvement should be applied every day. • There is no need for user training, if the users know how to use PC, Microsoft word and internet explorer they can use internet banking. 	<ul style="list-style-type: none"> • Always improvement should be sought and it is an ongoing activity. • Always we have to monitor technology improvement and enhance website features and security. • Process to be modified proactively • Providing demo for users to make them aware of all the products 	<ul style="list-style-type: none"> • Adding features through which sales can be accomplished. • Educating customers and online users of how fraud can happen in order to increase security. 	<ul style="list-style-type: none"> • Keep on enhancing website features whenever new product is launched. • Keep on enhancing security. 	<ul style="list-style-type: none"> • Providing training for customers how to use internet banking

Table 5. 1 Managers' Interview

5.6 Summary of chapter:

This chapter presented the analysis and findings of the collected data in three sections. Analysing data was performed by employing the statistical significance and correlation tests on the customer and employee surveys. First section contains the analysis of the data obtained from the customer survey and resulted in the reduction of the variables presented in the generated model in chapter 4, from 12 to 8 variables in customer adoption of IB and from 20 to 5 variables in user satisfaction. Second section contains the analysis of the data obtained from the employee survey and in the third section the results obtained from the interview with managers are presented in the table 5.1.

Chapter 6:

Discussions and Conclusions:

6.1 Introduction of Chapter:

In this chapter statistical results obtained from chapter 5 are discussed. Since results acquired from the “Managers and staffs' perception toward online banking implications” section perceived to be highly significant reason in identifying factors influencing the customer adoption of IB and the users loyalty to the usage of IB, the statistical results gained from this section has been preferred to be discussed first and analysing the customer survey results to be latter.

6.2 Banks employees' survey and managers' interview:

In this section the results obtained for each hypothesis pertaining to the employees' and managers' perception of IB have been discussed. The table below presents the summary of the results obtained for hypotheses 9 to 15 in the chapter 5. It summarizes the status of the each hypothesis (whether the hypothesis was accepted or rejected) along with the Chi-Square and correlation results and influential variables.

Hypotheses	Result	Influential Variables
H9: Perceived Usefulness	Accepted $r=0.49, p<.001$	Accomplishing tasks quickly, job performance
H10: Efficiency & Effectiveness	Accepted $r= 0.585, 0.629, p<0.001$	Minimizing queues, reducing extra workload, competitive position in the market
H11: Security	Accepted $r=0.45, p< 0.001$	Fraud is difficult, it is easily detected
H12: Customer Satisfaction	Accepted $r=0.49, p< 0.001$	Reducing complaints, increasing satisfaction
H13: Overall Cost	Accepted $r=0.33, p< 0.05$	Reducing number of employees, reducing daily operating costs
H14: Bank Profitability	Accepted $r=0.398, p< 0.01$	Increasing volume of sales, increasing and retaining customers
H15: Market Effects	Accepted $r=0.38, p< 0.01$	Increasing competition in the market, Service differentiation

Table 6. 1 Results of Employee Survey

According to the results obtained from the data analysis section and hypothesis justifications, hypothesis 9 which indicates “Bank employees perceive internet banking useful” was

accepted. Bank employees perceive internet banking a source of help in accomplishing certain tasks more quickly and believe that it has improved their job performance. Managers did also affirm that usage of internet banking eliminates unnecessary works and enables employees to fulfill their own tasks more quickly and efficiently which enhances productivity. Ghasemi (2007) has also proved the same result.

According to the approved hypothesis 10 which is supported by Trethwan and Scullion(1997) and Yang et al (2007) bank employees perceive internet banking efficient and effective from the perspectives of enhancing banks' competitive position in the market and reducing the number of customers visiting the branches resulting in minimizing the queues and workloads. Furthermore managers perceive usage of internet banking efficient and effective and believe that since internet banking enables customers to fulfill their transactions online via the internet, it reduces the number of customers' visits from the branches which results in reducing paper works and errors caused by human mistakes, saving employees' time by eliminating unneeded jobs and enabling them to focus on corporate transactions and sales rather than individual transactions. Accordingly the new focused area will assist banks to have a better competitive position in the market.

According to hypothesis 11 which was accepted through data analysis, bank employees believe that security issues are no longer matter of concern. Managers also believed that their websites are very secure and transactions can be fulfilled without any concern and the fraud may happen just due to the inadequacy of user knowledge and cautiousness and they believe users should be trained and warned regarding the probable ways of fraud which may occur due to their lack of knowledge and cautiousness. They also believe that security enhancement should be sought proactively and daily as the technology improvement is an ongoing process and avenues for fraud can be discovered any time by the fraudulent. The findings correspond with Yang et al (2007) and contradict with the findings of Ghasemi (2007). Yang et al (2007) believed that security has been improved and threats toward internet banking have decreased considerably however Ghasemi (2007) believed that security is one of the main factors in adopting internet banking.

After data analysis and evaluation of hypothesis 12, we concluded that bank employees believe that internet banking increases customer satisfaction which is consistent with White and Thornton (2001), Yang et al (2007) and Mols (1998). Managers affirmed that internet banking by reducing the number of customers' visits from the branches, saving their time, decreasing costs, enabling customers to access to the bank services 24 hours a day, seven days a week and from any part of the world free of charges and reducing their needs from contacting customer service, increases customer satisfaction and they believe that increasing the number of subscribers for internet banking is an evidence of increasing customer satisfaction as satisfied customers are themselves source of advertisement for using internet banking.

In hypothesis 13, it was assessed whether employees believe that internet banking reduces costs. Cost is being analysed from two perspectives: cost incurred by employees' expenses and cost incurred through bank daily operating costs. Majority of the employees and all the managers affirm that internet banking reduces banks' daily operating costs such as transaction costs, physical distribution costs, reducing paper works, human error and subsequent customer disputes and is consistent with the findings of Yang et al (2007), Ghasemi (2007), Geyskens et al (2000) and Kiang et al., (2000). Cost from the aspect of employees' expenses, in the data analysis section was concluded that internet banking reduces number of employees consequently reduces the costs but managers disaccord that internet banking reduces number of employees and incurred costs which is in contradict with Lymperopoulos and Chaniotakis (2004) and Trethwan and Scullion (1997) findings . They believe that it decreases front desk employees but it increases the number of back offices employees for processing online requests and IT department employees to maintain and support online section. But they believed that bank overall cost is reduced due to the employing internet banking. Therefore we do accept hypothesis 13 which indicates bank employees believe that internet banking reduces overall costs.

According to the conclusion obtained from analysing hypothesis 14 in previous section, bank employees perceive internet banking profitable for bank and they do believe that it increases volume of sale and number of customers and has been supported by the findings of Kimball and Gregor (1995), Geyskens et al (2000) and Mols (1998). Managers affirm that internet banking is an alternative mode of doing works which assists increasing sale and profitability and they believe that it is a long term strategic benefits for acquiring business. They also stated that internet banking by obtaining and retaining customers, increases profitability. Therefore hypothesis 14 is accepted.

Hypothesis 15 which indicates "bank employees believe that internet banking increases market effects" was accepted after data analysis and is in consistent with the findings of Ghasemi (2007) and Lymperopoulos and Chaniotakis (2004). Majority of the employees believe that internet banking increases competition in the market and provides opportunities for service differentiation. Managers also believe that internet banking has increased competition in the market and good and more secured internet banking improves bank image.

Results shows that majority of the bank customers are aware of the existence of internet banking but not all of them know how to use it. Most of the managers and employees believe that training should be provided for customers in order to guide and teach them how to use internet banking. Also demo should be provided for users to aware them of all the products.

Majority of the employees believe that banks should increase variety of online products and services and should enhance website features. Managers believe that improvement is an ongoing activity which always should be sought. Process should be modified proactively. Technology improvements have to be monitored everyday and website features should be

enhanced accordingly especially whenever a new product is launched website features should be enhances. One of the managers suggested that bank should provide features through which sales can be accomplished therefore profitability will increase more.

Having all the understanding and analysis gained from the findings in relation to the banks' employees and managers' perception toward internet banking, it is obvious that how momentous the internet banking is. Considering and perceiving internet banking being useful, efficient and effective, cost saving, profitable and enhancing market effects, shows that how significant for the banks is to discover the factors impacting bank customers to accept internet banking and more important to find out the factors which impacts customer retention.

In the following section results obtained from the data analysis pertaining to the bank customer survey which investigates factors impacting customer acceptance of internet banking and factors affecting customer retention is discussed and concluded.

6.3 Banks' customer survey:

In this section the results obtained for each hypothesis pertaining to the IB adoption and user loyalty toward IB have been discussed. The table below presents the summary of the results obtained for hypotheses 1 to 8 in the chapter 5. It summarizes the status of the each hypothesis (whether the hypothesis was accepted or rejected) along with the Chi-Square and correlation results and influential variables.

Hypotheses	Result	Influential Variables
H1: Demographic (IB-ADP: IB Adoption)	Accepted (Reduction in the variables) $P < 0.05$	Age ($r = -0.361$), Gender ($p < 0.001$), Educational qualifications ($p < 0.05$)
H2: User factors (IB-ADP)	Accepted $P < 0.001$	Customer Knowledge ($r = 0.58$), Accessibility to internet ($r = 0.895$), Prior experience ($r = 0.559$).
H3: Perception of Usefulness (IB-ADP)	Accepted (Reduction in the variables) $P < 0.001$	Time saving ($r = 0.572$), control ($r = 0.54$)
H4: Perception of Usefulness (C-SAT: Customer Satisfaction)	Accepted (Reduction in the variables) $p < 0.01$	Cost saving ($r = 0.319$), Control ($r = 0.685$)
H5: Service Quality (C-SAT)	Accepted (Reduction in the variables) $p < 0.05$	Responsiveness ($r = 0.32$)
H6: Information Quality (C-SAT)	Accepted (Reduction in the variables) $P < 0.05$	Usability (Simplicity of use ($r = 0.322$), Navigation ($r = 0.0435$))
H7: Product Portfolio (C-SAT)	Rejected $p > 0.05$	
H8: User Loyalty	Accepted $p < 0.001$	Customer Satisfaction ($r = 0.598$)

Table 6. 2 Results of Customer Survey

According to the findings by eliminating marital status and monthly income from the variables of hypothesis 1, we accept hypothesis 1 which indicates demographic characteristics are influential on customer acceptance of internet banking. Scales considered in the demographic characteristics and related conclusions are as below:

Demographic Scales	Conclusions
Age	Younger people tend to accept internet banking more than the older people.
Gender	Males tend to accept internet banking more than females.
Marital Status	No correlation has been found between marital status and IB adoption.
Educational Qualification	Educated people with higher degree tend to accept internet banking more than others.
Monthly Income	No correlation has been found between monthly income and IB adoption.

Table 6. 3 Demographic Results

Table 6.1 shows that younger and educated people tend to adopt internet banking more than the others (refer to the appendix E) which is consistent with the findings of Sathye (1999), Kolodinsky et al (2004) and Gan et al (2006), income does not have influence on internet banking adoption which is consistent with Gan et al (2006), however it is in contradiction with the findings of Sathye (1999), Kolodinsky et al (2004) in which indicated that customers with higher income are more inclined to adopt internet banking but it is in contradiction finding. Therefore demographic characteristics including age, gender and educational qualification are significant factors in accepting internet banking. According to the results hypothesis 2 which indicates “User factors impact customer acceptance of internet banking” was accepted. Customer knowledge, customer accessibility to internet and prior experience with internet are significant factors and the prerequisites of user acceptance of internet banking. Taylor and Todd (1995) also proved that prior experience impacts customer expectation and perception toward the usage of internet banking. According to Sathye (1999) absence of awareness of service and its benefits are barriers toward customers’ adaptation of online banking in Australia.

In the hypothesis 3, user perception of usefulness influences customer acceptance of internet banking, user perception of usefulness was assessed based on the scales of time saving, cost saving, control and convenience. Time saving and control found to be influential in IB adoption, however cost saving and convenience are not significant in IB adoption. Globerson and Maggard (1991) also found out that out of seven factors, time saved, money saved and convenience were the three major determinants for customers choosing self-service options, however in our findings convenience is not significant. Meuter et al.(2002) have also claimed that time saving is one of the main factors in accepting internet banking. The more the customers perceive internet banking is useful, the more they tend to adopt internet banking.

In assessing the hypothesis 4 which states that “User perception of usefulness influences customer satisfaction”, cost saving and having control found to be significant in customer

satisfaction, however time saving and convenience are not influential in the IB adoption. By removing the variables of time saving and convenience, hypothesis 4 is accepted. The more the users perceive internet banking is cost saving and feel they have control, the more they are satisfied. The results obtained are also consistent with the findings of Meuter et al.(2002) from the aspect of cost saving and are inconsistent from the aspects of time saving and convenience. Meuter et al.(2002) found out that convenience, time saving, ease of use and financial saving have positive impact on creation of value for customers which itself is significant in customer satisfaction with using internet banking.

In assessing the hypothesis 5 which states “Customer service quality influences customer satisfaction”, responsiveness found to be significant in customer satisfaction however the reliability, trust, competence and communication facilities are not influential, hence hypothesis 5 is accepted by having just one scale which is responsiveness. Rod et al (2009), Yang et al (2004) and Jun and Cai(2001) also found that responsiveness is momentous in customer satisfaction. Responsiveness has a positive correlation with customer satisfaction and as it increases and is enhanced, the customers are more satisfied.

According to the findings, online information quality from the aspect of usability consisting of the variables simplicity of use and navigation are momentous in customer satisfaction and have positive correlation with customer satisfaction. Usability (easy to understand, control and speed), security, privacy and content are not significant in customer satisfaction, therefore hypothesis 6 which states that “Online information quality influences customer satisfaction” was accepted based on the scale of usability (simplicity of use and navigation). Rod et al (2009), Yang et al (2004), Jun and Cai (2001) and Jun et al (2003) also found that simplicity of use and navigation are significant in customer satisfaction.

Assessing the impact of the product portfolio from the aspects of free useful services, product and service variety and diverse features on the customer satisfaction, shows that offering free useful services, having a variety of products/ services and diverse features are not significant in customer satisfaction, therefore hypothesis 7 which indicates “product portfolio influences customer satisfaction” was rejected which is in contradict with the findings of Rod et al (2009) and Yang et al (2004).

Results shows that the more customers are satisfied the more they tend to stay with their current banks the more reluctant they are to change their bank. Therefore hypothesis 8 which indicates “customer satisfaction is positively related to customer loyalty and retention” was accepted.

6.4 Recommendations and implications for practitioners:

Concerned practitioners should study and reflect on the factors affecting customer adoption of internet banking and customer retention. They need to employ the appropriate strategies to increase the number of online users and strengthen their loyalty to internet banking in order to enhance the bank's efficiency and effectiveness, market effects and profitability. Some recommendations which banks, bank managers, bank employees, customer service employees and customers can apply for using internet banking are highlighted below (A systematic set of detailed recommendations for each hypothesis is available in Appendix E)

Banks:

Banks should study the research findings which identify and clarify the reasons for the negative impact on each scale contributed by the demographic characteristics on internet banking adoption. In particular, it seems that banks will need to find solutions and motivate more customers to adopt internet banking (IB). For example, banks should identify why older customers, females and uneducated people are more reluctant to engage in the adoption of internet banking adoption and find ways that IB can be made more attractive to these large groups of more reluctant user. Potential reasons for the rejection of IB adoption by the lower educated or by females or older customers may relate to anxiety or fear caused by unfamiliarity with the internet and the associated risks. Hence banks are highly recommended to provide the customers with training for using internet banking and educate and assist them to become more aware of the risks involved with the use of IB in order to reduce customers' fear and enhance their confidence. (Derived from H1)

Bank should try to offer online facilities at the lowest possible cost and provide more cost incentives to create value for the users, enhance their perception of usefulness and increase their satisfaction. (Derived from H4)

Banks should employ qualified employees who are able to respond to users' inquiries promptly and accurately and educate them in the area where skill training is required in order to increase users' satisfaction. (Derived from H5)

Banks' website design should be simple and easy to navigate in order to increase the customer satisfaction. Also, they should enhance online customer service quality, online information quality and should increase the users' perception of the relevance and importance of IB. Banks must increase customer satisfaction in the area of IB as well as in other areas of service in order to retain the current customers who are currently loyal to the bank and through IB usage use that as an important component for maintaining a long-term relationship with them. (Derived from H6, H8)

Banks should utilise and expand on the usage of internet banking amongst employees and with customers to reduce the number of walk-in customers to the branches, eliminate unnecessary physical tasks and potential errors caused by human mistakes in these routine

manual tasks, save employees' time and enhance their job performance. These and other changes will enable banks to focus more on corporate transactions and sales to enable them to compete more effectively for a better position in the market and increase productivity and profitability. (Derived from H9, H10)

Specifically in relation to risk management and security, banks should provide training for the internet banking users and alert them to probable techniques of fraud increasing their cautiousness and ability to identify suspicious emails or requests. All banks should proactively monitor improvements in technology inside and outside the organisation and seek to enhance their own security systems accordingly. (Derived from H11)

Bank managers:

Bank managers should enhance the IB system and try to increase the number of online subscribers. This motivates the users to utilise IB in performing their banking transactions and retain current users in order to reduce the overall cost to the bank, increase the volume of the sales, maintain a good image in the market, sustain their competitive position in the market and increase the bank's profitability. (Derived from H13, H14, H15)

Bank employees:

Bank employees should provide prompt and accurate responses to users' inquiries including IB. The customer can in some areas have queries and transactions completed more quickly using IB and this speed of service is likely to satisfy them. Bank employees should also be proactive in seeking training, learning new skills and remaining current on system features and upgrades. (Derived from H5)

Customer service employees:

When customers visit the customer service employees for any inquiries, these employees should ensure that the customers are aware of IB; introduce IB to customers when they are not aware of it; clarify and acquaint them with the benefits of the IB usage; provide them with IB guidelines and brochures prepared by the bank that explain the steps for the using IB; and when agreed, open an online account for customers encouraging them to explore further and learn more about how to use the internet banking facilities. (Derived from H2)

Since time saving and convenience are found to be strong influences on IB adoption, whenever customer service or sales employees are promoting the benefits of IB usage for customers who are not currently using IB, they should emphasise and focus on the two variables of time saving and convenience as these are likely to motivate the customers to use IB. (Derived from H3)

Customers:

Customers should be motivated to become more informed and enthusiastic about the advantages and benefits of using IB. This means developing their awareness of its efficacy and also making IB use more fashionable amongst different target groups of user. Customers should become more proactive in learning the process of IB usage; this requires various forms of IT support tools, help desk and perhaps telephone help facilities.. They should become more alert of the probable ways of fraud and due to their cautiousness avoid breaches of banking security. Customer must try to apply the appropriate procedures and follow advised precautions when engaging in IB transactions.

6.5 Summary of Chapter:

In this chapter the findings have been discussed which includes:

1. The conclusion and discussion of bank managers and employees perception of internet banking implications.
2. Discussion of the derived scales from the literature review and previous research studies in identifying the factors affecting customer adaptation of internet banking and customer retention toward internet banking.
3. Implications and recommendations for bank managers has been presented and highlighted the importance of identifying the scales which affects adaptation of internet banking and retention toward internet banking in order to employ the appropriate strategy to increase the number of online users and strengthen their loyalty to internet banking in order to enhance bank efficiency and effectiveness, market effects and profitability.

Chapter 7:

Future Research and Conclusion:

7.1 Introduction:

In this chapter limitations and unusual results obtained in this study have been discussed and future academic research has been suggested accordingly. Furthermore the overall conclusion of the study according to the research findings has been summarized.

7.2 Future academic research:

In this research, factors influencing customer acceptance of internet banking (IB), factors influencing customer satisfaction and managers' and employees' perception of IB were adopted from the previous research studies in the internet banking field and were used as the basis for conducting the questionnaire survey. The results obtained through the data analysis of the employees' survey and interviews with managers were consistent with findings from the literature review. However in the interviews with managers, they were very positive and biased in favor of their own internet banking system and believed somewhat over-optimistically that they would have no issues in their IB system and assumed it was very secure.

In the results obtained from the customer questionnaire survey, the significant variables and factors influencing IB adoption and customer satisfaction were found to be less than the factors and variables generated from the literature review. Out of the 13 variables which were used for assessing the factors influencing customer adoption of IB, 8 were significant ($p < 0.05$ in this study which is almost reasonable. Out of 20 variables which were used for assessing the factors influencing customer satisfaction, only 5 were significant ($p < 0.05$) in this study which seems to be unusual while comparing to what was expected from the literature review findings. The unexpected reduction of the factors may well have occurred due to the small sample in this data set. Factors such as speed, security and privacy were strongly expected to be influential in user satisfaction, however they were all found to be insignificant. Hence it is recommended to consider these factors in future research using larger samples to identify whether or not they really are not significant in influencing users' satisfaction.

A utilisable and beneficial route for extending knowledge and understanding of the results from this survey would be conducting qualitative research to investigate why the surveyed factors are influential in customer acceptance of IB, customer satisfaction and consequently customer loyalty toward IB. This will then provide a firmer basis for making decisions about the appropriate and most efficient strategies for increasing online customers and developing their loyalty to both IB and the bank and its services.

7.3 Overall conclusion:

Usage of internet banking has significant impacts on the bank's efficiency and effectiveness, market effects and profitability, therefore it is considerably crucial for the banks to identify the factors which influence customers to adopt internet banking and is more significant than that to identify the factors which retains users loyal to the IB usage.

Factors such as Demographic Characteristics (Age, Gender and Educational Qualification), User Factors (Customer Knowledge, Customer Accessibility to Internet and Prior experience with Internet) and User Perception of Usefulness (Time Saving and control) are influential in customer adoption of IB.

Factors such as User Perception of Usefulness (Cost Saving and Control), Customer Service Quality (Responsiveness), Online Information Quality (Usability → Simplicity of use and Navigation) have positive relation with the user satisfaction.

The more the users are satisfied the more they tend to continue having accounts with their current banks and therefore are reluctant to change their banks. Satisfied customers are themselves sources of advertisement and they motivate their friends to join to their banks. So the main and significant factor in retaining old customers and obtaining new customers is customer satisfaction.

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Appendix A:

Customer Questionnaire:

Customer demographic information:

i. How old are you?

- Between 18 to 30
- Between 31 to 40
- Between 41 to 50
- Over 51

ii. What is your gender?

- Male
- Female

iii. What is your marital status?

- Single
- Married
- Divorced
- Widowed

iv. What is your educational qualification?

- Diploma
- Bachelor
- Master
- PHD & Higher

v. What is your monthly income (AED)?

- Below 10,000
- 10,000-25,000
- 26,000-40,000
- Above 41,000

Internet banking questions (Customers):

Each question contained the following 6 scale options for answering: (1) Strongly Disagree (2) Disagree (3) Neither Agree Nor Disagree (4) Agree (5) Strongly Agree (6) I Don't Know.

1. I am aware of online banking.
2. I know how to use online banking.
3. I have access to internet at least twice a week.
4. I have been using internet for more than one year.
5. I use online banking.
6. I use online banking just for viewing my accounts information.
7. Online banking enables me to be fully involved in my banking transactions.
8. Online banking is time saving.
9. Online banking cost is much lower than traditional banking.
10. Transactions through online banking are more convenient.
11. Prompt services are provided to my requests.
12. Retrieved data and my transactions are always accurate.
13. Information offered in the website is sincere and honest.
14. Employees have adequate knowledge to reply to my questions.
15. I can ask my inquiries through phone banking or email.
16. Using the bank's website is simple, even for the first time.
17. The organization and structure of online content is easy to follow and know where I am when navigating.
18. In this website everything is easy to understand.
19. When I am navigating this website, I feel I am in control of what I can do.
20. Moving between pages is fast.
21. Bank will not misuse my personal information.
22. I feel secure in providing sensitive information for online transactions.

- 23. The content of the website is concise and easy to understand.
- 24. Adequate explanation is provided regarding services/products.
- 25. The bank offers free useful services.
- 26. Bank provides wide ranges of product packages.
- 27. The bank provides services with features I want.
- 28. I am satisfied with online banking.
- 29. I will continue using online banking.

Appendix B:

Staff Questionnaire:

Customer demographic information:

i. How old are you?

- Between 18 to 30
- Between 31 to 40
- Between 41 to 50
- Over 51

ii. What is your gender?

- Male
- Female

iii. What is your marital status?

- Single
- Married
- Divorced
- Widowed

iv. What is your educational qualification?

- Diploma
- Bachelor
- Master
- PHD & Higher

v. How many years do you have work experience?

- Less than 1 year
- Between 1 to 10 years
- Between 10 to 20 years
- More than 20 years

Vi. What is your position in branch hierarchy?

- Manager
- Head of department
- Officer
- Other employees

Internet banking questions (Employees):

Each question contained the following 6 scale options for answering: (1) Strongly Disagree (2) Disagree (3) Neither Agree Nor Disagree (4) Agree (5) Strongly Agree (6) I Don't Know.

1. I am not involved in online banking
2. Online banking is easy to use.
3. I have had training courses for using online banking.
4. Majority of customers are aware of the existence of an online banking website.
5. Customers know how to work with online banking.
6. Using online banking enables my bank to accomplish specific tasks more quickly.
7. Using online banking has improved my job performance.
8. Online banking has minimized the queues in branches.
9. Online banking services enhance bank's competitive position in the market.
10. Online banking has reduced extra workload on staffs.
11. Fraud is very difficult through online banking.
12. In case of any fraud, it is easily detected.
13. Customers' inquiries are responded immediately
14. Customers' main inquiries are about usage of online banking.
15. Customer complaints have reduced as a result of the introduction of online banking.
16. Customer complaints have not increased as a result of the introduction of online banking.
17. Online banking has improved customer service and satisfaction.
18. Online banking has reduced number of employees.
19. Online banking has reduced daily operating costs. Such as: (transaction costs, physical distribution costs, reducing paper work, human error and subsequent customer dispute.

20. Online banking has increased the volume of sale.
21. Online banking has helped to increase and retain customers of the bank.
22. Online banking increases competition in the market.
23. Online banking provides opportunities for service differentiation.
24. Bank should increase variety of online products and services.
25. Bank should enhance website features.
26. Bank should increase security.
27. Bank should provide training for users how to use online banking.

Appendix C:

Managers Interview:

What major challenges and difficulties has your bank faced with online banking?

- IT related problems:
 1. Lack of in-house IT professionals.
 2. Need for employment training in IT technology.
 3. Technical infrastructure problems.
 4. Telecommunication infrastructure.
- Other problems:
 5. Innovative nature of online banking.
 - a. No we don't have problem
 6. Expenses. (cost)
 - a. All the projects at the beginning incur cost but the overall outcome is positive and the profit out of it will compensate the expenses.
 7. Security problems.
 - a. Our website is highly secured and we don't have problem.
 8. Extra work load. (efficiency and effectiveness)
 - a. There is no extra workload
 9. Difficult to use
 10. Customers' computer skills. (customer awareness)

What is your perception toward online banking (efficiency, effectiveness, profitability) ?

- Cost:
 1. Reduces costs.
 - a. Yes .
 2. Reduces number of employees.
 - a. Since some transactions can be done online by the customers themselves it will reduce the staffs paperwork

- Efficiency and Effectiveness:
 3. Improves customer service.
 4. Reduces paper work.
 5. Reduces errors and customer disputes.
 6. Minimizes the queues in branches.
 7. Changes profile of bank staff in favor of marketing, IT and more sophisticated services.

- Customer Satisfaction:
 8. Increase Customer satisfaction.

- Perceived usefulness:
 9. Enable employees accomplish specific tasks more quickly and efficiently.
 10. Online banking has improved job performance.

- Bank Profitability:
 11. Increase sale and profitability.
 12. Online banking has helped to increase and retain customers of the bank.

Market Effects:

13. Online banking has increased competition in the market.
14. Online banking improves bank image.

Do you think there is a need for further improvement?

1. Increasing variety of services and products.
2. Enhancing website features.
3. Increase security.
4. Provide training for users how to use online banking.

Appendix D

Data Analysis:

Q v. 'Income' * Q5. 'IB-Adoption':

- Qv. Income domain (AED): below 10,000; 10,000- 25,000; 26,000- 40,000; above 41,000.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.102 ^a	3	.552
Likelihood Ratio	3.504	3	.320
Linear-by-Linear Association	1.206	1	.272
N of Valid Cases	50		

a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is .48.

Correlations

		Income	Q5
Income	Pearson Correlation	1	.157
	Sig. (2-tailed)		.277
	N	50	50
Q5	Pearson Correlation	.157	1
	Sig. (2-tailed)	.277	
	N	50	52

The two variables (Q v. 'Income' * Q5. 'IB-Adoption') when cross-tabulated are not significant and low Chi-Square ($\chi = 2.102$, $p > 0.05$). Using Pearson correlation test, the variables are positively and weakly associated ($r = 0.157$) and significant ($p > 0.05$). The null

hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=50 cases and 2 are missing.

Qii. 'Marital Status' * Q5. 'IB-Adoption':

- Qii. Marital domain (AED): male, female.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.404 ^a	2	.817
Likelihood Ratio	.708	2	.702
N of Valid Cases	52		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .31.

The two variables (Qii. 'Marital Status' * Q5. 'IB-Adoption') when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.404$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=52 cases and nothing is missing.

Q9. 'Cost Saving' * Q5. 'IB-Adoption':

- Question 9 (Q9): Online banking cost is much lower than traditional banking.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.724 ^a	2	.256
Likelihood Ratio	2.209	2	.331
Linear-by-Linear Association	.001	1	.970
N of Valid Cases	46		

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .26.

Correlations

		Q9	Q5
Q9	Pearson Correlation	1	.006
	Sig. (2-tailed)		.970
	N	46	46
Q5	Pearson Correlation	.006	1
	Sig. (2-tailed)	.970	
	N	46	46

The two variables (Q9. 'Cost Saving' * Q5. 'IB-Adoption') when cross-tabulated are not significant and low Chi-Square ($\chi = 2.72$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=46 cases and 6 are missing.

Q10. ‘Convenience’ * Q5. ‘IB-Adoption’:

- Question 10 (Q10): Transactions through online banking are more convenient.
- Question 5 (Q5): I use online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.104 ^a	2	.576
Likelihood Ratio	1.022	2	.600
Linear-by-Linear Association	.118	1	.731
N of Valid Cases	43		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .14.

Correlations

		Q10	Q5
Q10	Pearson Correlation	1	.053
	Sig. (2-tailed)		.736
	N	43	43
Q5	Pearson Correlation	.053	1
	Sig. (2-tailed)	.736	
	N	43	43

The two variables (Q10. ‘Convenience’ * Q5. ‘IB-Adoption’) when cross-tabulated are not significant and low Chi-Square ($\chi = 1.104$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=43 cases and 9 are missing.

Q8. 'Time Saving' * Q28. 'Satisfaction':

- Question 8 (Q8): Online banking is time saving.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.162 ^a	1	.688	1.000	.864
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.297	1	.586		
Fisher's Exact Test					
Linear-by-Linear Association	.158	1	.691		
N of Valid Cases	44				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .14.

b. Computed only for a 2x2 table

Correlations

		Q8	Q28
Q8	Pearson Correlation	1	-.061
	Sig. (2-tailed)		.696
	N	44	44
Q28	Pearson Correlation	-.061	1
	Sig. (2-tailed)	.696	
	N	44	44

The two variables (Q8. 'Time Saving' * Q28. 'Satisfaction') when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.162$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=44 cases and 8 are missing.

Q10. ‘Convenience’ * Q28. ‘Satisfaction’:

- Question 10 (Q10): Transactions through online banking are more convenient.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.801 ^a	1	.094	.154	.154
Continuity Correction ^b	1.008	1	.315		
Likelihood Ratio	2.210	1	.137		
Fisher's Exact Test					
Linear-by-Linear Association	2.731	1	.098		
N of Valid Cases	40				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .75.

b. Computed only for a 2x2 table

Correlations

		Q10	Q28
Q10	Pearson Correlation	1	.265
	Sig. (2-tailed)		.099
	N	40	40
Q28	Pearson Correlation	.265	1
	Sig. (2-tailed)	.099	
	N	40	40

The two variables (Q10. ‘Convenience’ * Q28. ‘Satisfaction’) when cross-tabulated are not significant and low Chi-Square ($\chi = 2.801$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=40 cases and 12 are missing.

Q13. 'Trust' * Q28. 'Satisfaction':

- Question 13 (Q13): Information offered in the website is sincere and honest.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.220 ^a	1	.639	.637	.488
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.210	1	.647		
Fisher's Exact Test					
Linear-by-Linear Association	.215	1	.643		
N of Valid Cases	43				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.53.

b. Computed only for a 2x2 table

Correlations

		Q13	Q28
Q13	Pearson Correlation	1	.072
	Sig. (2-tailed)		.648
	N	43	43
Q28	Pearson Correlation	.072	1
	Sig. (2-tailed)	.648	
	N	43	43

The two variables (Q13. 'Trust' * Q28. 'Satisfaction') when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.22$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=43 cases and 9 are missing.

Q14. 'Competence' * Q28. 'Satisfaction':

- Question 14 (Q14): Employees have adequate knowledge to reply to my questions.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.439 ^a	2	.295
Likelihood Ratio	2.285	2	.319
Linear-by-Linear Association	2.378	1	.123
N of Valid Cases	43		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .42.

Correlations

		Q14	Q28
Q14	Pearson Correlation	1	.238
	Sig. (2-tailed)		.124
	N	43	43
Q28	Pearson Correlation	.238	1
	Sig. (2-tailed)	.124	
	N	43	43

The two variables (Q14. 'Competence' * Q28. 'Satisfaction') when cross-tabulated are not significant and low Chi-Square ($\chi = 2.439$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=43 cases and 9 are missing.

Q15. ‘Communication’ * Q28. ‘Satisfaction’:

- Question 15 (Q15): I can ask my inquiries through phone banking or email.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.626 ^a	2	.731
Likelihood Ratio	.911	2	.634
Linear-by-Linear Association	.052	1	.820
N of Valid Cases	44		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .32.

Correlations

		Q15	Q28
Q15	Pearson Correlation	1	-.035
	Sig. (2-tailed)		.823
	N	44	44
Q28	Pearson Correlation	-.035	1
	Sig. (2-tailed)	.823	
	N	44	44

The two variables (Q15. ‘Communication’ * Q28. ‘Satisfaction’) when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.626$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=44 cases and 8 are missing.

Q19. 'Control & Manage' * Q28. 'Satisfaction':

- Question 19 (Q19): When I am navigating this website, I feel I am in control of what I can do.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.822 ^a	2	.663
Likelihood Ratio	.886	2	.642
Linear-by-Linear Association	.202	1	.653
N of Valid Cases	44		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .14.

Correlations

		Q19	Q28
Q19	Pearson Correlation	1	.069
	Sig. (2-tailed)		.658
	N	44	44
Q28	Pearson Correlation	.069	1
	Sig. (2-tailed)	.658	
	N	44	44

The two variables (Q19. 'Control & Manage' * Q28. 'Satisfaction') when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.822, p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=44 cases and 8 are missing.

Q20. 'Speed' * Q28. 'Satisfaction':

- Question 20 (Q20): Moving between pages is fast.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.857 ^a	2	.652
Likelihood Ratio	1.163	2	.559
Linear-by-Linear Association	.000	1	.986
N of Valid Cases	42		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .36.

Correlations

		Q20	Q28
Q20	Pearson Correlation	1	-.003
	Sig. (2-tailed)		.986
	N	42	42
Q28	Pearson Correlation	-.003	1
	Sig. (2-tailed)	.986	
	N	42	42

The two variables (Q20. 'Speed' * Q28. 'Satisfaction') when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.857, p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=42 cases and 10 are missing.

Q21. 'Privacy' * Q28. 'Satisfaction':

- Question 21 (Q21): Bank will not misuse my personal information.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.657 ^a	2	.720
Likelihood Ratio	.904	2	.636
Linear-by-Linear Association	.001	1	.971
N of Valid Cases	43		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .28.

Correlations

		Q21	Q28
Q21	Pearson Correlation	1	.006
	Sig. (2-tailed)		.972
	N	43	43
Q28	Pearson Correlation	.006	1
	Sig. (2-tailed)	.972	
	N	43	43

The two variables (Q21. 'Privacy' * Q28. 'Satisfaction') when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.657$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=43 cases and 9 are missing.

Q22. 'Security' * Q28. 'Satisfaction':

- Question 22 (Q22): I feel secure in providing sensitive information for online transactions.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.655 ^a	2	.437
Likelihood Ratio	2.590	2	.274
Linear-by-Linear Association	.540	1	.462
N of Valid Cases	42		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

Correlations

		Q28	Q22
Q28	Pearson Correlation	1	-.115
	Sig. (2-tailed)		.469
	N	42	42
Q22	Pearson Correlation	-.115	1
	Sig. (2-tailed)	.469	
	N	42	42

The two variables (Q22. 'Security' * Q28. 'Satisfaction') when cross-tabulated are not significant and low Chi-Square ($\chi = 1.655$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=42 cases and 10 are missing.

Q23. ‘Content-easy to understand’ * Q28. ‘Satisfaction’:

- Question 23 (Q23): The content of the website is concise and easy to understand.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.886 ^a	2	.389
Likelihood Ratio	1.843	2	.398
Linear-by-Linear Association	.855	1	.355
N of Valid Cases	44		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .14.

Correlations

		Q23	Q28
Q23	Pearson Correlation	1	.141
	Sig. (2-tailed)		.361
	N	44	44
Q28	Pearson Correlation	.141	1
	Sig. (2-tailed)	.361	
	N	44	44

The two variables (Q23. ‘Content-easy to understand’ * Q28. ‘Satisfaction’) when cross-tabulated are not significant and low Chi-Square ($\chi = 1.886, p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=44 cases and 8 are missing.

Q24. ‘Content-explanation’ * Q28. ‘Satisfaction’:

- Q24: Adequate explanation is provided regarding services/products.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.312 ^a	2	.519
Likelihood Ratio	1.817	2	.403
Linear-by-Linear Association	.009	1	.925
N of Valid Cases	42		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .57.

Correlations

		Q24	Q28
Q24	Pearson Correlation	1	-.015
	Sig. (2-tailed)		.927
	N	42	42
Q28	Pearson Correlation	-.015	1
	Sig. (2-tailed)	.927	
	N	42	42

The two variables (Q24. ‘Content-explanation’ * Q28. ‘Satisfaction’) when cross-tabulated are not significant and low Chi-Square ($\chi = 1.312$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=42 cases and 10 are missing.

Q25. 'Free Services' * Q28. 'Satisfaction':

- Question 25 (Q25): The bank offers free useful services.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.014 ^a	2	.993
Likelihood Ratio	.014	2	.993
Linear-by-Linear Association	.011	1	.915
N of Valid Cases	44		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .95.

Correlations

		Q25	Q28
Q25	Pearson Correlation	1	.016
	Sig. (2-tailed)		.917
	N	44	44
Q28	Pearson Correlation	.016	1
	Sig. (2-tailed)	.917	
	N	44	44

The two variables (Q25. 'Free Services' * Q28. 'Satisfaction') when cross-tabulated are not significant and very low Chi-Square ($\chi = 0.014$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=44 cases and 8 are missing.

Q26. 'Product Range' * Q28. 'Satisfaction':

- Question 26 (Q26): Bank provides wide ranges of product packages.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.733 ^a	2	.255
Likelihood Ratio	3.015	2	.221
Linear-by-Linear Association	.346	1	.556
N of Valid Cases	40		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .45.

Correlations

		Q26	Q28
Q26	Pearson Correlation	1	.094
	Sig. (2-tailed)		.563
	N	40	40
Q28	Pearson Correlation	.094	1
	Sig. (2-tailed)	.563	
	N	40	40

The two variables (Q26. 'Product Range' * Q28. 'Satisfaction') when cross-tabulated are not significant and low Chi-Square ($\chi = 2.733, p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=40 cases and 12 are missing.

Q27. ‘Diverse Features’ * Q28. ‘Satisfaction’:

- Question 27 (Q27): The bank provides services with features I want.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.572 ^a	2	.276
Likelihood Ratio	2.453	2	.293
Linear-by-Linear Association	1.556	1	.212
N of Valid Cases	42		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .71.

Correlations

		Q27	Q28
Q27	Pearson Correlation	1	.195
	Sig. (2-tailed)		.216
	N	42	42
Q28	Pearson Correlation	.195	1
	Sig. (2-tailed)	.216	
	N	42	42

The two variables (Q27. ‘Diverse Features’ * Q28. ‘Satisfaction’) when cross-tabulated are not significant and low Chi-Square ($\chi = 2.572$, $p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=42 cases and 10 are missing.

P<0.05 but not marked as significant in correlation table:

Q12. ‘Reliability’ * Q28. ‘Satisfaction’:

- Question 12 (Q12): Retrieved data and my transactions are always accurate.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.563 ^a	2	.008
Likelihood Ratio	5.940	2	.051
Linear-by-Linear Association	2.980	1	.084
N of Valid Cases	43		

a. 5 cells (83.3%) have expected count less than 5. The minimum expected count is .12.

Correlations

		Q12	Q28
Q12	Pearson Correlation	1	.266
	Sig. (2-tailed)		.084
	N	43	43
Q28	Pearson Correlation	.266	1
	Sig. (2-tailed)	.084	
	N	43	43

The two variables (Q12. ‘Reliability’ * Q28. ‘Satisfaction’) when cross-tabulated are significant and moderate Chi-Square ($\chi = 9.563$, $p < 0.01$). Using Pearson correlation test the variables are positively and weakly associated ($r = 0.266$) however they are not significant ($p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=43 cases, and 9 are missing.

Q18. ‘Easy to Understand’ * Q28. ‘Satisfaction’:

- Question 18 (Q18): In this website everything is easy to understand.
- Question 28 (Q28): I am satisfied with online banking.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.839 ^a	2	.033
Likelihood Ratio	4.525	2	.104
Linear-by-Linear Association	3.142	1	.076
N of Valid Cases	44		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .14.

Correlations

		Q18	Q28
Q18	Pearson Correlation	1	.270
	Sig. (2-tailed)		.076
	N	44	44
Q28	Pearson Correlation	.270	1
	Sig. (2-tailed)	.076	
	N	44	44

The two variables (Q18. ‘Easy to Understand’ * Q28. ‘Satisfaction’) when cross-tabulated are significant and moderate Chi-Square ($\chi = 6.839$, $p < 0.05$). Using Pearson correlation test the variables are positively and very weakly associated ($r = 0.27$) however they are not significant ($p > 0.05$). The null hypothesis is not rejected and the relationship cannot be generalized from the sample to the population. This result is based on N=44 cases and 8 are missing.

Appendix E

Recommendations for each hypothesis:

H1: Demographic characteristics influence customer acceptance of internet banking.

Banks should identify and clarify the reasons for the negative impact on each scale contributed by the demographic characteristics on internet banking adoption. In particular, it seems that banks will need to find solutions and motivate more customers to adopt internet banking (IB). For example, banks should identify why older customers, females and uneducated people are more reluctant to engage in the adoption of internet banking adoption and find ways that IB can be made more attractive to these large groups of more reluctant user. Potential reasons for the rejection of IB adoption by the lower educated or by females or older customers may relate to anxiety or fear caused by unfamiliarity with the internet and the associated risks. Hence banks are highly recommended to provide the customers with training for using internet banking and educate and assist them to become more aware of the risks involved with the use of IB in order to reduce customers' fear and enhance their confidence.

Bank should try to offer online facilities at the lowest possible cost and provide more cost incentives to create value for the users, enhance their perception of usefulness and increase their satisfaction.

H2: User factors impacts customer acceptance of internet banking.

When customers visit the customer service employees for any inquiries, these employees should ensure that the customers are aware of IB; introduce IB to customers when they are not aware of it; clarify and acquaint them with the benefits of the IB usage; provide them with IB guidelines and brochures prepared by the bank that explain the steps for the using IB; and when agreed, open an online account for customers encouraging them to explore further and learn more about how to use the internet banking facilities.

H3: User perception of usefulness influences customer acceptance of internet banking.

Since time saving and convenience are found to be strong influences on IB adoption, whenever customer service or sales employees are promoting the benefits of IB usage for customers who are not currently using IB, they should emphasize and focus on the two

variables of time saving and convenience as these are likely to motivate the customers to use IB.

H4: User perception of usefulness influences customer satisfaction.

Since cost saving and having control while using internet banking have been found to be influential in the customer satisfaction, bank should try to offer online facilities at the lowest possible cost and provide more cost incentives to create value for the users, enhance their perception of usefulness and increase their satisfaction.

H5: Customer service quality influences customer satisfaction.

Bank employees should provide prompt and accurate responses to users' inquiries to satisfy them. The customer can in some areas have queries and transactions completed more quickly using IB and this speed of service is likely. In order to achieve these objective banks should employ qualified employees for this position and educate them in the area where skill training is required. Bank employees should also be proactive in seeking training, learning new skills and remaining current on system features and upgrades.

H6: Online information quality influences customer satisfaction.

Banks' website design should be simple and easy to navigate in order to increase the customer satisfaction.

H7: Product portfolio influences customer satisfaction.

Product portfolio is not significant in customer satisfaction.

H8: Customer satisfaction is positively related to customer loyalty and retention.

Banks should enhance online customer service, online information quality and should increase the users' perception of the relevance and importance of IB. Banks must increase customer satisfaction in the area of IB as well as in other areas of service in order to retain the current customers who are currently loyal to the bank through IB usage use that as an important component for maintaining a long-term relationship with them.

_ Managers and staffs' perception toward online banking implications

H9: Bank employees perceive internet banking useful.

Banks should utilize and expand on the usage of internet banking amongst employees and with customers in order to eliminate unnecessary physical tasks, enhance employees' job performance and increase productivity.

H10: Bank employees perceive internet banking efficient and effective.

Banks should utilize and expand on the usage of internet banking amongst employees and with customers in order to reduce the number of walk-in customers to the branches, eliminate unnecessary physical tasks and potential errors caused by human mistakes in these routine manual tasks, save employees' time and enable banks to focus more on corporate transactions and sales to enable them to compete more effectively for a better position in the market and increase profitability.

H11: Bank employees believe that security issues are no longer matter of concern.

Specifically in relation to risk management and security, banks should provide training for the internet banking users and alert them to probable techniques of fraud increasing their cautiousness and ability to identify suspicious emails or requests. All banks should proactively monitor improvements in technology inside and outside the organization and seek to enhance their own security systems accordingly.

H12: Bank employees believe that internet banking increases customer satisfaction.

Since the satisfied customers with the usage of IB tend to keep their accounts with their current bank and advertise and encourage their friends to join their bank they help banks to obtain new clients, hence managers should enhance the quality of IB to satisfy their current customers and obtain more new clients.

H13: Bank employees believe that internet banking will reduce the overall cost.

Since the usage of IB reduces the overall cost of the banks, managers should try to increase the number of online subscribers. This motivates them to utilize IB in performing their banking transactions.

H14: Bank employees perceive internet banking profitable for bank.

Banks managers should enhance IB system and encourage the customers to utilize it in their banking transactions in order to retain the current customers, obtain new clients, increase the volume of sales and help the bank in gaining more profits.

H15: Bank employees believe that internet banking increases market effects.

Since IB has increased the competition, bank managers should enhance their IB system to maintain a good image in the market and sustain their competitive position.